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경기지수작성 프로그램 해설서

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조사통계국 통계분석과

머 리 말

경기변동의 방향, 속도, 전환점 및 국면을 종합적으로 측정, 판단키 위해 작성하고 있는 경기종합지수(Composite Index, CI)는 1981년 3월에 최초로 작성, 공표된 이래 주경기지표로서 널리 이용되어 왔으며 2차례의 개편작업과 끊임없는 경기반영도 검증작업등을 통하여 보다 현실에 접근하는 경기지표로 발전되어 왔습니다. 특히 경기지수를 작성하는 컴퓨터 프로그램에 있어서는 괄목할만한 발전과 개선, 개발이 이루어져 왔다고 할 수 있습니다. 즉 CI를 개발하기 시작한 초기에는 외국에서 개발된 프로그램을 그대로 도입하여 여러가지의 프로그램을 각각 이용하였으나 작업의 효율성을 제고키 위해 프로그램을 단순히 연결, 이용하는 단계로 발전하였으며, 최근에는 경기지수 작성과 관련한 모든 프로그램을 자체적으로 개발하고 이를 업무에 활용하는 수준으로까지 발전하게 되었습니다.

경기지수 작성과 관련한 프로그램은 여러개의 프로그램이 계산과정과 필요에 따라 상호 연결되어 하나의 프로그램 체계를 형성하고 있는데 과거에는 프로그램의 크기가 작아 관련 프로그램을 수정하거나 새로운 기능을 추가하는데 큰 어려움이 없었으나 이용 요구의 증가와 다양화에 따라 프로그램이 길어지고 복잡해짐으로써 프로그램을 수정하거나 간단한 사항을 보완하는 데에도 많은 시간이 소요되게 되었고 관련 프로그램을 작성한 담당자 이외에는 프로그램의 해독이 어려워 프로그램을 유지, 관리하는데 많은 문제점이 나타나게 되었습니다. 이러한 문제점을 해소시키기 위해 지난 '87년 6월에 1차로 프로그램 해설서를 발간한바 있으나 그 이후 기존 프로그램중 일부가 수정되거나 새로운 프로그램이 추가로 개발됨에 따라 모든 관련 프로그램들을 체계적으로 종합·정리하여 본 프로그램 해설서를 발간하게 되었습니다.

본 해설서는 프로그램 이용자는 물론 향후 프로그램 개선, 보완시의 편의성 및 작업의 효율성 등을 고려하여 제1장에 각 경기지수의 계산 내용과 산식, 제2장에 프로그램 이용에 필요한 옵션(option)과 실제 사용예, 제3장에 프로그램의 전체 구성도와 각 부프로그램(subprogram) 및 프로그램 리스트(list)를 수록하고 있으므로 일반 이용자는 1,2장의 내용을, 프로그램 관련업무를 담당하고 있거나 동 내용에 관심이 있는 직원들은 3장까지를 숙지한다면 아무런 무리없이 업무를 수행할 수 있도록 구성되어 있습니다.

앞으로 본 해설서가 경기지수에 대한 이해와 작업의 편의성 제고 및 프로그램의 유지 관리 등에 많은 도움이 되기를 기대하며, 새로운 프로그램이 개발되거나 필요한 내용이 있을 경우 계속하여 보완해 나갈 계획입니다.

끝으로 본 해설서의 원고는 우리과에서 경기지수 프로그램을 담당하고 있는 김 혜원씨가 작성하였음을 밝혀 두고자 합니다.

1990. 10.

통 계 분 석 과 장

한 성 찬

차 례

제 1 장 경기지수 계산내용 설명

제 1 절 TC의 CI

TC의 CI란 개별지표들을 종합하여 경기종합지수(CI)를 작성함에 있어서, 개별지표의 구성요인을 TCSI (T : 추세변동, C : 순환 변동, S : 계절 변동, I : 불규칙 변동)로 가정하고 여기서 비경기적 요인인 S와 I 또는 S를 제거한 후 개별지표의 TC 또는 TCI 요인을 이용하여 작성한 경기종합지수를 의미한다.

계 산 과 정	산 식
1. 구성지표의 비경기적 요인 제거 • 먼저 자료를 수집하고 그 수집된 자료의 성격에 따라 실질화, 사전조정, 그리고 전년 동월비 계산 등 자료를 조정한다. 그리고 자료의 구성요소 중 비경기적 요인인 계절변동요인 (S), 불규칙 변동요인(I)을 각각 X-11 ARIMA 방법과 이동평균방법을 적용시켜 제거한다. 그러나 전년동월비 자료는 전년동월비 계산시 계절요인이 제거되는 것으로 간주하여 X-11-ARIMA를 적용시키지 않으며, 불규칙 변동요인 제거를 위한 이동평균은 불규칙 변동의 변화정도(MCD)에 따라 적용한다.	TCSI (TCSI)' = TCSI/df TCI = (TCSI)'/S TC = TCI/I
2. 구성지표의 대칭변화율 산출 • 각 개별지표의 전월대비 증감율을 구한다. 만일 지표가 비율지표일 경우는	$PCHG(i) = \frac{XDAT(i) - XDAT(i-1)}{XDAT(i) + XDAT(i-1)} \times 200.0$

계 산 과 정	산 식
전월대비 대신 전월차를 구한다.(역계열인 경우는 값의 부호를 바꾼다)	혹은 $PCHG(i) = XDAT(i) - XDAT(i-1)$
3. 대칭변화율의 표준화 및 가중치 부여 • 구성지표의 대칭변화율의 평균을 같은 수준(평균=1.0)이 되도록 표준화시키고 각 구성지표의 가중치를 부여한다. 그런데 여기서 표준화는 구간을 2구간으로 나누어 할 수도 있으며, 가중치는 자료의 특성에 따라 산출되는 평점(scoring) 결과에 의한 점수를 이용한다.	$AVPCHG(i) = \frac{PCHG(i)}{PCT} \times SWGT$
4. 동행수준조정 종합증감율 산출 • 선행·동행·후행별로 개별지표들의 증감율을 합계, 평균하여 종합증감율을 구한 뒤, 각각의 움직임이 상호 비교 가능하도록 동행지수 수준으로 조정한다. 이를 위해 동행지수 종합증감율로 각 종합증감율을 나누어 수준을 조정한다.	$TOTAL = \sum_{j=1}^{N} AVPCHG(j)/COUNT(i)$ $STAND(i) = \frac{TOTAL(i)}{TPCT} \times WGT$
5. 원지수(raw Index) 산출 • 동행수준으로 평준화된 종합증감율을 누적하여 원지수를 산출한다. (이 때 처음 시작월은 100.0 이다) 그리고 산출된 지수를 기준년도 평균을 100.0으로 하여 전환시킨다.	

계 산 과 정	산 식
6. 추세 조정 지수 산출 • 목표 추세로 사용하는 값과 목표 추세치의 산출 방법에 따라 몇 가지로 나누어 볼 수 있는데 현재 우리나라에서 사용중인 방법은 원지수의 추세치에다 목표추세치(GNP 월평균증감율)와 원지수 추세치(원지수의 월평균 증감율)의 차를 합하여 추세 조정 증감율을 구한 뒤 원지수 산출방법과 같은 방법으로 추세 조정지수를 산출한다.	$STRATE(i) = STAND(i) + (GOOT-R) \times 100.0$ $XCI(i) = XCI(i-1) \times \frac{200.0 + STRATE(i)}{200.0 - STRATE(i)}$

제 2 절 일본식(이동식 표준편차 표준화 방법) CI

일본식 CI는 CI를 작성할 때 각 구성지표의 대칭변화율을 정해진 항수만큼 이동하여 평균, 표준편차, 편차 기준화 변화율을 산출하고 이를 이용하여 CI를 작성하는 것을 말한다.

이 이동식 표준편차 표준화 방법은 현재 일본에서 이용하고 있는 방법으로서 표준화 방법과 추세조정방법을 제외한 나머지 부분은 TC의 CI와 동일하다.

계 산 과 정	산 식
1. 구성지표의 비경기적 요인 제거	TC의 CI와 동일
2. 구성지표의 대칭변화율 산출	TC의 CI와 동일
3. 개별지표의 각종변화율 산출 • 개별지표 대칭변화율의 과거 5년간	$\mu_i(t) = \sum_{n=t-59}^{t} X_i(n)/60$

계 산 과 정	산 식
(60개월)의 평균치 ($\mu_i(t)$), 표준편차 ($\sigma_i(t)$), 편차기준화 변화율 ($Z_i(t)$)을 구한다.	$\sigma_i(t) = \sqrt{\frac{\sum_{n=t-59}^{t} (X_i(n) - \mu_i(t))^2}{60}}$ $Z_i(t) = (X_i(t) - \mu_i(t)) / \sigma_i(t)$
4. 선행, 동행, 후행 그룹별로 각종 변화율의 평균 산출	$\overline{U_i(t)} = \sum_{i=1}^{k} \mu_i(t) / K$ $\overline{\sigma_i(t)} = \sum_{i=1}^{k} \sigma_i(t) / K$ $\overline{Z_i(t)} = \sum_{i=1}^{k} Z_i(t) / K$ K : 구성지표수
5. 선행, 동행, 후행 그룹별로 평균된 변화율을 합하여 합성변화율 (V(t)) 산출	$V(t) = \overline{U(t)} + \overline{\sigma(t)} \times \overline{Z(t)}$
6. 선행 및 후행 그룹의 평균변화율을 동행그룹의 평균변화율로 대체하여 추세조정 합성변화율 (V(T)) 산출	$V(T) = \overline{U(t)} + \overline{\sigma(t)} \times \overline{Z(t)} - \overline{U(t)} + \overline{U(T)}$ (단, $\overline{U(t)}$는 선행, 후행의 평균변화율, $\overline{U(T)}$는 동행의 평균변화율임)
7. 추세조정 합성변화율을 누적하여 지수 산출	금월지수 = 전월지수 $\times \frac{200 + V(T)}{200 - V(T)}$
8. 최종지수 산출 • 7에서 산출된 지수를 기준년도 평균을 100.0으로 전환시킨다.	

제 3 절 C의 CI

C의 CI란 종합지수(CI)를 작성함에 있어서 구성요소중 순환변동(Cycle)요소만을 추출한 뒤 종합하여 만든 경기종합지수를 의미하는데 C값을 추출하기 위해 PAT방법을 이용한다.

계 산 과 정	산 식
1. 구성지표의 비경기적 요인 제거	TC의 CI와 동일함.
2. C값 산출 • 각 구성지표(TC 혹은 TCI)에서 추세변동(T)을 제거하기 위해 PAT 방식을 적용한다.	$T = (TC)_{PAT}$ $C = TC/T$
3. 구성지표의 평균편차 산출 및 가중치 부여 • 각 개별지표의 평균을 구한 뒤 그 평균을 이용하여 평균편차를 구한다. 그 후에 각 구성지표의 평균편차의 평균을 같은 수준으로 조정하고 가중치를 부여한다.	$CDIFF = \sum_{i=1}^{N} XDAT(i)/N$ $PCT(i) = XDAT(i) - CDIFF$ $AVPCT(i) = PCT(i) \times \frac{SWGT}{MPCT}$
4. 동행 수준조정 종합평균편차 산출 • 가중치가 부여된 구성지표들의 종합평균편차를 구한 뒤 동행지수의 표준화인자로 나누어 동행 수준 조정 종합평균편차를 산출한다. (OECD에서는 동행지수 대신 산업생산지수를 이용)	$CDIFF = \sum_{i=1}^{N} AVPCT(i)/N$ $TOTAL(i) = AVPCT(i) - CDIFF$ $STAND(i) = TOTAL(i) \times \frac{WEIGH}{APCT}$

계 산 과 정	산 식
5. 종합 C 산출 • 4에서 얻어진 종합평균편차를 사용하여 종합 C를 산출한다.	C(i) = STAND(i) + 100.0
6. 목표 추세치의 산출 및 추세순환지수 산출 • 5에서 구한 종합 C와 목표추세를 합성하여 추세순환지수를 산출한다. 여기서 목표 추세를 합성시키는 방법은 필요에 따라 다양하게 적용할 수 있다.	CI(i) = C(i) × T(i)

제4절 12MS의 CI

12MS의 CI란 종합지수를 작성함에 있어서 개별지표의 12개월 전비를 구한 뒤 이것을 종합하여 CI를 만드는 것을 말한다. 즉, 구성지표의 전년동월비 계열을 이용하여 TC의 CI와 같은 방법으로 종합지수를 산출하는 것을 의미한다.

계 산 과 정	산 식
1. 개별지표의 12개월 전비 계열 산출 • 원계열 혹은 필요에 따라 조정(실질화등)한 계열을 이용하여 12개월 전비를 구한다.	$XIDAT(J) = \frac{XODAT(J)}{XODAT(J-12)} \times 100.0$
2. 이하 TC의 CI와 동일함.	TC의 CI와 동일

제 5 절 DI

DI, 즉 경기확산지수(diffusion index)는 전 구성지표수에 대한 증가지표 수의 비율을 의미한다.

계 산 과 정	산 식
1. 구성지표의 비경기적 요인 제거	
(1) TCI의 DI	
• 먼저 자료를 수집하고 그 수집된 자료의 성격에 따라 실질화, 사전조정, 그리고 전년 동월비 계산 등 자료를 조정한다. 그리고 지표의 구성요소중 비경기적 요인인 계절변동을 X-11-ARIMA 방법을 적용하여 조정한다. 그러나 전년동월비 자료는 전년동월비 계산시 계절 요인이 제거되는 것으로 간주하여 X-11-ARIMA 방법을 적용시키지 않는다.	TCSI (TCSI)' = TCSI/DF TCI = (TCSI)'/S
(2) C의 DI	
• TCI의 DI와 같은 방법으로 비경기적 요인을 제거한 후 C값을 산출하여 DI를 계산한다. 구성지표에서 추세변동을 제거하기 위해 PAT 방식을 적용한다.	TCI = (TCSI)'/S $T = (TC)_{PAT}$ C = TC/T
(3) 12MS의 DI	
• 원계열 혹은 필요에 따라 조정(실질화 등)한 계열을 이용하여 12개월 전비를 구한다.	$XIDAT(J) = \frac{XODAT(J)}{XODAT(J-12)} \times 100.0$

계 산 과 정	산 식
2. 구성지표의 변화방향 산출 • 구성지표별로 해당월과 비교시점에 대한 크기의 비교를 통해 변화 방향을 산출한다. 이 때 비율지표는 증감차, 그리고 그외의 지표는 증감율을 이용한다.	PCHG(i) $= \frac{XDAT(i)-XDAT(i-MCD)}{XDAT(i)+XDAT(i-MCD)} \times 200.0$
3. 증가지표수의 계산 • 위에서 구한 변화율에 따라 증가지표수를 산출하는데 소숫점 2자리 미만은 반올림하여 계산한다. 변화율의 값이 0보다 작으면 0으로 동일하면 0.5로, 그리고 0보다 크면 1로 하여 각각 그 값만큼 지표가 증가한 것으로 간주한다.	만일 PCHG(i)〈0.0일 경우 TOTAL(i)=TOTAL(i)+0.0 만일 PCHG=0.0이면 TOTAL(i)=TOTAL(i)+0.5 만일 PCHG〉0.0이면 TOTAL(i)=TOTAL(i)+1.0
4. DI산출 • 구성지표수에 대한 증가지표수를 계산하여 산출한다.	DI(i)=TOTAL(i)/COUNT(i)×100.0
5. 누적 DI산출 • 월별 DI의 변동이 심한 경우 경기전환점을 쉽게 측정하기 위해 위에서 구한 DI를 누적하여 누적DI를 산출한다.	CDI(i)=CDI(i−1)+(DI(i)−50) (CDI'(i))=〔CDI(i)〕 기준년도=100.0

제 6 절 국면평균법 (PAT)

1 . 경기 전환점 (T/P) 산출

입력자료의 경기전환점을 찾는 과정이다.

계 산 과 정	산 식
1 . 입력자료의 이동평균 • 입력자료를 이동평균하고 그 결항치를 보충한다. 입력자료는 TCI 혹은 TC 계열을 사용한다.	XXMON(i) = ∑XMON(j)/N 결항치 보충 i) 처음 K항 : $C=\frac{1}{24}\{\ln\frac{\sum^{K}XMON(i)}{K}-\ln\frac{\sum^{K}XMON(i)}{K}\}$ $AMON(1)=(1-C)\times\frac{\sum^{50}XMON(i)}{50}$ AMON(i) = (1−C)×AMON(i) ii) 나중 K항 : 처음 K항과 같은 방법으로 보충함.
2 . 잠정순환 변동치 산출 • 1에서 구한 이동평균계열을 추세치로 간주하고 입력자료에서 순환계열을 추출한다.	C(i) = XMON(i)/AMON(i) × 100.0
3 . 스펜서 (Spencer) 이동평균 • 입력자료를 스펜서 이동평균한다. 스펜서 이동평균이란 입력되는 계열을 어떤 한 다항식으로 (초고차항이 홀수) 간주하여 그 다항식의 계수들을 얻은 뒤, 그 계수들을 이동평균의 계수로	처음 7 항과 끝 7 항을 미리 확장시켜 놓는다. i) 처음 7 항 $D(i)=\left(\sum_{j=1}^{4}X(j)/4\right)\quad i=1,\cdots\cdots,7$

계 산 과 정	산 식
사용하는 방법이다. 여기서는 스펜서의 15차 다항식으로부터 얻어지는 계수들을 사용하여 스펜서 15개월 이동평균을 한다. 4. 잠정순환 변동치의 12개월 이동평균 • 잠정순환 변동치를 12개월 이동평균한 뒤 결항치를 보충한다. 5. MCD 이동평균 • MCD를 이동평균기간으로 하여 이동평균값을 구한다. 만일 MCD가 입력되어 있지 않으면 내부적으로 산출하여 적용한다. 6. 최종 경기전환점 산출 • 5에서 구한 MCD 이동평균 계열을 사용하여 경기전환점을 구한 뒤 test하여 최종 전환점을 산출한다.	ii) 나중 7항 : 위와 동일한 방법으로 확장 가중치 $\frac{1}{320}(-3,-6,-5,3,21,46,67,\cdots)$ $WMA(i)=\sum^{12} RXMON(i)/12$ $WMD(i)=\sum^{MCD} RXMON(j)/MCD$

2. 3국면 평균법(Triplet)

이 과정은 3국면 이동평균법을 이용하여 입력계열로부터 추세치를 구한 뒤 순환변동치를 산출하는 방법이다.

계 산 과 정	산 식
1. 국면 평균값 산출 • 입력자료를 Log화 한 뒤(옵션에 따라서는 안할 수도 있음) 앞의 과정에서 구한 T/P에 의해 국면 평균값	$XMON(i)=LN(XMON(i))$

계 산 과 정	산 식
을 구한다. 이 때 각국면의 시작, 끝 점은 값의 1/2씩만을 포함시켜 평균값을 산출한다.	$PA(j)=\dfrac{\sum_{MB}^{ME} XMON(i)+\frac{1}{2}(XMON(MB-1)+XMON(ME+1))}{DV}$ 여기서 $DV=ME-MB+2$ $ME=NDATE(j+1)-K2-1$ $MB=NDATE(j)-K2+1$
2. 국면 평균값의 3항 이동평균 • 국면 평균값의 3항 이동평균값과 3항 이동평균값의 위치점을 구한다.	$PAM(i)=\sum^{j} PA(j)/3$ $PAM(i)=\sum^{j} PM(j)/3$
3. 기울기 (SLN) 산출 • 3국면 이동평균값을 이용하여 기울기를 산출한다. 여기에서 마지막 국면 산출방법에 따라 몇 가지로 구분해 볼 수 있다.	$SLN(M)=\dfrac{PAM(M+1)-PAM(M)}{PMM(M+1)-PMM(M)}$
(1) Original PAT법 • 마지막 구간의 바로 앞 구간 말항의 값을 마지막 구간의 기울기로 간주하여 연결시킨 값과 마지막 구간 자체의 합계를 낸 값의 차를 가지고 기울기를 구한 것을 말한다.	(여기서 N8은 마지막 구간의 총항수) $SOBT=N8\times OBST(t-1)$ $SOB=\sum_{i=t}^{N} OBST(i)$ $DIFF=SOBT-SOB$ $ADJ=((1+N8)\times N8)/2$ $SLS=DIFF/ADJ$
(2) 강제 입력법 • 마지막 구간의 초항부터, 옵션에서 강제로 입력된 기울기 값을 계속 누적하여 기울기를 구하는 방법이다.	$SLS=FORCS$ (전체지표일 경우) $SLS=FORCSC$(개별지표일 경우)

계 산 과 정	산 식
(3) 내부계산방법 • 내부계산방법은 컴퓨터 프로그램에 내장되어 있는 계산방식에 의해 마지막구간의 기울기를 구하는 방법인데, 수정전 프로그램의 내부계산시 마지막 구간의 말항은 전년도 12월까지로 계산되었으나, 수정후부터는 option으로 입력된 연월까지를 말항으로 이용한 것이 추가되었다. 즉, 내부계산 방법에는 변동이 없고 구하는 시점에 따라 2가지 방법으로 세분되었고 개별지표에 대해서는 전체지표 option에 상관없이 개별 option에 대해 독립적으로 적용하도록 수정되었다.	$SS=\sum_{i=t}^{n} XMON(i)$ $SS2=\{XMON(MB-1)+XMON(ME+1)\}\times 0.5+SS$ $NSS2=ME-MB+2$ $PA(NTP)=SS2/NSS2$ $PAM(NTP1)=\{PA(NTP)+PA(NTP-1)+PA(NTP-2)\}/3$ $PMM(NTP1)=\{PM(NTP)+PM(NTP-1)+PM(NTP-2)\}/3$ $SLS=\frac{\{PAM(NTP1)-PAM(NTP1-1)\}}{\{PMM(NTP1)-PMM(NTP1-1)\}}$
4. 추세치 산출 및 수준조정 • 3에서 구한 SLN을 통해 추세변동치를 산출하며 동계열과 원계열과의 차이를 통해 기울기 조정을 하여 수준조정된 추세계열을 얻는다.	$OBST(i+1)=OBST(i)+SLN(M)$ $DIFF=\frac{(\sum XMON(i)-\sum OBST(i))}{FMM}$ $OBST(i)=OBST(i)/DIFF$
5. 12개월 이동평균 • 위와 같이하여 얻은 추세계열을 12개월 이동평균하여 추세계열을 평활화한 뒤 결항치를 보충하여 최종 추세치를 산출한다.	$OBST1(i)=\sum OBST(j)/12$

계 산 과 정	산 식
6. C산출 • 입력자료를 위에서 구한 추세치로 나누어 최종C를 산출한다.	$OBS1(i)=EXP(OBS(i))$ $OBS(i)=\frac{XMON(i)}{OBS1(i)}\times 100.0$

3. 2국면 평균법(Doublet)

계 산 과 정	산 식
1. 국면 평균값 산출 • TRIPLET에서 구하는 방법과 동일	TRIPLET에서 구하는 방법과 동일
2. 마지막 구간의 국면 평균값 추정 • 마지막 구간의 평균값은 직전 3개의 국면 평균값의 비를 이용하여 끝나지 않은 마지막 구간의 평균값을 추정한다.	$PAL=\sum_{NTP}^{N} XMON(i)/(N-NTP+1)$ $PA4=\left(\frac{PA(NTP-2)}{PA1}+\frac{PA(NTP-4)}{PA2}+\frac{PA(NTP-6)}{PA3}\right)$ $PA(NTP)=PA4\times PAL$
3. 국면 평균값의 2항 이동평균 • 국면 평균값의 2항 이동평균값과 그 2항 이동평균값의 위치점을 구한다.	TRIPLET과 동일
4. 기울기 (SLN)산출 • 2국면 이동평균값을 사용, 기울기를 산출한다.	TRIPLET과 동일
5. 추세치 산출 및 12개월 이동 평균 • 4에서 구한 기울기를 누적하여 추세치를 구한 뒤 12개월 이동평균한다.	$OBST(1)=PAM(JF+1)-SLN(JF+1)\times PMM(JF+1)$ $OBST(i)=OBST(i-1)+SLN(M)$
6. C산출 • 입력자료를 위에서 구한 추세치로 나누어 최종 C를. 산출한다.	TRIPLET과 동일

제 2 장 사용자 설명서

제 1 절 옵션 설명

아래에서는 이 프로그램을 사용하기 위해 필요한 옵션들을 카드별로 설명하였다.

1. 공통적용 옵션카드

이 카드는 전구간에서 공통적으로 적용되는 옵션들을 나타낸다.

BOSS	공 란	NID	KFYR	KFMO	KEYR	KEMO	LBASE	IPRT	공 란
(A4)	(7X)	(I2)	(I2)	(I2)	(I2)	(I2)	(I2)	(I1)	(56X)
1 4	5 11	12 13	14 15	16 17	18 19	20 21	22 23	24	25 80

(A4,7X,6I2,I1)

변 수 명	카 드 열	입 력 내 용	설 명
1. BOSS	1 ~ 4	LEAD	• 작성되는 지수가 선행지수임을 나타냄
		COIN	• 작성되는 지수가 동행지수임을 나타냄
		LAGG	• 작성되는 지수가 후행지수임을 나타냄
2. NID	12 ~ 13	99를 넘지 않는 양의 정수	• 입력되는 개별지표의 갯수를 입력함. 예를들어 입력지표가 5이면 '␣5'로 오른쪽에 맞추어 입력
3. KFYR ~ KEMO	14 ~ 21	99를 넘지 않는 양의 정수들	• 작성되는 지표의 시작·종료 년월을 나타냄 예를들어 작성되는 지표가 70년 1월에서 90년 5월이면 '7 0 0 1 9 0 0 5'의 형식으로 입력
4. LBASE	22~23	99를 넘지 않는 양의 정수	• 기준년도를 나타내는데 예를들어 만일 입력된 년도가 85년이면 85년 월평균을 100.0으로 계열을 지수화함.

변 수 명	카 드 열	입 력 내 용	설 명
5. IPRT	24	공란 또는 1	• 프린트 옵션으로 최종결과만 프린트
		2	• normal : 보통 경상 작업용으로 프린트
		3	• long : 각 과정별 중간계산까지 프린트
		9를 넘지 않는 3보다 큰 정수	• extra-long : 각 과정별 중간계산 및 옵션정보까지 프린트

2. CI 및 DI옵션카드

이 카드는 CI와 DI에 적용되는 옵션들을 제공하는 카드이다.

COMP	공 란	MTYPE	NPAT1	WEIGH	공 란	LRATIO	LRIOR	KSGR	공 란
(A4)	(6X)	(I1)	(I1)	(F5.3)	(1X)	(I2)	(I1)	(I1)	(58X)
1 4	5 10	11	12	13 17	18	19 20	21	22	23 80

(A4,6X,2I1,F5.3,1X,I2,2I1)

변 수 명	카 드 열	입 력 내 용	설 명
1. COMP	1 ~ 4	COMA	• 계산 routine을 조정하는 옵션으로 COMA라고 기입하면 TC의 CI나 일본식 CI를 작성
		COMB	• C의 CI를 작성
		COMC	• 12 MS의 CI를 작성
		DIFA	• TCI의 DI를 작성
		DIFB	• C의 DI를 작성
		DIFC	• 12 MS의 DI를 작성
2. MTYPE	11	0	• CI작성시 사용되는 옵션으로 TC의 CI를 계산

변 수 명	카 드 열	입 력 내 용	설 명
		1	• 일본식 CI를 계산
		2	• TC의 CI 및 일본식 CI를 모두 계산
3. NPAT1	12	공 란	• CI의 PAT적용 여부를 결정하는 옵션으로 공란이면 PAT과정을 적용하지 않음
		1	• 원계열(6.0)에 PAT를 적용
		2	• GNP조정지수 (6.1.A)에 PAT를 적용
		4 또는 4보다 큰 정수	• 위의 두 과정 모두 PAT를 적용하여 그 결과를 산출
4. WEIGH	13～17	5자리를 넘지 않는 실수값 (F5.3)	• CI작성시 사용되는 옵션으로 지수의 수준 조정치이다. 만일 작성되는 지수가 선행이나 후행이면 그 값은 동행지수의 표준화 인자값이고, 동행이면 그 자체값인데 동행일때는 입력을 하지 않아도 됨
5. LRATIO	19～20	99를 넘지 않는 양의 정수	• 각종 계열들의 비를 구하는 옵션으로 예를들어 입력되는 값이 1이면 전월비, 12월이면 전년 동월비를 구하게 됨.
		공란	• 비를 구하지 않음
6. LRIOR	21	4를 넘지 않는 양의 정수	• 비의 소숫점 자리수를 나타내는 옵션
		공란	• 소숫점 자리가 0임
7. KSGR	22	1	• 각종 계열의 평활화 값을 구하는 옵션으로 1이면 6,12개월 smoothed growth rate값을 프린트 함.
		공란	• 계산하지 않음

3. 표준화 구간 옵션(TC의 CI에 적용)카드

이 카드는 CI에 적용되는 표준화 인자의 산출구간을 나타내는데 여기에서는 표준화 구간을 2구간까지 옵션으로 계산하여 적용할 수 있도록 되어 있다.

TSTAN	공 란	NKBLK	KAFYR(1)	KAFMO(1)	KAEYR(1)	KAEMO(1)	KAFYR(2)	KAFMO(2)	KAEYR(2)
(A5)	(3X)	(I2)	(I2)	(I2)	(I2)	(I2)	(I2)	(I2)	(I2)
1 5	6 8	9 10	11 12	13 14	15 16	17 18	19 20	21 22	23 24

KAEMO(2)	공 란
(I2)	(54X)
25 26	27 80

(8X,I2,8I2)

변 수 명	카 드 열	입 력 내 용	설 명
1. TSTAN	1 ~ 5	임의의 문자	• 카드 구분용으로 사용함
2. NKBLK	9 ~ 10	5를 넘지 않는 양의 정수	• 표준화 기간 적용 횟수임
3. KAFYR(1) ~ KAEMO(1)	11 ~ 18	99를 넘지 않는 양의 정수들	• 표준화 제1구간의 시작·종료 년월을 나타낸다. 예를들어 표준화 제1구간이 70년 1월부터 89년 12월이면 '7 0 0 1 8 9 1 2'로 입력한다.
4. KAFYR(2) ~ KAEMO(2)	19 ~ 26	99를 넘지 않는 양의 정수들	• 표준화 제2구간 시작·종료 년월을 나타낸다.

4. PAT옵션카드

이 카드는 PAT에 적용되는 옵션들을 제공하는 카드이다.

PATP	공 란	NFORP	INVP	IPRP	NCHRTP	IRDP	NDTRP	LOGP	MCDP	AMULP
(A4)	(6X)	(I1)	(I1)	(I1)	(I1)	(I1)	(I1)	(I1)	(I2)	(F3.1)
1 4	5 10	11	12	13	14	15	16	17	18 19	20 22

ITERMP	NDIFFP	LTPP	공 란	NPSEL	공 란	FORCS	공 란	KPEYR	KPEMO	공 란
(I2)	(I2)	(I1)	(1X)	(I1)	(1X)	(F10.8)	(1X)	(I2)	(I2)	(35X)
23 24	25 26	27	28	29	30	31 40	41	42 43	44 45	46 80

(A4,6X,7I1,I2,F3.1,2I2,I1,1X,I1,1X,F10.8,1X,2I2)

변 수 명	카 드 열	입 력 내 용	설 명
1. PATP	1 ~ 4	임의의 문자	• 카드 구분용으로 임의의 문자를 입력
2. NFORP	11	0,1	• 자료의 성질을 나타내는 옵션으로 0,1이면 월별 자료임을 나타냄
3. INVP	12	0	• 입력자료가 역계열인가를 나타내는 옵션으로 0이면 순계열임
		1	• 역계열을 나타냄
4. IPRP	13	0	• 프린트 옵션으로 0이면 최종 결과만을 나타냄
		1	• normal : 보통
		2	• long : 각 과정별 중간과정 프린트
		3	• extra-long : 상세과정 프린트
5. NCHRTP	14	0	• 그래프 옵션으로 0이면 프린트하지 않음
		1	• 프린트함

변 수 명	카 드 열	입 력 내 용	설 명
6. IRDP	15	0	• 변화율을 계산하는 선택 옵션인데 0이면 비로 적용
		1	• 차로 적용
7. NDTR	16	0	• 추세제거 옵션인데 0이면 제거함
		1	• 제거안함
8. LOGP	17	0	• 입력자료를 log화 하는가의 옵션으로 0이면 log화
		1	• 안함
9. MCDP	18 ~ 19	0	• MCD값 옵션으로 0이면 내부적으로 계산함
		99를 넘지 않는 양의 정수	• MCD값
10. AMULP	20 ~ 22	3자리 숫자를 넘지 않는 정수	• 표준편차 값으로 관리한계 값이 됨
		공 란	• 내부적으로 3.5값으로 계산됨
11. ITERMP	23 ~ 24	99를 넘지 않는 양의 정수	• 이동평균기간 값임
		공 란	• 내부적으로 75개월로 계산됨
12. NDIFFP	25 ~ 26	99를 넘지 않는 양의 정수	• 두 경기전환점 사이의 최소 개월 수의 값을 나타냄
		공 란	• 내부적으로 15개월로 계산됨
13. LTPP	27	3	• PAT계산방법 옵션으로 3이면 3국면 이동평균법(TRIPLET)이 적용됨
		2	• 2국면 이동평균법(DOUBLET)이 적용

변 수 명	카 드 열	입 력 내 용	설 명
14. NPSEL	29	공 란	• 3국면 이동평균법 일때, 마지막 구간의 기울기 조정방법으로 공란(또는 0)일 때는 original PAT방법임
		1	• 마지막 기울기 강제 입력
		2	• 내부계산(전년도 12월까지를 사용하여 기울기 산출)
		99를 넘지 않는 양의 정수	• 내부계산 방법으로 시점을 선택적으로 입력할 때 적용됨
15. FORCS	31 ~ 40	실수값	• 강제 입력되는 마지막 기울기 값
16. KPEYR ~ KPEMO	42 ~ 45	정 수	• PAT기울기 선택기간

5. GNP조정 옵션카드

GNP추세치에 의해서 조정된 6.1.A의 값을 산출하는데 필요한 옵션들을 제공한다.

GNP1 (A4)	공 란 (5X)	NGNP (I1)	I1FGYR (I2)	I1EGYR (I2)	I2FGYR (I2)	I2EGYR (I2)	GOOT1 (F10.8)	GOOT2 (F10.8)	공 란 (42X)
1 4	5 9	10	11 12	13 14	15 16	17 18	19 28	29 38	39 80

(A4,5X,I1,4I2,2F10.8)

변 수 명	카 드 열	입 력 내 용	설 명
1. GNP1	1 ~ 4	임의의 문자	• 카드구분용으로 임의의 문자를 기입
2. NGNP	10	양의 정수 (2.3)	• GNP조정 구간수를 기입
3. I1FGYR ~ I2EGYR	11 ~ 18	99를 넘지 않는 양의 정수	• 제1,2조정구간 시작·종료 년도를 기입한다. 예를들어 만일 제1구간이 70년부터 80년이면 '7,0,8,0'의 방법으로 기입

변 수 명	카 드 열	입 력 내 용	설 명
4. GOOT1 ~ GOOT2	19 ~ 38	F10.8 실수값	• 제 1,2 조정구간의 GNP 추세치를 입력

6. 일본식 CI 옵션카드

일본식 CI 산출시 동행조정계열의 시점입력 및 필요한 옵션들을 입력할 때 사용하는 카드이다.

GNP2	공 란	IGFYR	IGFMO	IGEYR	IGEMO	공 란	MJPN	JKFYR	공 란
(A4)	(6X)	(I2)	(I2)	(I2)	(I2)	(1X)	(I2)	(I2)	(57X)
1 4	5 10	11 12	13 14	15 16	17 18	19	20 21	22 23	24 80

(A4,6X,4I2,1X,I2,I2)

변 수 명	카 드 열	입 력 내 용	설 명
1. GNP2	1 ~ 4	임의의 문자	• 카드구분용으로 임의의 문자를 기입
2. IGFYR ~ IGEMO	11 ~ 18	99를 넘지 않은 양의 정수	• 입력되는 일본식 CI의 동행 $\overline{U(t)}$의 시작·종료 년월이 70년 1월부터 90년 5월이면 '7 0 0 1 9 0 0 5'로 입력
3. MJPN	20 ~ 21	99를 넘지 않는 양의 정수	• 일본식 계산시 표준화 제 1 구간의 개월수 (현재는 60개월임)
4. JKFYR	22 ~ 23	99를 넘지 않는 양의 정수	• 일본식 CI계산시 시작년도

7. 개별지표 옵션카드

입력되는 개별지표의 옵션내용을 기입하는 카드이다.

MQ	IDD	MRB	공 란	LFYR	LFMO	LEYR	LEMO	공 란	IFD (1)	IFD (2)
(A1)	(A1)	(I1)	(3X)	(I2)	(I2)	(I2)	(I2)	(1X)	(I1)	(I1)
1	2	3	4 6	7 8	9 10	11 12	13 14	15	16	17

IFD(3)	IFD(4)	IFD(5)	공 란	KRATE	INV	NPCD	IOR	NPAT2	MYES	MPOS
(I1)	(I1)	(I1)	(1X)	(I1)	(I1)	(I1)	(I1)	(I1)	(I1)	(I1)
18	19	20	21	22	23	24	25	26	27	28

공 란	MOVE	MCD	공 란	SWGT	공 란	ISEAN	NPSELC	FORCSC	LPEYR	공 란
(1X)	(I2)	(I2)	(1X)	(F5.3)	(1X)	(I1)	(I1)	(F10.8)	~ LPEMO (2I2)	(24X)
29	30 31	32 33	34	35 39	40	41	42	43 52	53 56	57 80

(2A1,I1,3X,4I2,1X,5I1,1X,7I1,1X,2I2,1X,F5.3,1X,I1,I1,F10.8,2I2)

변 수 명	카 드 열	입 력 내 용	설 명
1. MQ	1	M	• 입력자료가 월별자료임을 나타냄
		Q	• 분기별 자료임을 나타냄
2. IDD	2	A	• 입력자료가 경상계열임을 나타냄
		B	• 실질계열임을 나타냄
3. MRB	3	공 란	• 입력자료를 지수화 하는가의 옵션으로 지수화 안함
		1	• 지수화함
4. LFYR ~ LEMO	7 ~ 14	99를 넘지 않는 양의 정수	• 입력자료의 시작·종료 년월을 나타냄 자료가 70년 1월부터 90년 5월이면 그 값은 '7 0 0 1 9 0 0 5'로 기입한다.

변 수 명	카 드 열	입 력 내 용	설 명
5. IFD(1)	16	0	• Deflator 입력여부를 결정함. 0이면 안함
		1	• 입력함
		2	• 입력하여 계산한뒤 지수화를 시킴
6. IFD(2)	17	0	• 전년동월비 자료로 계산하기 위한 계열 입력여부. 0이면 입력안함
		1	• 입력함(12MS에 의한 CI 또는 DI 작성시는 반드시 입력)
		2	• 입력하여 계산한뒤 지수화시킴
7. IFD(3)	18	0	• 사전조정인자 입력여부. 0이면 입력안함
		1	• 입력함
		2	• 입력하여 계산한뒤 지수화시킴
8. IFD(4)	19	0	• 계절조정인자(D_{10})입력여부. 0이면 입력안함
		1	• 입력함
		2	• 입력하여 계산한뒤 지수화시킴
9. IFD(5)	20	0	• 계절조정계열(D_{11}) 입력여부. 0이면 입력안함
		1	• 입력함
		2	• 입력하여 계산한뒤 지수화시킴
10. KRATE	22	0	• 입력자료가 비율지표인가 아닌가를 나타냄. 0이면 비율지표가 아님
		1	• 비율지표임(대칭변화율 계산시 차로 계산함)
11. INV.	23	0	• 입력자료의 역계열 여부. 0이면 순계열임

변 수 명	카 드 열	입 력 내 용	설 명
		1	• 역계열임
12. NPCD	24	양의 정수	• 대칭변화율 계산시의 월수를 나타냄. 보통 1개월로 입력됨
13. IOR	25	5를 넘지 않는 양의 정수	• 프린트되는 소숫점 자리수를 나타냄.
14. NPAT2	26	0	• 개별지표의 PAT시행여부. 0이면 계산하지 않음
		2	• PAT계산함
15. MYES	27	0	• 이동평균 시행여부. 0이면 안함
		1	• 이동평균함
16. MPOS	28	1	• 이동평균값의 위치를 결정. 1이면 초항
		2	• 중심항
		3	• 말항에 위치
17. MOVE	30 ~ 31	99를 넘지 않는 양의 정수	• 이동평균 개월수를 나타냄
18. MCD	32 ~ 33	99를 넘지 않는 양의 정수	• MCD값을 나타냄
19. SWGT	35 ~ 39	실 수	• 개별지표의 가중치를 입력
20. ISEAN	41	0	• 계절조정 인자를 적용시키는 옵션임 0이면 사전조정후 조정함
		1	• 사전조정전에 적용함
21. NPSELC	42	0 (혹은 공란)	• 3국면 이동평균법일 때. 마지막 구간의 기울기 조정 방법으로 공란(또는 0)일 때 Original PAT방법임
		1	• 마지막 기울기값 강제입력함
		2	• 내부적으로 조정(전년도 12월까지)

변 수 명	카 드 열	입 력 내 용	설 명
		3	• 내부적으로 조정(기간을 선택적으로 함)
22. FORCSC	43 ~ 52	실수값	• 개별지표의 강제 입력되는 마지막 기울기 값
23. LPEYR ~ LPEMO	53 ~ 56	정 수	• 개별지표의 내부계산시 선택시점을 입력 예를들어 '90년 4월까지의 선택시점으로 하려면 9 0 0 4 로 입력

제 2 절 자료 입력 순서

(입력자료)

```
****** ***************************** TOP OF DATA ******************************
000001 COIN         2700190058540
000002 COMA       2500000 0110
000003 TSTAN     170018912
000004 PATP       00300000000050153 1 0.00619553 9004
000005 GNP1      170890000001006881018
000006 GNP2       70019004 6070
000007 (8X,12F6.0)     METHOD JAPAN
000008   1970   1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.1
000009   1971   1.122 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.9
  . .      .                          .                                        ^
   .       .                          .
   .       .                          .
   .       .                    .760 0.729 0.679 0.644 0.64v .                 .
               .368 0.555 0.537 0.523 0.519 0.511 0.522 0.539 0.555 0.556 0.5
000028   1990   0.558 0.590 0.614 0.615
000029 COMPOSITE INDEX OF ROUGHLY COINCIDENT INDICATORS
000030 MB0   70019005 00001 0011013  3 3 01057 0                    CC12
000031 STAND    170018912
000032 T PRODUCTION INDEX                                          CC12
000033 (8X,12F6.1)
000034 1970        94    89   105   108   113   111   111   100
000035 1971       107   110   123   126   .                      .
000000                                    .
   .     .                              .
   .     .                              .
   .     .                              .
                          .360 10142 10332 10137 10067  9779  .011.
000141 1989       9547  9045 10361 10093 10298 10128 10070  9790  9822 10243 103
000142 1990       9564  9037 10361 10063 10282 10115 10073  9805  9822 10248 103
000143 Z
000144 /*
****** ***************************** BOTTOM OF DATA ***************************
```

(순서설명)

아래의 왼편 번호는 위 입력자료의 좌측열 번호와 일치한다.

① 공통적용 옵션카드
② CI 및 DI 적용 옵션카드
③ 표준화 구간 옵션 (TC의 CI적용) 카드
④ PAT적용 옵션카드

⑤ GNP적용 옵션카드

⑥ 일본식 CI 옵션카드

⑦ 입력 format card

⑧
∫ 일본식 CI의 추세조정(동행의 $\overline{U(t)}$)계열들
㉘

㉙ 전체 title카드

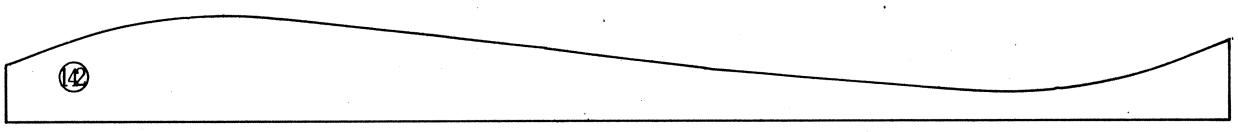
㉚ 개별지표 옵션카드

㉛ 개별지표 표준화구간 옵션카드

㉜ 개별지표 title카드

㉝ 개별지표 입력 format카드

㉞ 개별지표 및 조정계열들



㊸ Z카드(입력자료의 끝을 나타냄)

제 3 절 예제

1. TC의 CI

설명의 편의를 위해 산업생산지수와 제조업가동율 지수의 2개 지표를 이용하여 TC의 CI를 작성하였다. 산업생산지수는 '70.1 부터 '90.6 까지의 시계열을, 제조업 가동율 지수는 '71.1 부터 '90.6 까지의 시계열을 이용하고 제조업가동율지수는 자료조정을 위해 사전조정인자와 계절조정인자를 사용한다.

(TC의 CI와 일본식 CI를 함께 계산하도록 하려면 CI 및 DI 옵션카드의 MTY-PE값을 2로 준다)

(입력자료)

```
//C07GIL03 JOB CLASS=A,MSGCLASS=X,REGION=2048K
//JOBLIB DD DSNAME=SYS1.VFORTLIB,DISP=SHR
//       DD DSNAME=C07.GI.LOADLIB,DISP=SHR
//STEP0    EXEC PGM=IEFBR14
//DD1 DD DSN=CI.ALL.COIN,VOL=SER=ANAL01,UNIT=3380,DISP=(OLD,DELETE)
//SYSPRINT DD SYSOUT=Z
//SYSIN DD DUMMY
//STEP1 EXEC PGM=HCIALL,PARM='LANGLVL(77)'
//*0.FT06F001 DD SYSOUT=*
//GO.FT06F001 DD DSN=CI.ALL.COIN,VOL=SER=ANAL01,UNIT=3380,
//            DCB=(RECFM=FB,LRECL=132,BLKSIZE=13200),
//            SPACE=(CYL,(1,1)),DISP=(NEW,KEEP)
//GO.FT05F001 DD *
COIN       2700190068540
COMA      0200000 0110
TSTAN     170018912
PATP      00300000000050153 2 0.00619553 9004
GNP1      17089000001006881018
GNP2      70019006 6070
(8X,12F6.0)     METHOD JAPAN
  1970   1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122
  1971   1.122 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934
  1972   0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934
  1973   0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934
  1974   0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934
  1975   0.934 0.933 0.927 0.898 0.890 0.882 0.894 0.913 0.932 0.953 0.963 0.965
  1976   0.994 1.017 1.027 1.029 1.013 1.030 1.072 1.111 1.137 1.149 1.148 1.158
  1977   1.155 1.170 1.165 1.169 1.168 1.189 1.173 1.176 1.153 1.164 1.147 1.150
  1978   1.155 1.157 1.154 1.156 1.167 1.163 1.146 1.123 1.085 1.054 1.030 1.033
  1979   1.013 1.001 0.999 0.993 0.991 0.951 0.916 0.898 0.926 0.940 0.934 0.885
  1980   0.854 0.832 0.816 0.804 0.768 0.746 0.721 0.696 0.651 0.616 0.600 0.604
  1981   0.589 0.566 0.557 0.554 0.555 0.538 0.486 0.469 0.450 0.456 0.437 0.427
  1982   0.402 0.383 0.362 0.340 0.323 0.284 0.292 0.272 0.296 0.258 0.260 0.235
  1983   0.219 0.210 0.198 0.187 0.170 0.181 0.192 0.193 0.194 0.200 0.212 0.208
  1984   0.220 0.233 0.249 0.259 0.270 0.301 0.321 0.358 0.345 0.357 0.358 0.391
  1985   0.383 0.374 0.384 0.420 0.464 0.482 0.494 0.496 0.508 0.518 0.514 0.513
  1986   0.516 0.530 0.528 0.530 0.537 0.550 0.572 0.570 0.584 0.597 0.613 0.630
  1987   0.660 0.692 0.727 0.744 0.764 0.777 0.776 0.734 0.714 0.714 0.751 0.756
  1988   0.755 0.765 0.760 0.729 0.679 0.644 0.640 0.655 0.655 0.648 0.629 0.618
  1989   0.588 0.555 0.537 0.523 0.519 0.511 0.522 0.539 0.555 0.556 0.552 0.541
  1990   0.558 0.590 0.614 0.615 0.588 0.584
```

COMPOSITE INDEX OF ROUGHLY COINCIDENT INDICATORS
MBO 70019006 00001 0011013 3 3 01057 0 CC12
STAND 170018912
T PRODUCTION INDEX CC12
(8X,12F6.1)

1970	94	89	105	108	113	111	111	109	108	116	114	120
1971	107	110	123	126	134	131	126	126	128	122	129	133
1972	122	114	131	136	148	148	143	143	144	157	160	168
1973	161	146	174	178	193	185	189	201	201	220	218	223
1974	212	219	240	245	254	261	257	237	243	243	243	266
1975	257	239	277	277	294	286	286	291	299	318	314	338
1976	316	319	361	361	376	390	396	393	379	405	404	415
1977	389	370	420	438	450	474	451	466	460	484	482	524
1978	483	449	539	539	575	572	546	575	560	586	600	624
1979	573	580	646	632	666	639	618	602	629	597	612	629
1980	577	553	620	612	626	609	609	602	582	629	629	649
1981	615	563	670	691	711	719	693	708	691	727	708	725
1982	639	643	704	724	737	730	722	707	740	734	766	789
1983	742	692	788	809	842	863	848	862	852	883	900	914
1984	859	832	949	972	1002	1002	977	991	927	989	988	1008
1985	918	872	994	1010	1026	1003	1014	1004	1003	1027	1038	1092
1986	1073	1014	1162	1202	1237	1229	1235	1219	1224	1279	1280	1335
1987	1223	1250	1421	1440	1492	1516	1493	1278	1490	1458	1565	1610
1988	1574	1491	1657	1553	1585	1606	1659	1665	1624	1714	1728	1719
1989	1604	1470	1694	1584	1683	1691	1714	1757	1668	1733	1779	1765
1990	1599	1684	1863	1804	1788	1823						

(8X,12F6.1)

1970	99	102	104	106	105	106	111	110	111	113	113	116
1971	117	121	122	124	125	125	126	127	128	123	128	128
1972	128	129	130	134	138	142	143	144	148	154	160	162
1973	167	167	172	175	180	177	190	202	208	214	218	215
1974	228	239	236	242	238	251	258	238	243	246	244	257
1975	267	268	272	273	276	275	287	291	308	313	315	328
1976	339	346	353	356	354	377	398	392	393	397	406	403
1977	405	413	409	432	424	459	453	464	460	493	483	509
1978	500	505	524	531	544	554	548	572	575	579	599	605
1979	620	627	629	621	632	620	620	599	626	608	609	610
1980	605	618	606	601	596	591	609	600	595	620	624	630
1981	640	635	658	677	680	697	691	706	709	712	701	704
1982	694	697	695	708	706	707	718	705	732	745	758	768
1983	781	774	779	789	807	836	841	861	869	870	890	891
1984	895	937	937	947	960	974	966	993	952	972	977	983
1985	962	970	977	984	983	979	1002	1009	996	1048	1026	1064
1986	1112	1135	1137	1172	1189	1207	1218	1228	1253	1266	1260	1300
1987	1316	1341	1385	1408	1440	1497	1472	1289	1480	1485	1534	1565
1988	1637	1650	1612	1525	1537	1591	1635	1680	1659	1692	1686	1670
1989	1651	1642	1648	1561	1639	1678	1690	1771	1713	1698	1730	1711
1990	1717	1808	1812	1784	1746	1810						

MBO 71019006 00110 1011013 3 3 00877 0 CC17
STAND 171018912
T OPERATING RATE INDEX(MANUFACTURE) CC17
(8X,12F6.1)

1971	721	707	814	800	850	839	799	776	788	738	922	774
1972	746	691	788	801	861	861	846	847	861	876	907	949
1973	847	780	858	865	896	882	864	882	871	927	913	923
1974	876	818	912	882	964	905	907	833	793	819	837	900
1975	811	761	840	813	838	825	847	842	842	902	865	865
1976	869	846	931	923	940	975	997	960	937	993	952	990

```
1977        911   857   946   987   981  1031   966   991   989  1007   976  1047
1978       1003   922  1068  1050  1091  1086  1069  1090  1034  1078  1045  1096
1979        980   958  1044  1001  1043  1013   958   951   998   926   931   940
1980        886   817   937   894   917   887   890   853   803   880   858   905
1981        837   780   907   918   942   939   878   889   863   912   883   891
1982        810   822   868   884   912   886   879   858   881   886   899   929
1983        882   818   945   961   992   985   971   968   957   995   993  1009
1984        974   942  1033  1044  1047  1030  1008  1023   976  1047  1025  1054
1985        934   901  1028  1025  1050  1015  1011   986   976  1005  1025  1044
1986        960   916  1055  1062  1085  1076  1057  1016  1039  1085  1060  1096
1987        984  1004  1127  1123  1126  1136  1101   915  1088  1069  1105  1113
1988       1042  1000  1114  1042  1046  1068  1067  1052  1028  1084  1074  1058
1989        987   900  1048   980  1043  1025  1026  1036   998  1056  1070  1055
1990        964  1004  1093  1060  1030  1045
(8X,12F6.1)
1971        979  1021  1000  1000  1000  1000  1000  1000  1023   977  1000  1000
1972       1001   999  1000  1000  1000  1000  1000  1000   996  1004  1000  1000
1973       1007   993  1000  1000  1000  1000  1000  1000   990  1010  1000  1000
1974        979  1021  1000  1000  1000  1000  1000  1000  1023   977  1000  1000
1975       1001   999  1000  1000  1000  1000  1000  1000   996  1004  1000  1000
1976        979  1021  1000  1000  1000  1000  1000  1000   990  1010  1000  1000
1977       1001   999  1000  1000  1000  1000  1000  1000  1023   977  1000  1000
1978       1007   993  1000  1000  1000  1000  1000  1000   996  1004  1000  1000
1979        979  1021  1000  1000  1000  1000  1000  1000  1023   977  1000  1000
1980       1001   999  1000  1000  1000  1000  1000  1000   996  1004  1000  1000
1981       1007   993  1000  1000  1000  1000  1000  1000   990  1010  1000  1000
1982        979  1021  1000  1000  1000  1000  1000  1000  1023   977  1000  1000
1983       1001   999  1000  1000  1000  1000  1000  1000   996  1004  1000  1000
1984       1007   993  1000  1000  1000  1000  1000  1000   990  1010  1000  1000
1985       1001   999  1000  1000  1000  1000  1000  1000  1023   977  1000  1000
1986       1007   993  1000  1000  1000  1000  1000  1000   996  1004  1000  1000
1987        979  1021  1000  1000  1000  1000  1000  1000  1023   977  1000  1000
1988       1001   999  1000  1000  1000  1000  1000  1000   996  1004  1000  1000
1989       1007   993  1000  1000  1000  1000  1000  1000   990  1010  1000  1000
1990        979  1021  1000  1000  1000  1000  1000  1000  1023   977  1000  1000
(8X,12F6.2)
1971       9573  8881 10057  9954 10474 10326 10014  9926  9941 10176 10257 10397
1972       9590  8902 10071  9945 10455 10314 10030  9923  9932 10178 10223 10392
1973       9622  8950 10082  9936 10423 10290 10053  9933  9923 10184 10168 10383
1974       9646  9008 10104  9935 10376 10263 10073  9963  9905 10217 10088 10367
1975       9662  9043 10137  9938 10346 10256 10094  9992  9880 10230 10011 10365
1976       9662  9064 10178  9947 10330 10258 10105 10016  9854 10243  9949 10354
1977       9660  9064 10205  9967 10349 10268 10105 10022  9834 10226  9926 10350
1978       9644  9054 10221 10009 10382 10273 10091 10018  9817 10214  9928 10325
1979       9628  9035 10235 10063 10432 10272 10082  9986  9801 10191  9951 10311
1980       9607  9022 10242 10116 10470 10266 10077  9949  9795 10177  9978 10287
1981       9593  9019 10238 10173 10489 10254 10072  9914  9790 10177 10009 10285
1982       9564  9011 10235 10225 10491 10243 10066  9892  9784 10185 10037 10282
1983       9537  9012 10239 10262 10479 10232 10061  9863  9783 10197 10063 10295
1984       9502  9021 10255 10279 10464 10223 10056  9831  9784 10196 10094 10303
1985       9491  9041 10283 10274 10434 10204 10052  9802  9786 10207 10134 10311
1986       9489  9046 10317 10248 10404 10174 10054  9786  9790 10215 10191 10308
1987       9503  9050 10342 10196 10366 10154 10060  9777  9803 10229 10245 10303
1988       9520  9046 10358 10142 10332 10137 10067  9779  9814 10233 10293 10301
1989       9547  9045 10361 10093 10298 10128 10070  9790  9822 10243 10325 10299
1990       9564  9037 10361 10063 10282 10115 10073  9805  9822 10248 10345 10296
Z
/*
//
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(산출결과)

(1) 옵션정보 프린트

① 전체적으로 적용되는 옵션에 관한 정보가 프린트 된다.

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******  OPTIONS INFORMATION  ******

THE PROPERTY OF COMPOSITE INDEX(BOSS) = COIN INDEX
THE NUMBER OF COMPONENT SERIES(NID) =  2 INPUT SERIES
THE PERIOD OF COMPOSITE INDEX(KFYR,KFMO,KEYR,KEMO) = 70. 1 - 90. 6
THE BASE YEAR = 85 YEAR
THE OPTION OF CALCULATING MONTH TO MONTH AND YEAR TO YEAR (LRATIO) 0(0:NO 1:YES)
THE NUMBER OF FLOATING POINT ABOVE SERIES(LRATIO)  =  1
THE OPTION OF THE SMOOTHED GROWTH RATE FOR A.0,E.0,3MA SERIES(KSGR) =  0(0:NO 1:YES)

THE TYPE OF CALCULATING THE COMPOSITE INDEX = COMA ( IF COMA=THE CI OF TC, COMB=THE CI OF C, COMC=12MS CI
                                                    DIFA=THE CDI ROUTINE, DIFB=THE DI OF C, DIFC=THE DI OF 12MS)
THE OPTION OF NEW METHOD OF CALCULATING THE CI(NADJ) = 0 (2:YES, OTHERS : NO)
THE OPTION OF CALCULATING THE PAT IN CI(NPAT1) =  2(IF 0 : NO  X>=1 : YES)
THE OPTION OF CALCULATING THE PAT IN COMPONENT SERIES(NPAT2) = 0 (0 OR 1 : NO2 : YES )
THE STANDARDIZATION FACTOR OF CI = 0.000


THE PERIODICITY OF THE DATA(NFORP) = 0 (0 OR 1:MONTHLY  2:QUARTERLY)
THE INVERSION OPTION(INVP) = 0 (0:NO  1:YES)
THE DEVIATION FR. TREND OPTION(IRDP) = 0 (0:RATIO  1:DIFFERENCE)
DETRENDING OPTION = 0 (0:YES  1:NO)
LOG. OPTION = 0 (0:YES  1:NO)
MCD VALUE = 0( IF 0 THEN MCD IS COMPUTED BY THE PROGRAM)
THE NB. OF TERMS FOR THE MOV.AVG. COMPUTING THE FIRST TREND(ITERMP) = 50
THE NUMBER OF PHASE AVERAGE(LTPP) = 3 (2:DOUBLE  3:TRIPLET)
MINMAL NB. OF MONTHS BETWEEN TWO SAME TURING POINT(NDIFFP) = 15


THE PERIOD NUMBER OF GNP ADJUST.(NGNP) = 1
THE PERIOD OF GNP ADJUST.(I1FGYR - I2EGYR) = 70 - 89  0 -  0
THE 1ST VALUE OF GNP(GOOT1) = 1.00688101
THE 2ND VALUE OF GNP(GOOT2) = **********

THE PERIOD OF COIN. ADJUSTED TREND(IGFYR - IGEMO) = 70. 1 - 90. 6
THE PERIOD OF MOV. AVG.(MOVNUM) =  0
```

(2) 개별지표 입력 및 조정

② 처음 입력자료인 산업생산지수의 원계열이다.

T PRODUCTION INDEX CC12

A.0 : ORIGINAL SERIES (REAL)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	9.4	8.9	10.5	10.8	11.3	11.1	11.1	10.9	10.8	11.6	11.4	12.0	10.8
1971	10.7	11.0	12.3	12.6	13.4	13.1	12.6	12.6	12.8	12.2	12.9	13.3	12.5
1972	12.2	11.4	13.1	13.6	14.8	14.8	14.3	14.3	14.4	15.7	16.0	16.8	14.3
1973	16.1	14.6	17.4	17.8	19.3	18.5	18.9	20.1	20.1	22.0	21.8	22.3	19.1
1974	21.2	21.9	24.0	24.5	25.4	26.1	25.7	23.7	24.3	24.3	24.3	26.6	24.3
1975	25.7	23.9	27.7	27.7	29.4	28.6	28.6	29.1	29.9	31.8	31.4	33.8	29.0
1976	31.6	31.9	36.1	36.1	37.6	39.0	39.6	39.3	37.9	40.5	40.4	41.5	37.6
1977	38.9	37.0	42.0	43.8	45.0	47.4	45.1	46.6	46.0	48.4	48.2	52.4	45.1
1978	48.3	44.9	53.9	53.9	57.5	57.2	54.6	57.5	56.0	58.6	60.0	62.4	55.4
1979	57.3	58.0	64.6	63.2	66.6	63.9	61.8	60.2	62.9	59.7	61.2	62.9	61.9
1980	57.7	55.3	62.0	61.2	62.6	60.9	60.9	60.2	58.2	62.9	62.9	64.9	60.8
1981	61.5	56.3	67.0	69.1	71.1	71.9	69.3	70.8	69.1	72.7	70.8	72.5	68.5
1982	63.9	64.3	70.4	72.4	73.7	73.0	72.2	70.7	74.0	73.4	76.6	78.9	72.0
1983	74.2	69.2	78.8	80.9	84.2	86.3	84.8	86.2	85.2	88.3	90.0	91.4	83.3
1984	85.9	83.2	94.9	97.2	100.2	100.2	97.7	99.1	92.7	98.9	98.8	100.8	95.8
1985	91.8	87.2	99.4	101.0	102.6	100.3	101.4	100.4	100.3	102.7	103.8	109.2	100.0
1986	107.3	101.4	116.2	120.2	123.7	122.9	123.5	121.9	122.4	127.9	128.0	133.5	120.7
1987	122.3	125.0	142.1	144.0	149.2	151.6	149.3	127.8	149.0	145.8	156.5	161.0	143.6
1988	157.4	149.1	165.7	155.3	158.5	160.6	165.9	166.5	162.4	171.4	172.8	171.9	163.1
1989	160.4	147.0	169.4	158.4	168.3	169.1	171.4	175.7	166.8	173.3	177.9	176.5	167.8
1990	159.9	168.4	186.3	180.4	178.8	182.3	********	********	********	********	********	********	176.0

③ 계절 조정된 산업생산지수 입력계열이다.

T PRODUCTION INDEX CC12

D.11 : SEASONAL ADJUSTED SERIES

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	9.9	10.2	10.4	10.6	10.5	10.6	11.1	11.0	11.1	11.3	11.3	11.6	10.8
1971	11.7	12.1	12.2	12.4	12.5	12.5	12.6	12.7	12.8	12.3	12.8	12.8	12.4
1972	12.8	12.9	13.0	13.4	13.8	14.2	14.3	14.4	14.8	15.4	16.0	16.2	14.3
1973	16.7	16.7	17.2	17.5	18.0	17.7	19.0	20.2	20.8	21.4	21.8	21.5	19.0
1974	22.8	23.9	23.6	24.2	23.8	25.1	25.8	23.8	24.3	24.6	24.4	25.7	24.3
1975	26.7	26.8	27.2	27.3	27.6	27.5	28.7	29.1	30.8	31.3	31.5	32.8	28.9
1976	33.9	34.6	35.3	35.6	35.4	37.7	39.8	39.2	39.3	39.7	40.6	40.3	37.6
1977	40.5	41.3	40.9	43.2	42.4	45.9	45.3	46.4	46.0	49.3	48.3	50.9	45.0
1978	50.0	50.5	52.4	53.1	54.4	55.4	54.8	57.2	57.5	57.9	59.9	60.5	55.3
1979	62.0	62.7	62.9	62.1	63.2	62.0	62.0	59.9	62.6	60.8	60.9	61.0	61.8
1980	60.5	61.8	60.6	60.1	59.6	59.1	60.9	60.0	59.5	62.0	62.4	63.0	60.8
1981	64.0	63.5	65.8	67.7	68.0	69.7	69.1	70.6	70.9	71.2	70.1	70.4	68.4
1982	69.4	69.7	69.5	70.8	70.6	70.7	71.8	70.5	73.2	74.5	75.8	76.8	71.9
1983	78.1	77.4	77.9	78.9	80.7	83.6	84.1	86.1	86.9	87.0	89.0	89.1	83.2
1984	89.5	93.7	93.7	94.7	96.0	97.4	96.6	99.3	95.2	97.2	97.7	98.3	95.8
1985	96.2	97.0	97.7	98.4	98.3	97.9	100.2	100.9	99.6	104.8	102.6	106.4	100.0
1986	111.2	113.5	113.7	117.2	118.9	120.7	121.8	122.8	125.3	126.6	126.0	130.0	120.6
1987	131.6	134.1	138.5	140.8	144.0	149.7	147.2	128.9	148.0	148.5	153.4	156.5	143.4
1988	163.7	165.0	161.2	152.5	153.7	159.1	163.5	168.0	165.9	169.2	168.6	167.0	163.1
1989	165.1	164.2	164.8	156.1	163.9	167.8	169.0	177.1	171.3	169.8	173.0	171.1	167.8
1990	171.7	180.8	181.2	178.4	174.6	181.0	********	********	********	********	********	********	177.9

④ 두번째 입력자료인 제조업 가동율 지수의 원계열을 입력한다.

T OPERATING RATE INDEX(MANUFACTURE) CC17

A.0 : ORIGINAL SERIES (REAL)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.0
1971	72.1	70.7	81.4	80.0	85.0	83.9	79.9	77.6	78.8	73.8	92.2.	77.4	79.4
1972	74.6	69.1	78.8	80.1	86.1	86.1	84.6	84.7	86.1	87.6	90.7	94.9	83.6
1973	84.7	78.0	85.8	86.5	89.6	88.2	86.4	88.2	87.1	92.7	91.3	92.3	87.6
1974	87.6	81.8	91.2	88.2	96.4	90.5	90.7	83.3	79.3	81.9	83.7	90.0	87.0
1975	81.1	76.1	84.0	81.3	83.8	82.5	84.7	84.2	84.2	90.2	86.5	86.5	83.8
1976	86.9	84.6	93.1	92.3	94.0	97.5	99.7	96.0	93.7	99.3	95.2	99.0	94.3
1977	91.1	85.7	94.6	98.7	98.1	103.1	96.6	99.1	98.9	100.7	97.6	104.7	97.4
1978	100.3	92.2	106.8	105.0	109.1	108.6	106.9	109.0	103.4	107.8	104.5	109.6	105.3
1979	98.0	95.8	104.4	100.1	104.3	101.3	95.8	95.1	99.8	92.6	93.1	94.0	97.9
1980	88.6	81.7	93.7	89.4	91.7	88.7	89.0	85.3	80.3	88.0	85.8	90.5	87.7
1981	83.7	78.0	90.7	91.8	94.2	93.9	87.8	88.9	86.3	91.2	88.3	89.1	88.7
1982	81.0	82.2	86.8	88.4	91.2	88.6	87.9	85.8	88.1	88.6	89.9	92.9	87.6
1983	88.2	81.8	94.5	96.1	99.2	98.5	97.1	96.8	95.7	99.5	99.3	100.9	95.6
1984	97.4	94.2	103.3	104.4	104.7	103.0	100.8	102.3	97.6	104.7	102.5	105.4	101.7
1985	93.4	90.1	102.8	102.5	105.0	101.5	101.1	98.6	97.6	100.5	102.5	104.4	100.0
1986	96.0	91.6	105.5	106.2	108.5	107.6	105.7	101.6	103.9	108.5	106.0	109.6	104.2
1987	98.4	100.4	112.7	112.3	112.6	113.6	110.1	91.5	108.8	106.9	110.5	111.3	107.4
1988	104.2	100.0	111.4	104.2	104.6	106.8	106.7	105.2	102.8	108.4	107.4	105.8	105.6
1989	98.7	90.0	104.8	98.0	104.3	102.5	102.6	103.6	99.8	105.6	107.0	105.5	101.9
1990	96.4	100.4	109.3	106.0	103.0	104.5	********	********	********	********	********	********	103.3

⑤ 입력되는 사전조정 인자를 프린트한다.

T OPERATING RATE INDEX(MANUFACTURE) CC17

A.3 : THE PRIOR FACTOR

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.0
1971	97.9	102.1	100.0	100.0	100.0	100.0	100.0	100.0	102.3	97.7	100.0	100.0	100.0
1972	100.1	99.9	100.0	100.0	100.0	100.0	100.0	100.0	99.6	100.4	100.0	100.0	100.0
1973	100.7	99.3	100.0	100.0	100.0	100.0	100.0	100.0	99.0	101.0	100.0	100.0	100.0
1974	97.9	102.1	100.0	100.0	100.0	100.0	100.0	100.0	102.3	97.7	100.0	100.0	100.0
1975	100.1	99.9	100.0	100.0	100.0	100.0	100.0	100.0	99.6	100.4	100.0	100.0	100.0
1976	97.9	102.1	100.0	100.0	100.0	100.0	100.0	100.0	99.0	101.0	100.0	100.0	100.0
1977	100.1	99.9	100.0	100.0	100.0	100.0	100.0	100.0	102.3	97.7	100.0	100.0	100.0
1978	100.7	99.3	100.0	100.0	100.0	100.0	100.0	100.0	99.6	100.4	100.0	100.0	100.0
1979	97.9	102.1	100.0	100.0	100.0	100.0	100.0	100.0	102.3	97.7	100.0	100.0	100.0
1980	100.1	99.9	100.0	100.0	100.0	100.0	100.0	100.0	99.6	100.4	100.0	100.0	100.0
1981	100.7	99.3	100.0	100.0	100.0	100.0	100.0	100.0	99.0	101.0	100.0	100.0	100.0
1982	97.9	102.1	100.0	100.0	100.0	100.0	100.0	100.0	102.3	97.7	100.0	100.0	100.0
1983	100.1	99.9	100.0	100.0	100.0	100.0	100.0	100.0	99.6	100.4	100.0	100.0	100.0
1984	100.7	99.3	100.0	100.0	100.0	100.0	100.0	100.0	99.0	101.0	100.0	100.0	100.0
1985	100.1	99.9	100.0	100.0	100.0	100.0	100.0	100.0	102.3	97.7	100.0	100.0	100.0
1986	100.7	99.3	100.0	100.0	100.0	100.0	100.0	100.0	99.6	100.4	100.0	100.0	100.0
1987	97.9	102.1	100.0	100.0	100.0	100.0	100.0	100.0	102.3	97.7	100.0	100.0	100.0
1988	100.1	99.9	100.0	100.0	100.0	100.0	100.0	100.0	99.6	100.4	100.0	100.0	100.0
1989	100.7	99.3	100.0	100.0	100.0	100.0	100.0	100.0	99.0	101.0	100.0	100.0	100.0
1990	97.9	102.1	100.0	100.0	100.0	100.0	********	********	********	********	********	********	100.0

⑥ 사전조정인자로 조정된 제조업 가동율 지수를 나타낸다.

T OPERATING RATE INDEX(MANUFACTURE) CC17

P.0 : THE SERIES ADJUSTED BY PRIOR FACTOR

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.0
1971	73.6	69.2	81.4	80.0	85.0	83.9	79.9	77.6	77.0	75.5	92.2	77.4	79.4
1972	74.5	69.2	78.8	80.1	86.1	86.1	84.6	84.7	86.4	87.3	90.7	94.9	83.6
1973	84.1	78.5	85.8	86.5	89.6	88.2	86.4	88.2	88.0	91.8	91.3	92.3	87.6
1974	89.5	80.1	91.2	88.2	96.4	90.5	90.7	83.3	77.5	83.8	83.7	90.0	87.1
1975	81.0	76.2	84.0	81.3	83.8	82.5	84.7	84.2	84.5	89.8	86.5	86.5	83.8
1976	88.8	82.9	93.1	92.3	94.0	97.5	99.7	96.0	94.6	98.3	95.2	99.0	94.3
1977	91.0	85.8	94.6	98.7	98.1	103.1	96.6	99.1	96.7	103.1	97.6	104.7	97.4
1978	99.6	92.8	106.8	105.0	109.1	108.6	106.9	109.0	103.8	107.4	104.5	109.6	105.3
1979	100.1	93.8	104.4	100.1	104.3	101.3	95.8	95.1	97.6	94.8	93.1	94.0	97.9
1980	88.5	81.8	93.7	89.4	91.7	88.7	89.0	85.3	80.6	87.6	85.8	90.5	87.7
1981	83.1	78.5	90.7	91.8	94.2	93.9	87.8	88.9	87.2	90.3	88.3	89.1	88.7
1982	82.7	80.5	86.8	88.4	91.2	88.6	87.9	85.8	86.1	90.7	89.9	92.9	87.6
1983	88.1	81.9	94.5	96.1	99.2	98.5	97.1	96.8	96.1	99.1	99.3	100.9	95.6
1984	96.7	94.9	103.3	104.4	104.7	103.0	100.8	102.3	98.6	103.7	102.5	105.4	101.7
1985	93.3	90.2	102.8	102.5	105.0	101.5	101.1	98.6	95.4	102.9	102.5	104.4	100.0
1986	95.3	92.2	105.5	106.2	108.5	107.6	105.7	101.6	104.3	108.1	106.0	109.6	104.2
1987	100.5	98.3	112.7	112.3	112.6	113.6	110.1	91.5	106.4	109.4	110.5	111.3	107.4
1988	104.1	100.1	111.4	104.2	104.6	106.8	106.7	105.2	103.2	108.0	107.4	105.8	105.6
1989	98.0	90.6	104.8	98.0	104.3	102.5	102.6	103.6	100.8	104.6	107.0	105.5	101.9
1990	98.5	98.3	109.3	106.0	103.0	104.5	********	********	********	********	********	********	103.3

⑦ 계절지수로 조정된 제조업가동율지수를 나타낸다.

T OPERATING RATE INDEX(MANUFACTURE) CC17

D.11 : SEASONAL ADJUSTED SERIES(BY JUST BEFORE SERIES)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.0
1971	76.9	78.0	80.9	80.4	81.2	81.3	79.8	78.2	77.5	74.2	89.9	74.4	79.4
1972	77.7	77.7	78.2	80.5	82.4	83.5	84.3	85.4	87.0	85.7	88.7	91.3	83.5
1973	87.4	87.8	85.1	87.1	86.0	85.7	85.9	88.8	88.7	90.1	89.8	88.9	87.6
1974	92.8	88.9	90.3	88.8	92.9	88.2	90.0	83.6	78.3	82.0	83.0	86.8	87.1
1975	83.9	84.2	82.9	81.8	81.0	80.4	83.9	84.3	85.6	87.8	86.4	83.5	83.8
1976	91.9	91.4	91.5	92.8	91.0	95.0	98.7	95.8	96.0	96.0	95.7	95.6	94.3
1977	94.2	94.6	92.7	99.0	94.8	100.4	95.6	98.9	98.3	100.8	98.3	101.2	97.4
1978	103.3	102.6	104.5	104.9	105.1	105.7	105.9	108.8	105.8	105.1	105.3	106.2	105.3
1979	104.0	103.9	102.0	99.5	100.0	98.6	95.0	95.2	99.5	93.0	93.6	91.2	98.0
1980	92.1	90.6	91.5	88.4	87.6	86.4	88.3	85.7	82.3	86.1	86.0	88.0	87.8
1981	86.6	87.1	88.6	90.2	89.8	91.6	87.2	89.7	89.0	88.7	88.2	86.6	88.6
1982	86.5	89.3	84.8	86.5	86.9	86.5	87.3	86.7	88.0	89.0	89.6	90.4	87.6
1983	92.4	90.9	92.3	93.6	94.7	96.3	96.5	98.1	98.2	97.2	98.7	98.0	95.6
1984	101.8	105.2	100.7	101.6	100.1	100.8	100.2	104.1	100.8	101.7	101.5	102.3	101.7
1985	98.3	99.8	100.0	99.8	100.6	99.5	100.6	100.6	97.5	100.8	101.1	101.3	100.0
1986	100.5	102.0	102.3	103.6	104.3	105.8	105.1	103.8	106.6	105.8	104.0	106.3	104.2
1987	105.8	108.7	109.0	110.1	108.6	111.9	109.4	93.6	108.5	107.0	107.9	108.0	107.4
1988	109.3	110.7	107.5	102.7	101.2	105.4	106.0	107.6	105.2	105.5	104.3	102.7	105.7
1989	102.7	100.2	101.1	97.1	101.3	101.2	101.9	105.8	102.6	102.1	103.6	102.4	101.8
1990	103.0	108.8	105.5	105.3	100.2	103.3	********	********	********	********	********	********	104.3

⑧ 입력된 계열수가 모두 2개임을 나타낸다.

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### THE END OF THE DATA INPUT !!!!

INPUT DATA NUMBER :   2
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(3) 개별지표의 불규칙 요인 제거 및 대칭변화율 계산

⑨ 산업생산지수에 적용되는 옵션을 나타낸다.

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T PRODUCTION INDEX                                          CC12

   ##  OPTIONS INFORMATION OF COMPONENT SERIES ##

   THE OPTION OF INVERSE(INV) = 0 (0:NO  1:YES)
   THE MONTH NUMBER OF SYMMETRIC CHANGE PERCENT(NPCD) = 1
   THE NB. OF FLOAT PO INT = 1
   THE OPTION OF MOVE AVER AGE(MYES) = 1 ( 1:YES  0:NOT MOVING AVERAGE )
   THE POSITION OF THE MOV. AVG. VALUE(MPOS) = 3 (1:FIRST    2:CENTER  3:LAST)
   THE NUMBER OF MOV. AVG.(MOVE) =  3
   THE OPTION OF RATIO(KRATE) = 0 (0:NO  1:YES)
   MCD VALUE(MCD) = 3
   THE WEIGHT OF COMPONENT SERIES(SWGT) = 1.057
   THE PERIOD OF COMPONENT SERIES(LFYR - LEMO) = 70. 1 - 90. 6
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⑩ 3개월 이동평균된 산업생산지수를 나타낸다.

T PRODUCTION INDEX CC12

2.0 TC : 3 MOVING-AVERAGED SERIES

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	9.8	10.0	10.2	10.4	10.5	10.6	10.7	10.9	11.1	11.1	11.2	11.4	10.7
1971	11.5	11.8	12.0	12.2	12.4	12.5	12.5	12.6	12.7	12.6	12.6	12.6	12.3
1972	12.8	12.8	12.9	13.1	13.4	13.8	14.1	14.3	14.5	14.9	15.4	15.9	14.0
1973	16.3	16.5	16.9	17.1	17.6	17.7	18.2	19.0	20.0	20.8	21.3	21.6	18.6
1974	22.0	22.7	23.4	23.9	23.9	24.4	24.9	24.9	24.6	24.2	24.4	24.9	24.0
1975	25.6	26.4	26.9	27.1	27.4	27.5	27.9	28.4	29.5	30.4	31.2	31.9	28.3
1976	32.7	33.8	34.6	35.2	35.4	36.2	37.6	38.9	39.4	39.4	39.9	40.2	36.9
1977	40.5	40.7	40.9	41.8	42.2	43.8	44.5	45.9	45.9	47.2	47.9	49.5	44.2
1978	49.7	50.5	51.0	52.0	53.3	54.3	54.9	55.8	56.5	57.5	58.4	59.4	54.4
1979	60.8	61.7	62.5	62.6	62.7	62.4	62.4	61.3	61.5	61.1	61.4	60.9	61.8
1980	60.8	61.1	61.0	60.8	60.1	59.6	59.9	60.0	60.1	60.5	61.3	62.5	60.6
1981	63.1	63.5	64.4	65.7	67.2	68.5	68.9	69.8	70.2	70.9	70.7	70.6	67.8
1982	70.0	69.8	69.5	70.0	70.3	70.7	71.0	71.0	71.8	72.7	74.5	75.7	71.4
1983	76.9	77.4	77.8	78.1	79.2	81.1	82.8	84.6	85.7	86.7	87.6	88.4	82.2
1984	89.2	90.8	92.3	94.0	94.8	96.0	96.7	97.8	97.0	97.2	96.7	97.7	95.0
1985	97.4	97.2	97.0	97.7	98.1	98.2	98.8	99.7	100.2	101.8	102.3	104.6	99.4
1986	106.7	110.4	112.8	114.8	116.6	118.9	120.5	121.8	123.3	124.9	126.0	127.5	118.7
1987	129.2	131.9	134.7	137.8	141.1	144.8	147.0	141.9	141.4	141.8	150.0	152.8	141.2
1988	157.9	161.7	163.3	159.6	155.8	155.1	158.8	163.5	165.8	167.7	167.9	168.3	162.1
1989	166.9	165.4	164.7	161.7	161.6	162.6	166.9	171.3	172.5	172.7	171.4	171.3	167.4
1990	171.9	174.5	177.9	180.1	178.1	178.0	********	********	********	********	********	********	176.8

⑪ 산업생산지수의 대칭변화율을 나타낸다.

T PRODUCTION INDEX CC12

3.0 THE SYMMETIC. CHANGE RATE OF COMPONENT SER IES

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	1.940	1.611	2.269	0.957	0.633	1.565	1.541	1.517	0.601	0.894	1.473	1.364
1971	1.163	2.286	1.681	1.926	1.084	0.805	0.533	0.531	0.791	-0.791	0.264	0.000	0.856
1972	1.311	0.260	0.518	1.538	2.264	2.941	2.151	1.408	1.389	2.497	3.524	2.985	1.899
1973	2.694	1.421	1.996	1.569	2.498	0.944	2.780	3.943	5.304	3.922	2.532	1.088	2.557
1974	2.141	3.127	3.032	1.972	-0.140	2.073	2.165	0.000	-1.077	-1.637	0.822	1.892	1.198
1975	2.772	3.077	1.876	0.741	0.979	0.365	1.685	1.774	3.795	2.892	2.597	2.114	2.056
1976	2.683	3.108	2.438	1.624	0.755	2.233	3.791	3.310	1.362	-0.085	1.177	0.833	1.936
1977	0.661	0.575	0.490	2.177	0.873	3.876	1.584	2.950	0.073	2.863	1.332	3.355	1.734
1978	0.470	1.464	0.986	2.007	2.469	1.859	1.038	1.687	1.247	1.812	1.552	1.697	1.524
1979	2.273	1.523	1.288	0.053	0.266	-0.479	-0.053	-1.779	0.326	-0.653	0.544	-0.872	0.203
1980	-0.164	0.492	-0.218	-0.219	-1.213	-0.835	0.446	0.222	0.222	0.608	1.314	1.885	0.212
1981	1.062	0.579	1.459	1.896	2.258	1.917	0.679	1.249	0.571	0.992	-0.235	-0.236	1.016
1982	-0.854	-0.191	-0.431	0.669	0.428	0.567	0.470	-0.047	1.167	1.245	2.400	1.598	0.585
1983	1.573	0.691	0.472	0.342	1.399	2.372	2.116	2.151	1.292	1.122	1.109	0.833	1.289
1984	0.939	1.741	1.675	1.860	0.812	1.293	0.657	1.131	-0.753	0.206	-0.550	1.063	0.840
1985	-0.342	-0.240	-0.206	0.753	0.443	0.068	0.609	0.873	0.567	1.518	0.555	2.191	0.566
1986	2.019	3.347	2.181	1.757	1.556	1.981	1.281	1.073	1.251	1.289	0.850	1.236	1.652
1987	1.298	2.068	2.125	2.250	2.366	2.611	1.462	-3.484	-0.400	0.306	5.598	1.872	1.506
1988	3.262	2.420	0.964	-2.313	-2.389	-0.450	2.336	2.958	1.377	1.139	0.119	0.218	0.803
1989	-0.816	-0.883	-0.444	-1.838	-0.062	0.617	2.610	2.602	0.679	0.154	-0.794	-0.039	0.149
1990	0.369	1.501	1.911	1.248	-1.154	-0.037	********	********	********	********	********	********	0.639

⑫ 산업생산지수의 대칭변화율을 진폭 조정하고 가중치를 부여한 값이다.

여기서 진폭조정인자는 1.433이며 가중치는 1.057이다.

T PRODUCTION INDEX CC12

3.1 THE STANDARD. OF THE SYMM. CHANGE RATE OF COMPONENT SERIES

THE SECTION OF STANT. = 1

1ST STAN. FACTOR= 1.433 (70. 1. - 89.12.)
2ND STAN. FACTOR= 0.000 (0. 0. - 0. 0.)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	1.354	1.125	1.584	0.668	0.442	1.092	1.076	1.059	0.419	0.624	1.028	0.952
1971	0.812	1.596	1.173	1.344	0.757	0.562	0.372	0.370	0.552	-0.552	0.184	0.000	0.598
1972	0.915	0.182	0.362	1.074	1.581	2.053	1.501	0.983	0.970	1.743	2.460	2.084	1.326
1973	1.881	0.992	1.393	1.095	1.743	0.659	1.941	2.752	3.702	2.737	1.767	0.759	1.785
1974	1.494	2.183	2.117	1.376	-0.097	1.447	1.511	0.000	-0.752	-1.143	0.574	1.321	0.836
1975	1.935	2.148	1.310	0.517	0.684	0.255	1.176	1.238	2.649	2.019	1.813	1.476	1.435
1976	1.873	2.169	1.702	1.134	0.527	1.558	2.646	2.311	0.951	-0.059	0.822	0.581	1.351
1977	0.462	0.401	0.342	1.519	0.610	2.706	1.106	2.059	0.051	1.999	0.930	2.342	1.211
1978	0.328	1.022	0.688	1.401	1.724	1.298	0.725	1.177	0.870	1.265	1.083	1.184	1.064
1979	1.587	1.063	0.899	0.037	0.186	-0.335	-0.037	-1.242	0.227	-0.455	0.380	-0.609	0.142
1980	-0.115	0.344	-0.152	-0.153	-0.847	-0.583	0.312	0.155	0.155	0.424	0.917	1.316	0.148
1981	0.741	0.404	1.019	1.324	1.577	1.338	0.474	0.872	0.399	0.693	-0.164	-0.165	0.709
1982	-0.596	-0.133	-0.301	0.467	0.299	0.396	0.328	-0.033	0.815	0.869	1.675	1.115	0.408
1983	1.098	0.482	0.330	0.239	0.977	1.655	1.477	1.501	0.902	0.783	0.774	0.582	0.900
1984	0.655	1.215	1.169	1.299	0.567	0.902	0.459	0.790	-0.526	0.144	-0.384	0.742	0.586
1985	-0.238	-0.167	-0.144	0.526	0.309	0.047	0.425	0.610	0.396	1.060	0.388	1.529	0.395
1986	1.409	2.337	1.522	1.227	1.086	1.383	0.894	0.749	0.874	0.900	0.594	0.863	1.153
1987	0.906	1.444	1.484	1.571	1.652	1.823	1.021	-2.432	-0.279	0.214	3.908	1.307	1.051
1988	2.277	1.689	0.673	-1.614	-1.667	-0.314	1.631	2.065	0.961	0.795	0.083	0.152	0.561
1989	-0.569	-0.616	-0.310	-1.283	-0.043	0.431	1.822	1.816	0.474	0.108	-0.554	-0.027	0.104
1990	0.258	1.048	1.334	0.871	-0.806	-0.026	********	********	********	********	********	********	0.446

3.2 THE WEIGHTED. OF THE SYMM. CHANGE RATE OF COMPONENT SERIES

THE SECTION OF STANT. = 1 WEIGHT = 1.057 1ST STAN. FACTOR= 1.433 (70. 1. - 89.12.)
2ND STAN. FACTOR= 0.000 (0. 0. - 0. 0.)
1ST AVE. CHG. = 1.355
2ND AVG. CHG. = 0.000

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	1.431	1.189	1.674	0.706	0.467	1.155	1.137	1.120	0.443	0.660	1.087	1.006
1971	0.858	1.687	1.240	1.421	0.800	0.594	0.394	0.391	0.583	-0.583	0.195	0.000	0.632
1972	0.967	0.192	0.382	1.135	1.671	2.170	1.587	1.039	1.025	1.843	2.600	2.203	1.401
1973	1.988	1.049	1.473	1.157	1.843	0.697	2.051	2.909	3.913	2.894	1.868	0.803	1.887
1974	1.580	2.307	2.238	1.455	-0.103	1.530	1.597	0.000	-0.794	-1.208	0.606	1.396	0.884
1975	2.046	2.270	1.384	0.547	0.722	0.269	1.243	1.309	2.800	2.134	1.916	1.560	1.517
1976	1.980	2.293	1.799	1.199	0.557	1.647	2.797	2.442	1.005	-0.062	0.869	0.614	1.428
1977	0.488	0.424	0.362	1.606	0.644	2.860	1.169	2.177	0.054	2.113	0.983	2.475	1.280
1978	0.347	1.080	0.727	1.481	1.822	1.371	0.766	1.245	0.920	1.337	1.145	1.252	1.124
1979	1.677	1.124	0.950	0.039	0.196	-0.354	-0.039	-1.312	0.240	-0.481	0.401	-0.643	0.150
1980	-0.121	0.363	-0.161	-0.162	-0.895	-0.616	0.329	0.164	0.164	0.449	0.969	1.391	0.156
1981	0.783	0.427	1.077	1.399	1.666	1.414	0.501	0.922	0.422	0.732	-0.174	-0.174	0.750
1982	-0.630	-0.141	-0.318	0.494	0.316	0.419	0.347	-0.035	0.861	0.919	1.771	1.179	0.432
1983	1.160	0.510	0.349	0.252	1.032	1.750	1.561	1.587	0.953	0.828	0.818	0.615	0.951
1984	0.693	1.285	1.236	1.373	0.599	0.954	0.485	0.835	-0.556	0.152	-0.406	0.784	0.619
1985	-0.252	-0.177	-0.152	0.556	0.327	0.050	0.449	0.644	0.418	1.120	0.410	1.616	0.417
1986	1.490	2.470	1.699	1.297	1.148	1.462	0.945	0.792	0.923	0.951	0.627	0.912	1.219
1987	0.958	1.526	1.568	1.661	1.746	1.927	1.079	-2.571	-0.295	0.226	4.131	1.381	1.111
1988	2.407	1.785	0.711	-1.706	-1.763	-0.332	1.724	2.182	1.016	0.841	0.088	0.161	0.593
1989	-0.602	-0.651	-0.328	-1.356	-0.046	0.455	1.926	1.920	0.501	0.114	-0.586	-0.029	0.110
1990	0.272	1.107	1.410	0.921	-0.851	-0.028	********	********	********	********	********	********	0.472

⑬ 제조업 가동율 지수에 적용되는 옵션을 나타낸다.

T OPERATING RATE INDEX(MANUFACTURE) CC17

** OPTIONS INFORMATION OF COMPONENT SERIES **

THE OPTION OF INVERSE(INV) = 0 (0:NO 1:YES)
THE MONTH NUMBER OF SYMMETRIC CHANGE PERCENT(NPCD) = 1
THE NB. OF FLOAT PO INT = 1
THE OPTION OF MOVE AVER AGE(MYES) = 1 (1:YES 0:NOT MOVING AVERAGE)
THE POSITION OF THE MOV. AVG. VALUE(MPOS) = 3 (1:FIRST 2:CENTER 3:LAST)
THE NUMBER OF MOV. AVG.(MOVE) = 3
THE OPTION OF RATIO(KRATE) = 1 (0:NO 1:YES)
MCD VALUE(MCD) = 3
THE WEIGHT OF COMPONENT SERIES(SWGT) = 0.877
THE PERIOD OF COMPONENT SERIES(LFYR - LEMO) = 71. 1 - 90. 6

⑭ 3개월 이동평균된 제조업 가동율 지수를 나타낸다.

T OPERATING RATE INDEX(MANUFACTURE) CC17

2.0 TC : 3 MOVING-AVERAGED SERIES

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.0
1971	76.4	77.5	78.6	79.8	80.8	80.9	80.7	79.7	78.5	76.6	80.5	79.5	79.1
1972	80.7	76.6	77.9	78.8	80.4	82.1	83.4	84.4	85.6	86.0	87.2	88.6	82.6
1973	89.2	88.8	86.8	86.6	86.0	86.2	85.9	86.8	87.8	89.2	89.5	89.6	87.7
1974	90.5	90.2	90.7	89.3	90.6	90.0	90.4	87.3	84.0	81.3	81.1	83.9	87.4
1975	84.5	85.0	83.7	83.0	81.9	81.1	81.8	82.9	84.6	85.9	86.6	85.9	83.9
1976	87.2	88.9	91.6	91.9	91.8	92.9	94.9	96.5	96.9	96.0	95.9	95.8	93.4
1977	95.2	94.8	93.9	95.5	95.5	98.1	96.9	98.3	97.6	99.3	99.1	100.1	97.0
1978	100.9	102.3	103.4	104.0	104.8	105.2	105.6	106.8	106.8	106.6	105.4	105.5	104.8
1979	105.1	104.7	103.3	101.8	100.5	99.4	97.9	96.3	96.6	95.9	95.4	92.6	99.1
1980	92.3	91.3	91.4	90.2	89.1	87.5	87.4	86.8	85.5	84.7	84.8	86.7	88.1
1981	86.9	87.2	87.4	88.6	89.5	90.5	89.5	89.5	88.6	89.1	88.7	87.9	88.6
1982	87.1	87.5	86.9	86.9	86.1	86.6	86.9	86.9	87.4	87.9	88.9	89.7	87.4
1983	90.8	91.2	91.8	92.3	93.5	94.9	95.8	97.0	97.6	97.8	98.0	98.0	94.9
1984	99.5	101.7	102.6	102.5	100.8	100.8	100.3	101.7	101.7	102.2	101.3	101.8	101.4
1985	100.7	100.1	99.3	99.8	100.1	100.0	100.2	100.2	99.6	99.6	99.8	101.1	100.0
1986	101.0	101.2	101.6	102.6	103.4	104.6	105.1	104.9	105.2	105.4	105.5	105.4	103.8
1987	105.4	106.9	107.8	109.3	109.2	110.2	110.0	105.0	103.8	103.0	107.8	107.6	107.2
1988	108.4	109.3	109.2	107.0	103.8	103.1	104.2	106.3	106.2	106.1	105.0	104.2	106.1
1989	103.2	101.9	101.3	99.5	99.8	99.9	101.5	103.0	103.4	103.5	102.8	102.7	101.9
1990	103.0	104.7	105.8	106.5	103.7	102.9	********	********	********	********	********	********	104.4

⑮ 제조업 가동율 지수의 대칭변화율을 나타낸다.

T OPERATING RATE INDEX(MANUFACTURE) CC17

3.0 THE SYMMETIC. CHANGE RATE OF COMPONENT SER IES

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.000
1971	********	1.090	1.081	1.146	1.061	0.104	-0.194	-0.992	-1.255	-1.852	3.904	-1.014	0.280
1972	1.160	-4.063	1.267	0.944	1.551	1.745	1.268	1.001	1.186	0.459	1.121	1.428	0.756
1973	0.563	-0.319	-2.073	-0.119	-0.600	0.204	-0.371	0.944	0.983	1.393	0.332	0.078	0.085
1974	0.880	-0.284	0.455	-1.329	1.322	-0.693	0.422	-3.099	-3.307	-2.665	-0.213	2.851	-0.472
1975	0.602	0.423	-1.316	-0.682	-1.080	-0.808	0.701	1.090	1.708	1.303	0.713	-0.704	0.162
1976	1.349	1.671	2.673	0.308	-0.140	1.192	1.957	1.617	0.334	-0.893	-0.053	-0.145	0.822
1977	-0.591	-0.348	-0.972	1.605	0.049	2.570	-1.144	1.364	-0.700	1.732	-0.185	0.950	0.361
1978	0.829	1.408	1.110	0.542	0.845	0.408	0.343	1.239	0.012	-0.272	-1.182	0.133	0.451
1979	-0.384	-0.469	-1.382	-1.499	-1.290	-1.128	-1.484	-1.582	0.306	-0.672	-0.558	-2.791	-1.078
1980	-0.290	-0.970	0.107	-1.252	-1.021	-1.695	-0.018	-0.615	-1.364	-0.732	0.084	1.888	-0.490
1981	0.173	0.368	0.205	1.198	0.905	0.994	-1.022	-0.046	-0.844	0.518	-0.484	-0.804	0.097
1982	-0.739	0.375	-0.608	-0.018	-0.805	0.564	0.290	-0.065	0.507	0.572	0.944	0.777	0.149
1983	1.117	0.430	0.647	0.419	1.269	1.324	0.955	1.160	0.650	0.226	0.178	-0.069	0.692
1984	1.534	2.160	0.908	-0.075	-1.701	0.007	-0.443	1.334	0.003	0.477	-0.838	0.513	0.323
1985	-1.120	-0.596	-0.776	0.485	0.292	-0.167	0.270	-0.014	-0.660	0.068	0.184	1.253	-0.065
1986	-0.104	0.276	0.336	1.054	0.771	1.167	0.501	-0.155	0.265	0.220	0.064	-0.077	0.360
1987	-0.009	1.548	0.883	1.458	-0.011	0.968	-0.233	-5.012	-1.129	-0.825	4.757	-0.155	0.187
1988	0.792	0.933	-0.159	-2.201	-3.139	-0.731	1.083	2.113	-0.063	-0.160	-1.078	-0.820	-0.286
1989	-0.948	-1.380	-0.520	-1.856	0.359	0.019	1.597	1.514	0.477	0.062	-0.730	-0.066	-0.123
1990	0.294	1.727	1.018	0.793	-2.880	-0.727	********	********	********	********	********	********	0.038

⑯ 제조업 가동율의 대칭변화율을 진폭조정하고 가중치를 부여한 값이다.
여기서 진폭조정인자는 0.911 이며 가중치는 0.877 이다.

T OPERATING RATE INDEX(MANUFACTURE) CC17

3.1 THE STANDARD. OF THE SYMM. CHANGE RATE OF COMPONENT SERIES

THE SECTION OF STANT. = 1
1ST STAN. FACTOR= 0.911 (71. 1. - 89.12.)
2ND STAN. FACTOR= 0.000 (0. 0. - 0. 0.)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.000
1971	********	1.196	1.186	1.257	1.164	0.114	-0.213	-1.088	-1.377	-2.033	4.283	-1.112	0.307
1972	1.273	-4.458	1.390	1.036	1.702	1.914	1.391	1.099	1.302	0.504	1.230	1.566	0.829
1973	0.618	-0.350	-2.274	-0.131	-0.659	0.224	-0.407	1.035	1.078	1.529	0.364	0.085	0.093
1974	0.965	-0.311	0.500	-1.458	1.451	-0.761	0.463	-3.400	-3.628	-2.924	-0.234	3.128	-0.518
1975	0.660	0.464	-1.444	-0.748	-1.185	-0.887	0.770	1.196	1.874	1.430	0.782	-0.772	0.178
1976	1.481	1.833	2.932	0.337	-0.153	1.308	2.148	1.774	0.366	-0.980	-0.058	-0.159	0.902
1977	-0.648	-0.382	-1.066	1.761	0.054	2.820	-1.255	1.496	-0.768	1.901	-0.203	1.043	0.396
1978	0.910	1.545	1.218	0.595	0.927	0.447	0.377	1.360	0.013	-0.298	-1.297	0.146	0.495
1979	-0.421	-0.514	-1.517	-1.645	-1.416	-1.238	-1.628	-1.736	0.336	-0.738	-0.613	-3.062	-1.183
1980	-0.319	-1.065	0.117	-1.374	-1.120	-1.860	-0.020	-0.675	-1.497	-0.803	0.092	2.072	-0.538
1981	0.190	0.404	0.225	1.315	0.993	1.091	-1.122	-0.050	-0.926	0.568	-0.531	-0.882	0.106
1982	-0.811	0.411	-0.667	-0.020	-0.883	0.618	0.318	-0.071	0.557	0.627	1.036	0.853	0.164
1983	1.226	0.472	0.710	0.460	1.392	1.453	1.048	1.272	0.713	0.248	0.195	-0.076	0.759
1984	1.684	2.370	0.996	-0.083	-1.866	0.008	-0.486	1.463	0.003	0.524	-0.919	0.563	0.355
1985	-1.229	-0.654	-0.852	0.532	0.320	-0.183	0.296	-0.015	-0.724	0.074	0.202	1.375	-0.071
1986	-0.115	0.303	0.368	1.157	0.846	1.281	0.549	-0.170	0.291	0.242	0.070	-0.084	0.395
1987	-0.009	1.699	0.968	1.600	-0.012	1.062	-0.255	-5.500	-1.238	-0.906	5.219	-0.170	0.205
1988	0.870	1.024	-0.175	-2.415	-3.445	-0.802	1.188	2.318	-0.069	-0.176	-1.183	-0.900	-0.314
1989	-1.041	-1.514	-0.571	-2.036	0.394	0.021	1.752	1.661	0.523	0.068	-0.801	-0.072	-0.135
1990	0.323	1.895	1.117	0.870	-3.160	-0.797	********	********	********	********	********	********	0.041

T OPERATING RATE INDEX(MANUFACTURE) CC17

3.2 THE WEIGHTED. OF THE SYMM. CHANGE RATE OF COMPONENT SERIES

THE SECTION OF STANT. = 1 WEIGHT = 0.877
1ST STAN. FACTOR= 0.911 (71. 1. - 89.12.)
2ND STAN. FACTOR= 0.000 (0. 0. - 0. 0.)
1ST AVE. CHG. = 1.039
2ND AVG. CHG. = 0.000

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.000
1971	********	1.049	1.040	1.103	1.021	0.100	-0.186	-0.954	-1.208	-1.783	3.756	-0.975	0.269
1972	1.116	-3.910	1.219	0.908	1.492	1.679	1.220	0.964	1.142	0.442	1.079	1.374	0.727
1973	0.542	-0.307	-1.994	-0.115	-0.578	0.196	-0.357	0.908	0.946	1.341	0.320	0.075	0.081
1974	0.846	-0.273	0.438	-1.278	1.272	-0.667	0.406	-2.982	-3.182	-2.564	-0.205	2.744	-0.454
1975	0.579	0.407	-1.267	-0.656	-1.039	-0.778	0.675	1.049	1.644	1.254	0.686	-0.677	0.156
1976	1.299	1.607	2.572	0.296	-0.135	1.147	1.884	1.556	0.321	-0.860	-0.051	-0.139	0.791
1977	-0.568	-0.335	-0.935	1.544	0.047	2.473	-1.100	1.312	-0.674	1.667	-0.178	0.914	0.347
1978	0.798	1.355	1.069	0.522	0.813	0.392	0.331	1.193	0.012	-0.261	-1.138	0.128	0.434
1979	-0.369	-0.451	-1.330	-1.442	-1.241	-1.086	-1.428	-1.523	0.295	-0.647	-0.537	-2.685	-1.037
1980	-0.279	-0.934	0.103	-1.205	-0.983	-1.631	-0.018	-0.592	-1.312	-0.704	0.081	1.817	-0.471
1981	0.167	0.354	0.198	1.153	0.871	0.957	-0.984	-0.044	-0.812	0.499	-0.465	-0.773	0.093
1982	-0.711	0.361	-0.585	-0.017	-0.774	0.542	0.279	-0.063	0.488	0.550	0.908	0.748	0.144
1983	1.075	0.414	0.623	0.403	1.221	1.274	0.919	1.116	0.625	0.217	0.171	-0.066	0.666
1984	1.476	2.079	0.873	-0.072	-1.636	0.007	-0.426	1.283	0.003	0.459	-0.806	0.493	0.311
1985	-1.078	-0.574	-0.747	0.467	0.281	-0.160	0.260	-0.013	-0.635	0.065	0.177	1.206	-0.063
1986	-0.100	0.266	0.323	1.015	0.742	1.123	0.482	-0.149	0.255	0.212	0.061	-0.074	0.346
1987	-0.008	1.490	0.849	1.403	-0.011	0.931	-0.224	-4.823	-1.086	-0.794	4.577	-0.149	0.180
1988	0.763	0.898	-0.153	-2.118	-3.021	-0.703	1.042	2.033	-0.060	-0.154	-1.038	-0.789	-0.275
1989	-0.913	-1.328	-0.500	-1.786	0.346	0.018	1.536	1.456	0.459	0.060	-0.703	-0.063	-0.118
1990	0.283	1.662	0.980	0.763	-2.771	-0.699	********	********	********	********	********	********	0.036

(4) 종합증감율 산출

⑰ 두 계열의 대칭변화율의 합이다.

COMPOSITE INDEX OF ROUGHLY COINCIDENT INDICATORS

4.0 THE SUM OF PCHG

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	1.431	1.189	1.674	0.706	0.467	1.155	1.137	1.120	0.443	0.660	1.087	1.006
1971	0.858	2.735	2.280	2.524	1.821	0.694	0.207	-0.563	-0.625	-2.366	3.951	-0.975	0.879
1972	2.084	-3.718	1.601	2.043	3.163	3.849	2.807	2.003	2.166	2.285	3.679	3.576	2.128
1973	2.530	0.742	-0.522	1.042	1.265	0.893	1.695	3.817	4.859	4.234	2.188	0.877	1.968
1974	2.426	2.034	2.676	0.176	1.169	0.862	2.003	-2.982	-3.976	-3.772	0.401	4.139	0.430
1975	2.625	2.677	0.118	-0.110	-0.317	-0.508	1.918	2.358	4.444	3.388	2.602	0.883	1.673
1976	3.278	3.901	4.371	1.495	0.423	2.794	4.680	3.998	1.326	-0.922	0.818	0.475	2.220
1977	-0.081	0.090	-0.574	3.150	0.692	5.333	0.069	3.489	-0.620	3.779	0.805	3.390	1.627
1978	1.145	2.435	1.796	2.003	2.635	1.764	1.097	2.437	0.932	1.076	0.008	1.380	1.559
1979	1.308	0.673	-0.380	-1.403	-1.045	-1.440	-1.468	-2.835	0.535	-1.129	-0.136	-3.329	-0.887
1980	-0.401	-0.571	-0.058	-1.367	-1.877	-2.247	0.312	-0.428	-1.149	-0.255	1.050	3.208	-0.315
1981	0.950	0.782	1.274	2.552	2.537	2.371	-0.482	0.878	-0.391	1.231	-0.639	-0.947	0.843
1982	-1.341	0.220	-0.903	0.476	-0.459	0.961	0.626	-0.097	1.349	1.469	2.679	1.927	0.576
1983	2.235	0.924	0.972	0.656	2.253	3.024	2.480	2.703	1.578	1.045	0.990	0.549	1.617
1984	2.169	3.363	2.109	1.300	-1.037	0.961	0.059	2.118	-0.553	0.611	-1.212	1.278	0.931
1985	-1.330	-0.751	-0.899	1.023	0.607	-0.110	0.709	0.631	-0.216	1.185	0.587	2.822	0.355
1986	1.389	2.736	1.932	2.311	1.890	2.585	1.427	0.643	1.178	1.163	0.689	0.838	1.565
1987	0.950	3.016	2.417	3.063	1.735	2.858	0.855	-7.394	-1.381	-0.568	8.708	1.232	1.291
1988	3.169	2.683	0.558	-3.824	-4.783	-1.036	2.766	4.216	0.956	0.687	-0.950	-0.628	0.318
1989	-1.514	-1.979	-0.828	-3.142	0.300	0.473	3.462	3.376	0.960	0.174	-1.289	-0.092	-0.008
1990	0.555	2.770	2.389	1.684	-3.622	-0.727	********	********	********	********	********	********	0.508

⑱ 각 월별로 합산된 월수를 나타낸다.

COMPOSITE INDEX OF ROUGHLY COINCIDENT INDICATORS

4.1 THE NUMBER OF PCHG

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1971	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9
1972	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1973	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1974	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1975	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1976	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1977	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1978	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1979	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1980	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1981	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1982	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1983	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1984	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1985	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1986	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1987	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1988	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1989	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1990	2.0	2.0	2.0	2.0	2.0	2.0	********	********	********	********	********	********	2.0

⑲ 합산된 대칭변화율을 그 대응되는 월수로 나눈 평균변화율이다.

COMPOSITE INDEX OF ROUGHLY COINCIDENT INDICATORS

4.2 THE AVERAGE OF PCHG

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	1.431	1.189	1.674	0.706	0.467	1.155	1.137	1.120	0.443	0.660	1.087	1.006
1971	0.858	1.368	1.140	1.262	0.910	0.347	0.104	-0.281	-0.312	-1.183	1.976	-0.488	0.475
1972	1.042	-1.859	0.801	1.022	1.581	1.925	1.403	1.001	1.083	1.142	1.840	1.788	1.064
1973	1.265	0.371	-0.261	0.521	0.633	0.447	0.847	1.909	2.429	2.117	1.094	0.439	0.984
1974	1.213	1.017	1.338	0.088	0.585	0.431	1.002	-1.491	-1.988	-1.886	0.201	2.070	0.215
1975	1.312	1.339	0.059	-0.055	-0.158	-0.254	0.959	1.179	2.222	1.694	1.301	0.441	0.837
1976	1.639	1.950	2.185	0.747	0.211	1.397	2.340	1.999	0.663	-0.461	0.409	0.238	1.110
1977	-0.040	0.045	-0.287	1.575	0.346	2.666	0.034	1.744	-0.310	1.890	0.402	1.695	0.813
1978	0.572	1.217	0.898	1.001	1.317	0.882	0.548	1.219	0.466	0.538	0.004	0.690	0.779
1979	0.654	0.336	-0.190	-0.701	-0.523	-0.720	-0.734	-1.418	0.268	-0.564	-0.068	-1.664	-0.444
1980	-0.200	-0.285	-0.029	-0.683	-0.939	-1.124	0.156	-0.214	-0.574	-0.128	0.525	1.604	-0.158
1981	0.475	0.391	0.637	1.276	1.269	1.186	-0.241	0.439	-0.195	0.615	-0.319	-0.474	0.421
1982	-0.671	0.110	-0.451	0.238	-0.229	0.481	0.313	-0.049	0.675	0.734	1.340	0.963	0.288
1983	1.118	0.462	0.486	0.328	1.127	1.512	1.240	1.351	0.789	0.522	0.495	0.274	0.809
1984	1.085	1.682	1.055	0.650	-0.519	0.480	0.030	1.059	-0.276	0.306	-0.606	0.639	0.465
1985	-0.665	-0.375	-0.450	0.511	0.304	-0.055	0.355	0.316	-0.108	0.593	0.294	1.411	0.177
1986	0.695	1.368	0.966	1.156	0.945	1.292	0.714	0.321	0.589	0.582	0.344	0.419	0.783
1987	0.475	1.508	1.209	1.532	0.868	1.429	0.428	-3.697	-0.691	-0.284	4.354	0.616	0.645
1988	1.585	1.342	0.279	-1.912	-2.392	-0.518	1.383	2.108	0.478	0.343	-0.475	-0.314	0.159
1989	-0.757	-0.989	-0.414	-1.571	0.150	0.237	1.731	1.688	0.480	0.087	-0.644	-0.046	-0.004
1990	0.278	1.385	1.195	0.842	-1.811	-0.363	********	********	********	********	********	********	0.254

⑳ 진폭조정을 하고 동행수준으로 조정된 종합증감율을 나타낸다.

여기서 진폭조정인자는 0.875이고 수준조정인자도 0.875이다.

COMPOSITE INDEX OF ROUGHLY COINCIDENT INDICATORS

5.0 THE STANDARD. OF THE SYMM. CHANGE RATE OF COMPONENT SERIES

THE SECTION OF STANT. = 1 WEIGHT = 0.875 1ST STAN. FACTOR= 0.875 (70. 1. - 89. 0.)
2ND STAN. FACTOR= 0.000 (0. 0. - 0. 0.)
1ST AVE. CHG. = 1.000
2ND AVG. CHG. = 0.000

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	1.431	1.189	1.674	0.706	0.467	1.155	1.137	1.120	0.443	0.660	1.087	1.006
1971	0.858	1.368	1.140	1.262	0.910	0.347	0.104	-0.281	-0.312	-1.183	1.976	-0.488	0.475
1972	1.042	-1.859	0.801	1.022	1.581	1.925	1.403	1.001	1.083	1.142	1.840	1.788	1.064
1973	1.265	0.371	-0.261	0.521	0.633	0.447	0.847	1.909	2.429	2.117	1.094	0.439	0.984
1974	1.213	1.017	1.338	0.088	0.585	0.431	1.002	-1.491	-1.988	-1.886	0.201	2.070	0.215
1975	1.312	1.339	0.059	-0.055	-0.158	-0.254	0.959	1.179	2.222	1.694	1.301	0.441	0.837
1976	1.639	1.950	2.185	0.747	0.211	1.397	2.340	1.999	0.663	-0.461	0.409	0.238	1.110
1977	-0.040	0.045	-0.287	1.575	0.346	2.666	0.034	1.744	-0.310	1.890	0.402	1.695	0.813
1978	0.572	1.217	0.898	1.001	1.317	0.882	0.548	1.219	0.466	0.538	0.004	0.690	0.779
1979	0.654	0.336	-0.190	-0.701	-0.523	-0.720	-0.734	-1.418	0.268	-0.564	-0.068	-1.664	-0.444
1980	-0.200	-0.285	-0.029	-0.683	-0.939	-1.124	0.156	-0.214	-0.574	-0.128	0.525	1.604	-0.158
1981	0.475	0.391	0.637	1.276	1.269	1.186	-0.241	0.439	-0.195	0.615	-0.319	-0.474	0.421
1982	-0.671	0.110	-0.451	0.238	-0.229	0.481	0.313	-0.049	0.675	0.734	1.340	0.963	0.288
1983	1.118	0.462	0.486	0.328	1.127	1.512	1.240	1.351	0.789	0.522	0.495	0.274	0.809
1984	1.085	1.682	1.055	0.650	-0.519	0.480	0.030	1.059	-0.276	0.306	-0.606	0.639	0.465
1985	-0.665	-0.375	-0.450	0.511	0.304	-0.055	0.355	0.316	-0.108	0.593	0.294	1.411	0.177
1986	0.695	1.368	0.966	1.156	0.945	1.292	0.714	0.321	0.589	0.582	0.344	0.419	0.783
1987	0.475	1.508	1.209	1.532	0.868	1.429	0.428	-3.697	-0.691	-0.284	4.354	0.616	0.645
1988	1.585	1.342	0.279	-1.912	-2.392	-0.518	1.383	2.108	0.478	0.343	-0.475	-0.314	0.159
1989	-0.757	-0.989	-0.414	-1.571	0.150	0.237	1.731	1.688	0.480	0.087	-0.644	-0.046	-0.004
1990	0.278	1.385	1.195	0.842	-1.811	-0.363	********	********	********	********	********	********	0.254

(5) CI산출

㉑ 종합증감율을 '70.1을 100으로 누적하여 지수를 구한 뒤 '85년 평균을 100으로 지수화한 raw CI값이다.

COMPOSITE INDEX OF ROUGHLY COINCIDENT INDICATORS

6.0.R RAW CI WEIGHT : 0.875

6.0.R RAW CI------REBASED (YEAR= 85)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	35.8	36.3	36.7	37.4	37.6	37.8	38.2	38.7	39.1	39.3	39.6	40.0	38.0
1971	40.3	40.9	41.4	41.9	42.3	42.4	42.4	42.3	42.2	41.7	42.5	42.3	41.9
1972	42.8	42.0	42.3	42.8	43.4	44.3	44.9	45.4	45.9	46.4	47.2	48.1	44.6
1973	48.7	48.9	48.8	49.0	49.3	49.5	50.0	50.9	52.2	53.3	53.9	54.1	50.7
1974	54.8	55.3	56.1	56.1	56.5	56.7	57.3	56.4	55.3	54.3	54.4	55.5	55.7
1975	56.3	57.0	57.1	57.0	56.9	56.8	57.3	58.0	59.3	60.3	61.1	61.4	58.2
1976	62.4	63.6	65.1	65.5	65.7	66.6	68.2	69.6	70.0	69.7	70.0	70.1	67.2
1977	70.1	70.2	69.9	71.1	71.3	73.2	73.3	74.5	74.3	75.7	76.0	77.3	73.1
1978	77.8	78.7	79.4	80.2	81.3	82.0	82.5	83.5	83.9	84.3	84.3	84.9	81.9
1979	85.5	85.8	85.6	85.0	84.6	84.0	83.3	82.2	82.4	81.9	81.9	80.5	83.5
1980	80.4	80.1	80.1	79.6	78.8	77.9	78.1	77.9	77.4	77.3	77.8	79.0	78.7
1981	79.4	79.7	80.2	81.2	82.3	83.3	83.1	83.4	83.3	83.8	83.5	83.1	82.2
1982	82.6	82.6	82.3	82.5	82.3	82.7	82.9	82.9	83.5	84.1	85.2	86.0	83.3
1983	87.0	87.4	87.8	88.1	89.1	90.5	91.6	92.8	93.6	94.1	94.5	94.8	90.9
1984	95.8	97.5	98.5	99.1	98.6	99.1	99.1	100.2	99.9	100.2	99.6	100.2	99.0
1985	99.6	99.2	98.8	99.3	99.6	99.5	99.9	100.2	100.1	100.7	101.0	102.4	100.0
1986	103.1	104.5	105.5	106.8	107.8	109.2	110.0	110.3	111.0	111.6	112.0	112.5	108.7
1987	113.0	114.7	116.1	117.9	118.9	120.7	121.2	116.8	116.0	115.6	120.8	121.5	117.8
1988	123.5	125.1	125.5	123.1	120.2	119.6	121.3	123.8	124.4	124.9	124.3	123.9	123.3
1989	122.9	121.7	121.2	119.3	119.5	119.8	121.9	124.0	124.6	124.7	123.9	123.8	122.3
1990	124.2	125.9	127.4	128.5	126.2	125.7	********	********	********	********	********	********	126.3

㉒ ㉑의 종합증감율에 GNP 조정 추세치를 적용해 구한 GNP 조정 종합증감율이다.

COMPOSITE INDEX OF ROUGHLY COINCIDENT INDICATORS

5.1 STANDARDIAED WEIGHTED CHANGES ADJUSTED BY GNP TREND 1985 = 100

ADJUSTED COMPOSITE INDEX INDICATORS
TREND VALUE : 1ST-GNP = 1.00688101 1ST-SELF = 1.00513406 1ST-TRADJ. = 0.1747
2ND-GNP = ********** 2ND-SELF = 0.00000000 2ND-TRADJ. = 0.0000

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	1.606	1.363	1.849	0.881	0.642	1.329	1.312	1.294	0.618	0.834	1.261	1.181
1971	1.033	1.542	1.315	1.437	1.085	0.522	0.278	-0.107	-0.138	-1.008	2.150	-0.313	0.650
1972	1.216	-1.684	0.975	1.196	1.756	2.099	1.578	1.176	1.258	1.317	2.014	1.963	1.239
1973	1.440	0.546	-0.086	0.696	0.807	0.621	1.022	2.083	2.604	2.292	1.269	0.613	1.159
1974	1.388	1.192	1.513	0.263	0.759	0.606	1.176	-1.316	-1.814	-1.711	0.375	2.244	0.390
1975	1.487	1.513	0.234	0.120	0.016	-0.080	1.134	1.354	2.397	1.869	1.476	0.616	1.011
1976	1.814	2.125	2.360	0.922	0.386	1.572	2.515	2.174	0.838	-0.286	0.584	0.412	1.285
1977	0.134	0.219	-0.112	1.750	0.521	2.841	0.209	1.919	-0.135	2.064	0.577	1.870	0.988
1978	0.747	1.392	1.073	1.176	1.492	1.057	0.723	1.393	0.640	0.713	0.179	0.865	0.954
1979	0.829	0.511	-0.015	-0.527	-0.348	-0.545	-0.559	-1.243	0.442	-0.390	0.107	-1.490	-0.269
1980	-0.026	-0.111	0.146	-0.509	-0.764	-0.949	0.331	-0.039	-0.400	0.047	0.700	1.779	0.017
1981	0.650	0.565	0.812	1.451	1.443	1.360	-0.067	0.614	-0.021	0.790	-0.145	-0.299	0.596
1982	-0.496	0.285	-0.277	0.413	-0.055	0.655	0.488	0.126	0.849	0.909	1.514	1.138	0.462
1983	1.292	0.637	0.660	0.503	1.301	1.687	1.415	1.526	0.964	0.697	0.670	0.449	0.983
1984	1.259	1.856	1.229	0.825	-0.344	0.655	0.204	1.234	-0.102	0.480	-0.431	0.813	0.640
1985	-0.490	-0.201	-0.275	0.686	0.478	0.120	0.529	0.490	0.067	0.767	0.468	1.586	0.352
1986	0.869	1.543	1.141	1.330	1.120	1.467	0.888	0.496	0.764	0.756	0.519	0.594	0.957
1987	0.650	1.683	1.383	1.706	1.042	1.604	0.602	-3.522	-0.516	-0.110	4.529	0.791	0.820
1988	1.759	1.516	0.454	-1.737	-2.217	-0.343	1.558	2.283	0.652	0.518	-0.300	-0.139	0.334
1989	-0.582	-0.815	-0.239	-1.396	0.325	0.411	1.906	1.863	0.655	0.262	-0.470	0.129	0.171
1990	0.452	1.559	1.369	1.017	-1.636	-0.189	********	********	********	********	********	********	0.429

㉓ ㉒의 GNP 조정 종합증감율을 '70.1을 100으로 하여 누적한 값이다.

COMPOSITE INDEX OF ROUGHLY COINCIDENT INDICATORS

6.1 CI -- NON-REBASED

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	100.0	101.6	103.0	104.9	105.9	106.5	108.0	109.4	110.8	111.5	112.4	113.9	107.3
1971	115.1	116.8	118.4	120.1	121.4	122.0	122.4	122.3	122.1	120.9	123.5	123.1	120.7
1972	124.6	122.5	123.7	125.2	127.4	130.1	132.2	133.8	135.5	137.3	140.1	142.8	131.3
1973	144.9	145.7	145.6	146.6	147.8	148.7	150.2	153.4	157.4	161.1	163.1	164.1	152.4
1974	166.4	168.4	171.0	171.5	172.8	173.8	175.9	173.6	170.4	167.6	168.2	172.0	171.0
1975	174.6	177.2	177.7	177.9	177.9	177.8	179.8	182.2	186.7	190.2	193.0	194.2	182.4
1976	197.7	202.0	206.8	208.7	209.5	212.9	218.3	223.1	225.0	224.3	225.6	226.6	215.0
1977	226.9	227.4	227.1	231.1	232.3	239.0	239.5	244.2	243.8	248.9	250.4	255.1	238.8
1978	257.0	260.6	263.4	266.5	270.5	273.4	275.4	279.2	281.0	283.1	283.6	286.0	273.3
1979	288.4	289.9	289.8	288.3	287.3	285.7	284.2	280.6	281.9	280.8	281.1	276.9	284.6
1980	276.9	276.6	277.0	275.6	273.5	270.9	271.8	271.7	270.6	270.7	272.6	277.5	273.8
1981	279.3	280.9	283.2	287.3	291.5	295.5	295.3	297.1	297.0	299.4	299.0	298.1	292.0
1982	296.6	297.5	296.6	297.9	297.7	299.6	301.1	301.5	304.1	306.8	311.5	315.1	302.2
1983	319.2	321.2	323.4	325.0	329.2	334.8	339.6	344.8	348.2	350.6	353.0	354.5	337.0
1984	359.0	365.8	370.3	373.4	372.1	374.5	375.3	379.9	379.6	381.4	379.7	382.8	374.5
1985	381.0	380.2	379.2	381.8	383.6	384.1	386.1	388.0	388.3	391.3	393.1	399.4	386.3
1986	402.9	409.1	413.8	419.4	424.1	430.3	434.2	436.3	439.7	443.0	445.3	448.0	428.8
1987	450.9	458.6	464.9	472.9	477.9	485.6	488.6	471.6	469.2	468.7	490.4	494.3	474.5
1988	503.1	510.8	513.1	504.3	493.2	491.5	499.2	510.8	514.1	516.8	515.2	514.5	507.2
1989	511.5	507.4	506.1	499.1	500.8	502.8	512.5	522.1	525.6	526.9	524.5	525.1	513.7
1990	527.5	535.8	543.2	548.7	539.8	538.8	********	********	********	********	********	********	539.0

㉔ 위 계열을 '85년 평균을 100으로 지수화한 CI값이다.

COMPOSITE INDEX OF ROUGHLY COINCIDENT INDICATORS

6.1.A COMPOSITE INDEX ADJUSTED TO GNP TREND 85=100

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	25.9	26.3	26.7	27.2	27.4	27.6	27.9	28.3	28.7	28.9	29.1	29.5	27.8
1971	29.8	30.2	30.6	31.1	31.4	31.6	31.7	31.6	31.6	31.3	32.0	31.9	31.2
1972	32.3	31.7	32.0	32.4	33.0	33.7	34.2	34.6	35.1	35.5	36.3	37.0	34.0
1973	37.5	37.7	37.7	37.9	38.3	38.5	38.9	39.7	40.8	41.7	42.2	42.5	39.4
1974	43.1	43.6	44.3	44.4	44.7	45.0	45.5	44.9	44.1	43.4	43.5	44.5	44.3
1975	45.2	45.9	46.0	46.0	46.0	46.0	46.5	47.2	48.3	49.2	50.0	50.3	47.2
1976	51.2	52.3	53.5	54.0	54.2	55.1	56.5	57.7	58.2	58.1	58.4	58.6	55.7
1977	58.7	58.9	58.8	59.8	60.1	61.9	62.0	63.2	63.1	64.4	64.8	66.0	61.8
1978	66.5	67.5	68.2	69.0	70.0	70.8	71.3	72.3	72.7	73.3	73.4	74.0	70.7
1979	74.7	75.0	75.0	74.6	74.4	74.0	73.6	72.6	73.0	72.7	72.8	71.7	73.7
1980	71.7	71.6	71.7	71.3	70.8	70.1	70.3	70.3	70.0	70.1	70.6	71.8	70.9
1981	72.3	72.7	73.3	74.4	75.5	76.5	76.4	76.9	76.9	77.5	77.4	77.2	75.6
1982	76.8	77.0	76.8	77.1	77.1	77.6	77.9	78.0	78.7	79.4	80.6	81.6	78.2
1983	82.6	83.1	83.7	84.1	85.2	86.7	87.9	89.3	90.1	90.8	91.4	91.8	87.2
1984	92.9	94.7	95.9	96.6	96.3	96.9	97.1	98.3	98.2	98.7	98.3	99.1	96.9
1985	98.6	98.4	98.1	98.8	99.3	99.4	99.9	100.4	100.5	101.3	101.8	103.4	100.0
1986	104.3	105.9	107.1	108.6	109.8	111.4	112.4	112.9	113.8	114.7	115.3	116.0	111.0
1987	116.7	118.7	120.3	122.4	123.7	125.7	126.5	122.1	121.5	121.3	126.9	128.0	122.8
1988	130.2	132.2	132.8	130.5	127.7	127.2	129.2	132.2	133.1	133.8	133.4	133.2	131.3
1989	132.4	131.3	131.0	129.2	129.6	130.2	132.7	135.2	136.0	136.4	135.8	135.9	133.0
1990	136.5	138.7	140.6	142.0	139.7	139.5	********	********	********	********	********	********	139.5

㉕ 위 계열의 전월비 값이다.

R.0 1 MONTH CHANGE SERIES OF INPUT DATA

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	1.5	1.5	1.9	0.7	0.7	1.1	1.4	1.4	0.7	0.7	1.4	1.2
1971	1.0	1.3	1.3	1.6	1.0	0.6	0.3	-0.3	0.0	-0.9	2.2	-0.3	0.7
1972	1.3	-1.9	0.9	1.2	1.9	2.1	1.5	1.2	1.4	1.1	2.3	1.9	1.2
1973	1.4	0.5	0.0	0.5	1.1	0.5	1.0	2.1	2.8	2.2	1.2	0.7	1.2
1974	1.4	1.2	1.6	0.2	0.7	0.7	1.1	-1.3	-1.8	-1.6	0.2	2.3	0.4
1975	1.6	1.5	0.2	0.0	0.0	0.0	1.1	1.5	2.3	1.9	1.6	0.6	1.0
1976	1.8	2.1	2.3	0.9	0.4	1.7	2.5	2.1	0.9	-0.2	0.5	0.3	1.3
1977	0.2	0.3	-0.2	1.7	0.5	3.0	0.2	1.9	-0.2	2.1	0.6	1.9	1.0
1978	0.8	1.5	1.0	1.2	1.4	1.1	0.7	1.4	0.6	0.8	0.1	0.8	1.0
1979	0.9	0.4	0.0	-0.5	-0.3	-0.5	-0.5	-1.4	0.6	-0.4	0.1	-1.5	-0.3
1980	0.0	-0.1	0.1	-0.6	-0.7	-1.0	0.3	0.0	-0.4	0.1	0.7	1.7	0.0
1981	0.7	0.6	0.8	1.5	1.5	1.3	-0.1	0.7	0.0	0.8	-0.1	-0.3	0.6
1982	-0.5	0.3	-0.3	0.4	0.0	0.6	0.4	0.1	0.9	0.9	1.5	1.2	0.5
1983	1.2	0.6	0.7	0.5	1.3	1.8	1.4	1.6	0.9	0.8	0.7	0.4	1.0
1984	1.2	1.9	1.3	0.7	-0.3	0.6	0.2	1.2	-0.1	0.5	-0.4	0.8	0.6
1985	-0.5	-0.2	-0.3	0.7	0.5	0.1	0.5	0.5	0.1	0.8	0.5	1.6	0.4
1986	0.9	1.5	1.1	1.4	1.1	1.5	0.9	0.4	0.8	0.8	0.5	0.6	1.0
1987	0.6	1.7	1.3	1.7	1.1	1.6	0.6	-3.5	-0.5	-0.2	4.6	0.9	0.8
1988	1.7	1.5	0.5	-1.7	-2.1	-0.4	1.6	2.3	0.7	0.5	-0.3	-0.1	0.3
1989	-0.6	-0.8	-0.2	-1.4	0.3	0.5	1.9	1.9	0.6	0.3	-0.4	0.1	0.2
1990	0.4	1.6	1.4	1.0	-1.6	-0.1	********	********	********	********	********	********	0.4

㉖~㉘ 6개월 및 12개월 평활화전비 값이다.

6.2.A SIX MONTH CHANGE IN ADJUSTED INDEX, ANNUAL RATE PERCENT

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	16.6	15.9	15.7	12.9	12.8	14.2	14.7
1971	13.5	14.1	14.1	16.0	16.6	14.9	13.2	9.5	6.3	1.3	3.5	1.7	10.4
1972	3.7	0.4	2.7	7.3	6.5	11.8	12.6	19.2	19.9	20.2	20.8	20.5	12.1
1973	20.1	18.6	15.5	14.0	11.3	8.4	7.5	10.8	17.0	20.8	21.9	21.9	15.6
1974	22.7	20.6	18.0	13.3	12.1	12.1	11.6	6.2	-0.6	-4.5	-5.2	-2.1	8.7
1975	-1.5	4.3	8.6	12.7	11.9	6.8	6.0	5.7	10.4	14.3	17.7	19.4	9.7
1976	21.0	22.9	22.8	20.5	17.9	20.2	21.8	22.0	18.3	15.5	15.9	13.3	19.3
1977	8.0	3.9	1.9	6.2	6.0	11.3	11.5	15.3	15.3	16.0	16.1	13.9	10.4
1978	15.1	13.9	16.7	14.6	16.8	14.9	14.8	14.8	13.8	12.8	9.9	9.4	14.0
1979	9.7	7.8	6.4	3.7	2.7	-0.2	-2.9	-6.3	-5.4	-5.1	-4.3	-6.1	0.0
1980	-5.1	-2.9	-3.5	-3.7	-5.4	-4.3	-3.6	-3.5	-4.6	-3.5	-0.6	5.0	-3.0
1981	5.6	6.9	9.5	12.6	14.3	13.4	11.8	11.9	10.0	8.6	5.2	1.8	9.3
1982	0.9	0.2	-0.3	-1.0	-0.9	1.1	3.1	2.7	5.1	6.1	9.5	10.6	3.1
1983	12.4	13.5	13.1	12.2	11.7	12.9	13.2	15.2	15.9	16.4	14.9	12.1	13.6
1984	11.8	12.5	13.1	13.4	11.1	11.6	9.3	7.9	5.1	4.3	4.2	4.5	9.1
1985	3.1	0.1	-0.2	0.2	2.0	0.6	2.7	4.1	4.9	5.0	5.0	8.1	3.0
1986	8.9	11.2	13.6	14.9	16.4	16.1	16.2	13.8	12.9	11.6	10.3	8.4	12.8
1987	7.8	10.4	11.8	14.0	15.2	17.5	17.4	5.8	1.8	-1.8	5.3	3.6	9.1
1988	6.0	17.3	19.6	15.7	1.1	-1.1	-1.5	0.0	0.4	5.0	9.1	9.6	6.8
1989	5.0	-1.3	-3.1	-6.7	-5.5	-4.5	0.4	5.9	7.8	11.5	9.7	9.1	2.3
1990	6.0	5.3	6.8	8.5	5.9	5.3	********	********	********	********	********	********	6.3

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6.3.A SIX MONTH SMOOTHED CHANGE IN ADJUSTED INDEX, ANNUAL RATE, PERCENT

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.0
1971	13.7	14.5	14.8	15.4	15.3	14.0	12.2	9.9	7.7	4.2	7.1	5.0	11.1
1972	6.1	1.6	2.7	4.3	7.1	10.5	12.6	13.7	14.7	15.6	17.7	19.6	10.5
1973	20.0	18.4	15.1	13.7	12.7	11.5	11.3	13.5	16.6	18.8	18.7	17.2	15.6
1974	17.7	17.7	18.4	16.0	14.9	13.4	13.2	7.9	2.4	-1.9	-1.8	1.8	10.0
1975	3.9	6.1	5.7	5.3	4.8	4.1	6.0	8.3	12.3	14.6	15.5	14.4	8.4
1976	16.1	18.4	21.1	20.3	18.2	18.6	20.9	22.1	20.2	16.2	14.5	12.7	18.3
1977	10.4	8.6	6.4	8.4	7.7	11.8	10.2	12.6	10.7	13.6	13.0	15.0	10.7
1978	14.5	15.2	15.1	15.0	15.6	15.2	14.3	14.8	13.8	12.8	11.0	10.7	14.0
1979	10.4	9.5	7.7	5.2	3.2	1.3	-0.4	-3.1	-2.4	-3.2	-2.9	-5.4	1.7
1980	-4.9	-4.5	-3.6	-3.8	-4.5	-5.4	-4.1	-3.5	-3.7	-3.0	-1.2	2.6	-3.3
1981	3.8	4.7	6.0	8.5	10.7	12.4	10.8	10.6	9.0	9.1	7.1	5.0	8.2
1982	3.0	2.6	1.2	1.2	0.6	1.5	2.2	2.1	3.5	4.8	7.4	9.0	3.2
1983	10.6	10.7	10.7	10.2	11.4	13.2	14.2	15.3	14.9	14.0	13.1	11.9	12.5
1984	12.4	14.3	14.6	13.9	10.8	10.1	8.6	9.5	7.6	7.2	5.0	5.4	9.9
1985	3.2	1.9	0.8	1.7	2.3	2.0	2.6	3.1	2.9	4.0	4.5	7.0	3.0
1986	8.0	10.2	11.3	12.5	13.2	14.5	14.3	13.3	12.8	12.3	11.2	10.3	12.0
1987	9.7	11.2	12.1	13.7	13.7	15.0	14.1	5.0	2.8	1.6	9.5	9.5	9.8
1988	11.4	12.7	11.7	6.6	1.3	0.2	2.9	7.0	7.0	6.5	4.4	3.3	6.2
1989	1.6	-0.2	-0.5	-2.9	-2.1	-1.6	1.6	4.7	5.6	5.8	4.5	4.5	1.7
1990	5.0	7.6	9.4	10.3	5.4	3.9	********	********	********	********	********	********	6.9

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6.4.A 12 MONTH SMOOTHED CHANGE IN ADJUSTED INDEX, PERCENT

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.0
1971	********	********	********	********	********	13.7	12.7	11.3	9.9	7.5	8.6	7.1	10.1
1972	7.2	4.5	4.7	5.2	6.3	7.9	8.8	9.7	10.7	11.8	13.6	15.2	8.8
1973	16.1	15.8	14.7	14.3	14.0	13.3	13.0	13.7	15.2	16.3	16.4	15.8	14.9
1974	16.2	16.3	16.6	15.3	14.7	14.1	14.1	11.2	7.7	4.5	3.6	4.6	11.6
1975	4.8	5.3	4.9	4.7	4.5	4.0	4.7	5.7	7.9	9.6	11.0	11.5	6.6
1976	13.3	15.3	17.1	16.9	16.0	16.7	18.4	19.7	19.1	17.2	16.3	15.0	16.7
1977	13.3	11.7	9.8	10.3	9.4	11.1	10.1	11.2	10.2	11.6	11.3	12.3	11.0
1978	12.2	12.9	13.4	13.7	14.4	14.5	14.1	14.4	13.7	13.2	12.0	11.7	13.4
1979	11.3	10.6	9.3	7.6	6.1	4.5	3.0	0.8	0.5	-0.6	-0.9	-2.8	4.1
1980	-3.0	-3.2	-3.1	-3.5	-4.2	-4.8	-4.2	-3.8	-3.9	-3.4	-2.4	-0.2	-3.3
1981	0.9	1.7	2.9	4.7	6.5	7.9	7.8	8.3	8.1	8.5	7.8	6.7	6.0
1982	5.4	4.9	3.8	3.4	2.6	2.6	2.6	2.3	2.8	3.4	4.8	5.9	3.7
1983	7.1	7.6	8.1	8.4	9.5	10.8	11.7	12.7	12.9	12.9	12.7	12.2	10.6
1984	12.5	13.3	13.4	13.1	11.5	11.1	10.3	10.5	9.1	8.4	6.8	6.7	10.5
1985	5.3	4.2	3.2	3.2	3.1	2.6	2.6	2.8	2.6	3.2	3.5	4.9	3.4
1986	5.6	7.0	8.0	9.3	10.2	11.4	11.9	11.7	11.8	11.7	11.3	10.9	10.1
1987	10.6	11.3	11.7	12.5	12.5	13.2	12.9	7.9	6.3	5.2	8.9	8.7	10.2
1988	9.5	10.5	10.4	8.0	4.8	3.6	4.3	5.7	5.5	5.5	4.9	4.7	6.5
1989	3.9	2.3	1.3	-0.9	-0.9	-0.9	0.9	2.9	3.7	4.0	3.4	3.3	1.9
1990	3.6	5.0	6.3	7.2	5.3	4.9	********	********	********	********	********	********	5.4

2. 일본식 CI

일본식 CI를 산출하려면 CI 및 DI 옵션카드 중의 MTYPE값을 1로 하고 그 외의 부분은 TC의 CI의 입력자료와 동일하게 입력하여 산출하면 된다.

산출 결과의 앞부분 즉, TC의 CI 결과 중 ①~⑧까지의 결과가 일본식 CI 결과와 동일하므로 그 뒷부분부터 산출결과를 살펴보기로 한다.

(입력자료)

```
COIN        2700190068540
COMA       1200000 0110
TSTAN     170018912
PATP       00300000000050153 1 0.00619553 9004
GNP1      17089000001006881018
GNP2       70019006 6070
(8X,12F6.0)     METHOD JAPAN
  1970   1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122
  1971   1.122 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934
                                  .                 .
                                  .                 .
                                (이 하 동 일)
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(산출결과)

(3) 산업생산지수의 대칭변화율을 계산하고 각종 변화율의 평균을 산출

⑨ 산업생산지수에 적용되는 옵션을 나타낸다.

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T PRODUCTION INDEX                                  CC12

 ** OPTIONS INFORMATION OF COMPONENT SERIES **

 THE OPTION OF INVERSE(INV) = 0 (0:NO  1:YES)
 THE MONTH NUMBER OF SYMMETRIC CHANGE PERCENT(NPCD) = 1
 THE NB. OF FLOAT PO INT = 1
 THE OPTION OF MOVE AVER AGE(MYES) = 1 ( 1:YES  0:NOT MOVING AVERAGE )
 THE POSITION OF THE MOV. AVG. VALUE(MPOS) = 3 (1:FIRST    2:CENTER  3:LAST)
 THE NUMBER OF MOV. AVG.(MOVE) =  3
 THE OPTION OF RATIO(KRATE) = 0 (0:NO  1:YES)
 MCD VALUE(MCD) = 3
 THE WEIGHT OF COMPONENT SERIES(SWGT) = 1.057
 THE PERIOD OF COMPONENT SERIES(LFYR - LEMO) = 70. 1 - 90. 6
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⑩ 3개월 이동평균된 산업생산지수를 나타낸다.

T PRODUCTION INDEX CC12

2.0 TC : 3 MOVING-AVERAGED SERIES

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	9.8	10.0	10.2	10.4	10.5	10.6	10.7	10.9	11.1	11.1	11.2	11.4	10.7
1971	11.5	11.8	12.0	12.2	12.4	12.5	12.5	12.6	12.7	12.6	12.6	12.6	12.3
1972	12.8	12.8	12.9	13.1	13.4	13.8	14.1	14.3	14.5	14.9	15.4	15.9	14.0
1973	16.3	16.5	16.9	17.1	17.6	17.7	18.2	19.0	20.0	20.8	21.3	21.6	18.6
1974	22.0	22.7	23.4	23.9	23.9	24.4	24.9	24.9	24.6	24.2	24.4	24.9	24.0
1975	25.6	26.4	26.9	27.1	27.4	27.5	27.9	28.4	29.5	30.4	31.2	31.9	28.3
1976	32.7	33.8	34.6	35.2	35.4	36.2	37.6	38.9	39.4	39.4	39.9	40.2	36.9
1977	40.5	40.7	40.9	41.8	42.2	43.8	44.5	45.9	45.9	47.2	47.9	49.5	44.2
1978	49.7	50.5	51.0	52.0	53.3	54.3	54.9	55.8	56.5	57.5	58.4	59.4	54.4
1979	60.8	61.7	62.5	62.6	62.7	62.4	62.4	61.3	61.5	61.1	61.4	60.9	61.8
1980	60.8	61.1	61.0	60.8	60.1	59.6	59.9	60.0	60.1	60.5	61.3	62.5	60.6
1981	63.1	63.5	64.4	65.7	67.2	68.5	68.9	69.8	70.2	70.9	70.7	70.6	67.8
1982	70.0	69.8	69.5	70.0	70.3	70.7	71.0	71.0	71.8	72.7	74.5	75.7	71.4
1983	76.9	77.4	77.8	78.1	79.2	81.1	82.8	84.6	85.7	86.7	87.6	88.4	82.2
1984	89.2	90.8	92.3	94.0	94.8	96.0	96.7	97.8	97.0	97.2	96.7	97.7	95.0
1985	97.4	97.2	97.0	97.7	98.1	98.2	98.8	99.7	100.2	101.8	102.3	104.6	99.4
1986	106.7	110.4	112.8	114.8	116.6	118.9	120.5	121.8	123.3	124.9	126.0	127.5	118.7
1987	129.2	131.9	134.7	137.8	141.1	144.8	147.0	141.9	141.4	141.8	150.0	152.8	141.2
1988	157.9	161.7	163.3	159.6	155.8	155.1	158.8	163.5	165.8	167.7	167.9	168.3	162.1
1989	166.9	165.4	164.7	161.7	161.6	162.6	166.9	171.3	172.5	172.7	171.4	171.3	167.4
1990	171.9	174.5	177.9	180.1	178.1	178.0	********	********	********	********	********	********	176.8

⑪ 산업생산지수의 대칭변화율을 나타낸다.

T PRODUCTION INDEX CC12

3.0 THE SYMMETIC. CHANGE RATE OF COMPONENT SER IES

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	1.940	1.611	2.269	0.957	0.633	1.565	1.541	1.517	0.601	0.894	1.473	1.364
1971	1.163	2.286	1.681	1.926	1.084	0.805	0.533	0.531	0.791	-0.791	0.264	0.000	0.856
1972	1.311	0.260	0.518	1.538	2.264	2.941	2.151	1.408	1.389	2.497	3.524	2.985	1.899
1973	2.694	1.421	1.996	1.569	2.498	0.944	2.780	3.943	5.304	3.922	2.532	1.088	2.557
1974	2.141	3.127	3.032	1.972	-0.140	2.073	2.165	0.000	-1.077	-1.637	0.822	1.892	1.198
1975	2.772	3.077	1.876	0.741	0.979	0.365	1.685	1.774	3.795	2.892	2.597	2.114	2.056
1976	2.683	3.108	2.438	1.624	0.755	2.233	3.791	3.310	1.362	-0.085	1.177	0.833	1.936
1977	0.661	0.575	0.490	2.177	0.873	3.876	1.584	2.950	0.073	2.863	1.332	3.355	1.734
1978	0.470	1.464	0.986	2.007	2.469	1.859	1.038	1.687	1.247	1.812	1.552	1.697	1.524
1979	2.273	1.523	1.288	0.053	0.266	-0.479	-0.053	-1.779	0.326	-0.653	0.544	-0.872	0.203
1980	-0.164	0.492	-0.218	-0.219	-1.213	-0.835	0.446	0.222	0.222	0.608	1.314	1.885	0.212
1981	1.062	0.579	1.459	1.896	2.258	1.917	0.679	1.249	0.571	0.992	-0.235	-0.236	1.016
1982	-0.854	-0.191	-0.431	0.669	0.428	0.567	0.470	-0.047	1.167	1.245	2.400	1.598	0.585
1983	1.573	0.691	0.472	0.342	1.399	2.372	2.116	2.151	1.292	1.122	1.109	0.833	1.289
1984	0.939	1.741	1.675	1.860	0.812	1.293	0.657	1.131	-0.753	0.206	-0.550	1.063	0.840
1985	-0.342	-0.240	-0.206	0.753	0.443	0.068	0.609	0.873	0.567	1.518	0.555	2.191	0.566
1986	2.019	3.347	2.181	1.757	1.556	1.981	1.281	1.073	1.251	1.289	0.850	1.236	1.652
1987	1.298	2.068	2.125	2.250	2.366	2.611	1.462	-3.484	-0.400	0.306	5.598	1.872	1.506
1988	3.262	2.420	0.964	-2.313	-2.389	-0.450	2.336	2.958	1.377	1.139	0.119	0.218	0.803
1989	-0.816	-0.883	-0.444	-1.838	-0.062	0.617	2.610	2.602	0.679	0.154	-0.794	-0.039	0.149
1990	0.369	1.501	1.911	1.248	-1.154	-0.037	********	********	********	********	********	********	0.639

⑫ 산업생산지수의 평균을 나타낸 것으로 대칭변화율의 과거 5년간 평균치를 구한 것이다.

T PRODUCTION INDEX CC12

3.1 THE STANDARDIZATION CHANGE RATE OF COMPONENT SERIES(LAST 60 MONTHS)

1) AVERAGE OF UNIT COMPONENT SERIES

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598
1971	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598
1972	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598
1973	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598
1974	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598
1975	1.598	1.617	1.622	1.596	1.596	1.592	1.594	1.598	1.636	1.674	1.702	1.713	1.628
1976	1.738	1.752	1.765	1.760	1.754	1.778	1.832	1.879	1.888	1.900	1.915	1.929	1.824
1977	1.918	1.923	1.923	1.934	1.910	1.926	1.917	1.942	1.920	1.926	1.890	1.896	1.919
1978	1.859	1.860	1.843	1.850	1.850	1.865	1.836	1.798	1.731	1.696	1.679	1.689	1.796
1979	1.692	1.665	1.636	1.604	1.611	1.568	1.531	1.501	1.525	1.541	1.537	1.491	1.575
1980	1.442	1.398	1.364	1.348	1.311	1.291	1.270	1.245	1.185	1.147	1.126	1.122	1.271
1981	1.095	1.053	1.036	1.041	1.066	1.061	1.009	0.974	0.961	0.979	0.956	0.938	1.014
1982	0.913	0.900	0.884	0.859	0.852	0.797	0.778	0.728	0.746	0.719	0.737	0.708	0.802
1983	0.726	0.713	0.705	0.677	0.659	0.668	0.686	0.694	0.694	0.683	0.675	0.661	0.687
1984	0.639	0.642	0.649	0.679	0.688	0.718	0.729	0.778	0.760	0.774	0.756	0.788	0.717
1985	0.785	0.773	0.773	0.790	0.817	0.832	0.835	0.846	0.852	0.867	0.854	0.859	0.824
1986	0.875	0.921	0.933	0.931	0.919	0.920	0.930	0.927	0.939	0.944	0.962	0.986	0.932
1987	1.022	1.060	1.102	1.129	1.161	1.195	1.212	1.154	1.128	1.113	1.166	1.170	1.134
1988	1.199	1.227	1.236	1.191	1.128	1.081	1.085	1.098	1.100	1.100	1.084	1.073	1.134
1989	1.044	1.000	0.965	0.903	0.889	0.878	0.910	0.935	0.958	0.958	0.954	0.935	0.944
1990	0.947	0.976	1.011	1.020	0.993	0.991	********	********	********	********	********	********	0.990

⑬ 산업생산지수의 표준편차를 나타낸다.

T PRODUCTION INDEX CC12

2) STAN.DEVIATION OF UNIT COMPONENT SERIES

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229
1971	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229
1972	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229
1973	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229
1974	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229
1975	1.229	1.243	1.243	1.245	1.245	1.249	1.249	1.249	1.280	1.283	1.284	1.285	1.257
1976	1.289	1.299	1.302	1.302	1.305	1.301	1.316	1.318	1.312	1.291	1.277	1.261	1.298
1977	1.269	1.262	1.263	1.262	1.269	1.287	1.287	1.292	1.313	1.316	1.302	1.308	1.286
1978	1.316	1.316	1.320	1.320	1.320	1.314	1.313	1.284	1.202	1.168	1.163	1.160	1.266
1979	1.161	1.146	1.133	1.150	1.141	1.170	1.186	1.245	1.209	1.172	1.175	1.214	1.175
1980	1.220	1.207	1.223	1.237	1.279	1.303	1.307	1.312	1.275	1.258	1.244	1.241	1.259
1981	1.224	1.197	1.185	1.188	1.197	1.193	1.139	1.100	1.100	1.091	1.102	1.113	1.152
1982	1.136	1.144	1.155	1.143	1.144	1.075	1.071	1.038	1.036	1.001	1.021	0.969	1.078
1983	0.975	0.970	0.970	0.956	0.932	0.945	0.962	0.972	0.972	0.963	0.958	0.949	0.960
1984	0.926	0.930	0.936	0.945	0.944	0.935	0.929	0.871	0.891	0.875	0.891	0.866	0.912
1985	0.870	0.879	0.879	0.869	0.831	0.809	0.807	0.804	0.800	0.804	0.803	0.810	0.830
1986	0.824	0.881	0.893	0.891	0.878	0.879	0.880	0.879	0.879	0.880	0.867	0.853	0.874
1987	0.820	0.815	0.802	0.814	0.824	0.840	0.836	1.018	1.037	1.043	1.180	1.182	0.934
1988	1.211	1.219	1.216	1.293	1.372	1.376	1.380	1.394	1.394	1.394	1.400	1.404	1.338
1989	1.424	1.442	1.451	1.490	1.495	1.495	1.511	1.526	1.510	1.511	1.515	1.520	1.491
1990	1.513	1.507	1.504	1.503	1.527	1.528	********	********	********	********	********	********	1.514

⑭ 산업생산지수의 편차기준화 변화율을 나타낸다.

T PRODUCTION INDEX CC12

3) STANDARDIZATION CHANGE RATE

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	0.278	0.010	0.546	-0.522	-0.786	-0.027	-0.047	-0.066	-0.812	-0.573	-0.102	-0.191
1971	-0.354	0.559	0.067	0.267	-0.418	-0.645	-0.867	-0.869	-0.657	-1.944	-1.086	-1.301	-0.604
1972	-0.234	-1.089	-0.879	-0.049	0.542	1.093	0.449	-0.154	-0.170	0.732	1.567	1.129	0.245
1973	0.892	-0.144	0.324	-0.024	0.732	-0.532	0.962	1.908	3.015	1.891	0.760	-0.415	0.781
1974	0.441	1.244	1.167	0.304	-1.414	0.387	0.461	-1.301	-2.177	-2.633	-0.632	0.239	-0.326
1975	0.955	1.175	0.205	-0.687	-0.496	-0.983	0.073	0.141	1.687	0.949	0.697	0.312	0.336
1976	0.733	1.044	0.517	-0.104	-0.765	0.349	1.488	1.086	-0.401	-1.537	-0.578	-0.870	0.080
1977	-0.991	-1.068	-1.135	0.192	-0.817	1.515	-0.258	0.780	-1.408	0.712	-0.429	1.116	-0.149
1978	-1.055	-0.301	-0.649	0.119	0.469	-0.005	-0.608	-0.087	-0.403	0.100	-0.109	0.006	-0.210
1979	0.501	-0.123	-0.307	-1.348	-1.178	-1.749	-1.336	-2.635	-0.992	-1.872	-0.845	-1.946	-1.153
1980	-1.316	-0.751	-1.293	-1.266	-1.973	-1.632	-0.631	-0.779	-0.755	-0.429	0.151	0.615	-0.838
1981	-0.027	-0.395	0.357	0.720	0.996	0.718	-0.289	0.250	-0.354	0.012	-1.081	-1.055	-0.012
1982	-1.556	-0.954	-1.138	-0.167	-0.371	-0.213	-0.287	-0.747	0.406	0.525	1.629	0.918	-0.163
1983	0.868	-0.023	-0.240	-0.350	0.794	1.803	1.486	1.499	0.614	0.456	-0.453	0.182	0.628
1984	0.324	1.181	1.096	1.250	0.131	0.615	-0.078	0.406	-1.697	-0.649	-1.465	0.317	0.119
1985	-1.295	-1.152	-1.114	-0.042	-0.451	-0.945	-0.280	0.034	-0.356	0.810	-0.372	1.643	-0.293
1986	1.389	2.753	1.396	0.928	0.725	1.207	0.399	0.166	0.356	0.393	-0.129	0.293	0.823
1987	0.337	1.238	1.275	1.379	1.463	1.685	0.300	-4.557	-1.473	-0.774	3.757	0.593	0.435
1988	1.704	0.978	-0.223	-2.710	-2.564	-1.113	0.907	1.334	0.199	0.028	-0.689	-0.609	-0.230
1989	-1.306	-1.306	-0.971	-1.840	-0.636	-0.174	1.125	1.093	-0.185	-0.532	-1.154	-0.641	-0.544
1990	-0.382	0.348	0.598	0.152	-1.406	-0.673	********	********	********	********	********	********	-0.227

(4) 제조업 가동율 지수의 대칭변화율의 계산과 각종 변화율의 평균을 산출

⑮ 가동율지수에 적용되는 옵션을 나타낸다.

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T OPERATING RATE INDEX(MANUFACTURE)                    CC17
   ##  OPTIONS INFORMATION OF COMPONENT SERIES ##
   THE OPTION OF INVERSE(INV) = 0 (0:NO  1:YES)
   THE MONTH NUMBER OF SYMMETRIC CHANGE PERCENT(NPCD) = 1
   THE NB. OF FLOAT PO INT = 1
   THE OPTION OF MOVE AVER AGE(MYES) = 1 ( 1:YES  0:NOT MOVING AVERAGE )
   THE POSITION OF THE MOV. AVG. VALUE(MPOS) = 3 (1:FIRST    2:CENTER  3:LAST)
   THE NUMBER OF MOV. AVG.(MOVE) =  3
   THE OPTION OF RATIO(KRATE) = 1 (0:NO  1:YES)
   MCD VALUE(MCD) = 3
   THE WEIGHT OF COMPONENT SERIES(SWGT) = 0.877
   THE PERIOD OF COMPONENT SERIES(LFYR - LEMO) = 71. 1 - 90. 6
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⑯ 3개월 이동평균된 가동율지수를 나타낸다.

T OPERATING RATE INDEX(MANUFACTURE) CC17

2.0 TC : 3 MOVING-AVERAGED SERIES

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.0
1971	76.4	77.5	78.6	79.8	80.8	80.9	80.7	79.7	78.5	76.6	80.5	79.5	79.1
1972	80.7	76.6	77.9	78.8	80.4	82.1	83.4	84.4	85.6	86.0	87.2	88.6	82.6
1973	89.2	88.8	86.8	86.6	86.0	86.2	85.9	86.8	87.8	89.2	89.5	89.6	87.7
1974	90.5	90.2	90.7	89.3	90.6	90.0	90.4	87.3	84.0	81.3	81.1	83.9	87.4
1975	84.5	85.0	83.7	83.0	81.9	81.1	81.8	82.9	84.6	85.9	86.6	85.9	83.9
1976	87.2	88.9	91.6	91.9	91.8	92.9	94.9	96.5	96.9	96.0	95.9	95.8	93.4
1977	95.2	94.8	93.9	95.5	95.5	98.1	96.9	98.3	97.6	99.3	99.1	100.1	97.0
1978	100.9	102.3	103.4	104.0	104.8	105.2	105.6	106.8	106.8	106.6	105.4	105.5	104.8
1979	105.1	104.7	103.3	101.8	100.5	99.4	97.9	96.3	96.6	95.9	95.4	92.6	99.1
1980	92.3	91.3	91.4	90.2	89.1	87.5	87.4	86.8	85.5	84.7	84.8	86.7	88.1
1981	86.9	87.2	87.4	88.6	89.5	90.5	89.5	89.5	88.6	89.1	88.7	87.9	88.6
1982	87.1	87.5	86.9	86.9	86.1	86.6	86.9	86.9	87.4	87.9	88.9	89.7	87.4
1983	90.8	91.2	91.8	92.3	93.5	94.9	95.8	97.0	97.6	97.8	98.0	98.0	94.9
1984	99.5	101.7	102.6	102.5	100.8	100.8	100.3	101.7	101.7	102.2	101.3	101.8	101.4
1985	100.7	100.1	99.3	99.8	100.1	100.0	100.2	100.2	99.6	99.6	99.8	101.1	100.0
1986	101.0	101.2	101.6	102.6	103.4	104.6	105.1	104.9	105.2	105.4	105.5	105.4	103.8
1987	105.4	106.9	107.8	109.3	109.2	110.2	110.0	105.0	103.8	103.0	107.8	107.6	107.2
1988	108.4	109.3	109.2	107.0	103.8	103.1	104.2	106.3	106.2	106.1	105.0	104.2	106.1
1989	103.2	101.9	101.3	99.5	99.8	99.9	101.5	103.0	103.4	103.5	102.8	102.7	101.9
1990	103.0	104.7	105.8	106.5	103.7	102.9	********	********	********	********	********	********	104.4

⑰ 가동율 지수의 대칭변화율을 나타낸다.

T OPERATING RATE INDEX(MANUFACTURE) CC17

3.0 THE SYMMETIC. CHANGE RATE OF COMPONENT SERIES

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.000
1971	********	1.090	1.081	1.146	1.061	0.104	-0.194	-0.992	-1.255	-1.852	3.904	-1.014	0.280
1972	1.160	-4.063	1.267	0.944	1.551	1.745	1.268	1.001	1.186	0.459	1.121	1.428	0.756
1973	0.563	-0.319	-2.073	-0.119	-0.600	0.204	-0.371	0.944	0.983	1.393	0.332	0.078	0.085
1974	0.880	-0.284	0.455	-1.329	1.322	-0.693	0.422	-3.099	-3.307	-2.665	-0.213	2.851	-0.472
1975	0.602	0.423	-1.316	-0.682	-1.080	-0.808	0.701	1.090	1.708	1.303	0.713	-0.704	0.162
1976	1.349	1.671	2.673	0.308	-0.140	1.192	1.957	1.617	0.334	-0.893	-0.053	-0.145	0.822
1977	-0.591	-0.348	-0.972	1.605	0.049	2.570	-1.144	1.364	-0.700	1.732	-0.185	0.950	0.361
1978	0.829	1.408	1.110	0.542	0.845	0.408	0.343	1.239	0.012	-0.272	-1.182	0.133	0.451
1979	-0.384	-0.469	-1.382	-1.499	-1.290	-1.128	-1.484	-1.582	0.306	-0.672	-0.558	-2.791	-1.078
1980	-0.290	-0.970	0.107	-1.252	-1.021	-1.695	-0.018	-0.615	-1.364	-0.732	0.084	1.888	-0.490
1981	0.173	0.368	0.205	1.198	0.905	0.994	-1.022	-0.046	-0.844	0.518	-0.484	-0.804	0.097
1982	-0.739	0.375	-0.608	-0.018	-0.805	0.564	0.290	-0.065	0.507	0.572	0.944	0.777	0.149
1983	1.117	0.430	0.647	0.419	1.269	1.324	0.955	1.160	0.650	0.226	0.178	0.069	0.692
1984	1.534	2.160	0.908	-0.075	-1.701	0.007	-0.443	1.334	0.003	0.477	-0.838	0.513	0.323
1985	-1.120	-0.596	-0.776	0.485	0.292	-0.167	0.270	-0.014	-0.660	0.068	0.184	1.253	-0.065
1986	-0.104	0.276	0.336	1.054	0.771	1.167	0.501	-0.155	0.265	0.220	0.064	-0.077	0.360
1987	-0.009	1.548	0.883	1.458	-0.011	0.968	-0.233	-5.012	-1.129	-0.825	4.757	-0.155	0.187
1988	0.792	0.933	-0.159	-2.201	-3.139	-0.731	1.083	2.113	-0.063	-0.160	-1.078	-0.820	-0.286
1989	-0.948	-1.380	-0.520	-1.856	0.359	0.019	1.597	1.514	0.477	0.062	-0.730	-0.066	-0.123
1990	0.294	1.727	1.018	0.793	-2.880	-0.727	********	********	********	********	********	********	0.038

⑱ 가동율 지수의 평균을 나타낸다.

T OPERATING RATE INDEX(MANUFACTURE) CC17

3.1 THE STANDARDIZATION CHANGE RATE OF COMPONENT SERIES(LAST 60 MONTHS)

1) AVERAGE OF UNIT COMPONENT SERIES

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.000
1971	********	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180
1972	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180
1973	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180
1974	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180
1975	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180	0.180
1976	0.180	0.190	0.216	0.202	0.182	0.200	0.236	0.280	0.306	0.322	0.256	0.271	0.237
1977	0.241	0.303	0.266	0.277	0.252	0.266	0.226	0.232	0.200	0.221	0.200	0.192	0.240
1978	0.196	0.225	0.278	0.289	0.313	0.316	0.328	0.333	0.317	0.289	0.264	0.265	0.285
1979	0.244	0.241	0.210	0.207	0.164	0.157	0.125	0.150	0.210	0.244	0.238	0.144	0.195
1980	0.129	0.106	0.129	0.120	0.121	0.106	0.094	0.066	0.015	-0.019	-0.030	0.013	0.071
1981	-0.006	-0.028	-0.069	-0.054	-0.037	-0.040	-0.090	-0.117	-0.137	-0.114	-0.121	-0.132	-0.079
1982	-0.134	-0.122	-0.116	-0.143	-0.157	-0.191	-0.167	-0.191	-0.171	-0.190	-0.171	-0.174	-0.161
1983	-0.169	-0.185	-0.193	-0.195	-0.188	-0.173	-0.163	-0.164	-0.153	-0.145	-0.122	-0.126	-0.165
1984	-0.094	-0.050	-0.012	0.012	0.005	0.024	0.041	0.090	0.085	0.104	0.099	0.154	0.038
1985	0.141	0.147	0.132	0.161	0.183	0.208	0.213	0.223	0.235	0.248	0.250	0.239	0.198
1986	0.235	0.233	0.235	0.233	0.231	0.234	0.259	0.257	0.276	0.271	0.280	0.292	0.253
1987	0.304	0.324	0.349	0.373	0.386	0.393	0.384	0.302	0.275	0.251	0.315	0.299	0.330
1988	0.294	0.302	0.289	0.245	0.172	0.138	0.140	0.156	0.144	0.137	0.116	0.104	0.186
1989	0.062	0.003	-0.020	-0.050	-0.016	-0.016	0.018	0.021	0.029	0.022	0.024	0.015	0.008
1990	0.038	0.077	0.107	0.112	0.059	0.050	********	********	********	********	********	********	0.074

⑲ 가동율 지수의 표준편차를 나타낸다.

T OPERATING RATE INDEX(MANUFACTURE) CC17

2) STAN.DEVIATION OF UNIT COMPONENT SERIES

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.000
1971	********	1.428	1.428	1.428	1.428	1.428	1.428	1.428	1.428	1.428	1.428	1.428	1.428
1972	1.428	1.428	1.428	1.428	1.428	1.428	1.428	1.428	1.428	1.428	1.428	1.428	1.428
1973	1.428	1.428	1.428	1.428	1.428	1.428	1.428	1.428	1.428	1.428	1.428	1.428	1.428
1974	1.428	1.428	1.428	1.428	1.428	1.428	1.428	1.428	1.428	1.428	1.428	1.428	1.428
1975	1.428	1.428	1.428	1.428	1.428	1.428	1.428	1.428	1.428	1.428	1.428	1.428	1.428
1976	1.428	1.436	1.467	1.462	1.458	1.464	1.480	1.482	1.468	1.450	1.373	1.364	1.444
1977	1.364	1.246	1.250	1.259	1.248	1.269	1.275	1.279	1.279	1.293	1.289	1.283	1.278
1978	1.285	1.292	1.262	1.261	1.258	1.258	1.254	1.257	1.255	1.249	1.263	1.263	1.263
1979	1.263	1.265	1.282	1.285	1.291	1.297	1.313	1.265	1.182	1.127	1.131	1.144	1.237
1980	1.144	1.152	1.137	1.146	1.145	1.162	1.160	1.156	1.150	1.141	1.138	1.160	1.149
1981	1.147	1.127	1.072	1.083	1.090	1.086	1.062	1.038	1.041	1.039	1.040	1.044	1.073
1982	1.045	1.047	1.043	1.019	1.022	0.963	0.957	0.936	0.938	0.910	0.922	0.919	0.977
1983	0.925	0.905	0.896	0.894	0.904	0.922	0.931	0.929	0.934	0.935	0.926	0.926	0.919
1984	0.949	0.991	0.983	0.964	0.974	0.963	0.945	0.935	0.935	0.931	0.935	0.857	0.947
1985	0.871	0.864	0.872	0.854	0.840	0.805	0.805	0.798	0.780	0.770	0.770	0.751	0.815
1986	0.752	0.752	0.752	0.749	0.748	0.751	0.734	0.734	0.720	0.720	0.714	0.701	0.736
1987	0.689	0.707	0.700	0.713	0.698	0.702	0.706	0.987	1.003	1.012	1.162	1.162	0.854
1988	1.159	1.162	1.163	1.205	1.273	1.269	1.271	1.280	1.288	1.288	1.298	1.303	1.247
1989	1.296	1.280	1.276	1.298	1.281	1.281	1.296	1.299	1.301	1.299	1.298	1.297	1.292
1990	1.289	1.304	1.304	1.307	1.301	1.365	********	********	********	********	********	********	1.322

⑳ 가동율 지수의 편차기준화 변화율을 나타낸다.

T OPERATING RATE INDEX(MANUFACTURE) CC17

3) STANDARDIZATION CHANGE RATE

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.000
1971	********	0.637	0.631	0.676	0.617	-0.053	-0.262	-0.820	-1.005	-1.423	2.607	-0.836	0.070
1972	0.686	-2.971	0.761	0.535	0.960	1.096	0.762	0.575	0.705	0.196	0.659	0.873	0.403
1973	0.269	-0.349	-1.577	-0.210	-0.546	0.017	-0.386	0.535	0.562	0.849	0.107	-0.072	-0.067
1974	0.490	-0.325	0.193	-1.056	0.800	-0.612	0.169	-2.296	-2.441	-1.992	-0.275	1.870	-0.456
1975	0.295	0.170	-1.048	-0.604	-0.882	-0.692	0.365	0.637	1.070	0.786	0.373	-0.619	-0.012
1976	0.819	1.031	1.675	0.072	-0.221	0.677	1.163	0.902	0.019	-0.838	-0.225	-0.304	0.397
1977	-0.610	-0.523	-0.990	1.055	-0.163	1.815	-1.074	0.885	-0.704	1.168	-0.298	0.591	0.096
1978	0.493	0.916	0.660	0.201	0.423	0.073	0.012	0.721	-0.243	-0.449	-1.145	-0.104	0.130
1979	-0.497	-0.561	-1.243	-1.328	-1.126	-0.991	-1.225	-1.370	0.081	-0.813	-0.704	-2.565	-1.029
1980	-0.367	-0.935	-0.020	-1.198	-0.998	-1.550	-0.097	-0.589	-1.199	-0.624	0.100	1.616	-0.488
1981	0.156	0.351	0.256	1.156	0.864	0.952	-0.878	0.069	-0.679	0.608	-0.349	-0.643	0.155
1982	-0.579	0.475	-0.472	0.123	-0.633	0.783	0.477	0.134	0.723	0.837	1.210	1.035	0.343
1983	1.391	0.680	0.938	0.687	1.612	1.624	1.201	1.425	0.860	0.397	0.324	0.061	0.933
1984	1.715	2.231	0.936	-0.090	-1.751	-0.017	-0.512	1.330	-0.087	0.401	-1.003	0.418	0.298
1985	-1.448	-0.860	-1.042	0.380	0.130	-0.466	0.071	-0.297	-1.147	-0.235	-0.085	1.349	-0.304
1986	-0.451	0.058	0.133	1.096	0.722	1.243	0.330	-0.561	-0.015	-0.070	-0.303	-0.526	0.138
1987	-0.454	1.731	0.763	1.522	-0.569	0.819	-0.874	-5.385	-1.399	-1.064	3.821	-0.391	-0.123
1988	0.430	0.543	-0.385	-2.030	-2.601	-0.684	0.742	1.518	-0.160	-0.231	-0.920	-0.709	-0.374
1989	-0.780	-1.080	-0.391	-1.391	0.293	0.027	1.218	1.148	0.344	0.031	-0.581	-0.062	-0.102
1990	0.199	1.266	0.699	0.521	-2.159	-0.569	********	********	********	********	********	********	-0.007

(5) 종합된 합성변화율 산출

㉑ 두 계열의 평균을 합하여 평균을 구한다.

3.2 THE COMPOSITE. CHANGE RATE OF AVG,STD,Z

1) AVERAGE OF COMPOSITE INDEX : U(T)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598	1.598
1971	1.598	0.889	0.889	0.889	0.889	0.889	0.889	0.889	0.889	0.889	0.889	0.889	0.948
1972	0.889	0.889	0.889	0.889	0.889	0.889	0.889	0.889	0.889	0.889	0.889	0.889	0.889
1973	0.889	0.889	0.889	0.889	0.889	0.889	0.889	0.889	0.889	0.889	0.889	0.889	0.889
1974	0.889	0.889	0.889	0.889	0.889	0.889	0.889	0.889	0.889	0.889	0.889	0.889	0.889
1975	0.889	0.899	0.901	0.888	0.888	0.886	0.887	0.889	0.908	0.927	0.941	0.947	0.904
1976	0.959	0.971	0.990	0.981	0.968	0.989	1.034	1.079	1.097	1.111	1.086	1.100	1.031
1977	1.080	1.113	1.095	1.105	1.081	1.096	1.071	1.087	1.060	1.074	1.045	1.044	1.079
1978	1.028	1.042	1.060	1.070	1.081	1.091	1.082	1.066	1.024	0.992	0.972	0.977	1.040
1979	0.968	0.953	0.923	0.906	0.887	0.862	0.828	0.826	0.868	0.892	0.887	0.817	0.885
1980	0.785	0.752	0.747	0.734	0.716	0.699	0.682	0.655	0.600	0.564	0.548	0.568	0.671
1981	0.544	0.512	0.484	0.493	0.515	0.510	0.459	0.428	0.412	0.433	0.417	0.403	0.468
1982	0.389	0.389	0.384	0.358	0.347	0.303	0.306	0.269	0.288	0.265	0.283	0.267	0.321
1983	0.279	0.264	0.256	0.241	0.236	0.247	0.262	0.265	0.270	0.269	0.276	0.268	0.261
1984	0.272	0.296	0.318	0.345	0.347	0.371	0.385	0.434	0.422	0.439	0.428	0.471	0.377
1985	0.463	0.460	0.453	0.475	0.500	0.520	0.524	0.534	0.543	0.557	0.552	0.549	0.511
1986	0.555	0.577	0.584	0.582	0.575	0.577	0.595	0.592	0.607	0.607	0.621	0.639	0.593
1987	0.663	0.692	0.725	0.751	0.774	0.794	0.798	0.728	0.701	0.682	0.740	0.735	0.732
1988	0.746	0.765	0.762	0.718	0.650	0.609	0.612	0.627	0.622	0.619	0.600	0.589	0.660
1989	0.553	0.502	0.472	0.427	0.437	0.431	0.464	0.478	0.494	0.490	0.489	0.475	0.476
1990	0.493	0.526	0.559	0.566	0.526	0.520	********	********	********	********	********	********	0.532

㉒ 두 계열의 표준편차를 합하여 평균을 구한다.

2) STAN.DEVIATION OF COMPOSITE INDEX : SIGMA(T)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229	1.229
1971	1.229	1.329	1.329	1.329	1.329	1.329	1.329	1.329	1.329	1.329	1.329	1.329	1.320
1972	1.329	1.329	1.329	1.329	1.329	1.329	1.329	1.329	1.329	1.329	1.329	1.329	1.329
1973	1.329	1.329	1.329	1.329	1.329	1.329	1.329	1.329	1.329	1.329	1.329	1.329	1.329
1974	1.329	1.329	1.329	1.329	1.329	1.329	1.329	1.329	1.329	1.329	1.329	1.329	1.329
1975	1.329	1.335	1.336	1.337	1.337	1.339	1.339	1.339	1.354	1.356	1.356	1.357	1.343
1976	1.359	1.368	1.384	1.382	1.382	1.382	1.398	1.400	1.390	1.370	1.325	1.312	1.371
1977	1.316	1.254	1.257	1.261	1.259	1.278	1.281	1.286	1.296	1.305	1.295	1.295	1.282
1978	1.300	1.304	1.291	1.290	1.289	1.286	1.284	1.271	1.229	1.209	1.213	1.212	1.265
1979	1.212	1.206	1.207	1.218	1.216	1.234	1.250	1.255	1.195	1.150	1.153	1.179	1.206
1980	1.182	1.179	1.180	1.192	1.212	1.233	1.233	1.234	1.213	1.200	1.191	1.201	1.204
1981	1.186	1.162	1.128	1.135	1.144	1.140	1.101	1.069	1.070	1.065	1.071	1.078	1.113
1982	1.090	1.095	1.099	1.081	1.083	1.019	1.014	0.987	0.987	0.955	0.971	0.944	1.027
1983	0.950	0.938	0.933	0.925	0.918	0.933	0.946	0.950	0.953	0.949	0.942	0.938	0.940
1984	0.938	0.961	0.959	0.955	0.959	0.949	0.937	0.903	0.913	0.903	0.913	0.862	0.929
1985	0.870	0.871	0.875	0.862	0.835	0.807	0.806	0.801	0.790	0.787	0.786	0.781	0.823
1986	0.788	0.817	0.823	0.820	0.813	0.815	0.807	0.807	0.800	0.800	0.790	0.777	0.805
1987	0.754	0.761	0.751	0.763	0.761	0.771	0.771	1.003	1.020	1.027	1.171	1.172	0.894
1988	1.185	1.191	1.189	1.249	1.322	1.323	1.325	1.341	1.341	1.341	1.349	1.353	1.293
1989	1.360	1.361	1.364	1.394	1.388	1.388	1.403	1.413	1.405	1.405	1.407	1.409	1.391
1990	1.401	1.405	1.404	1.405	1.444	1.447	********	********	********	********	********	********	1.418

㉓ 두 계열의 편차기준화 변화율을 합산하여 개별지표의 수로 나누어 편차기준화 변화율의 평균을 구한다.

3) STANDARDIZATION CHANGE RATE : Z(T)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	0.278	0.010	0.546	-0.522	-0.786	-0.027	-0.047	-0.066	-0.812	-0.573	-0.102	-0.191
1971	-0.354	0.598	0.349	0.471	0.099	-0.349	-0.564	-0.845	-0.831	-1.683	0.761	-1.068	-0.285
1972	0.226	-2.030	-0.059	0.243	0.751	1.094	0.606	0.210	0.267	0.464	1.113	1.001	0.324
1973	0.580	-0.247	-0.627	-0.117	0.093	-0.258	0.288	1.221	1.789	1.370	0.433	-0.244	0.357
1974	0.466	0.460	0.680	-0.376	-0.307	-0.112	0.315	-1.798	-2.309	-2.312	-0.454	1.055	-0.391
1975	0.625	0.672	-0.421	-0.645	-0.689	-0.837	0.219	0.389	1.378	0.868	0.535	-0.153	0.162
1976	0.776	1.037	1.096	-0.016	-0.493	0.513	1.326	0.994	-0.191	-1.188	-0.401	-0.587	0.239
1977	-0.801	-0.795	-1.062	0.623	-0.490	1.665	-0.666	0.832	-1.056	0.940	-0.364	0.854	-0.027
1978	-0.281	0.307	0.005	0.160	0.446	0.034	-0.298	0.317	-0.323	-0.175	-0.627	-0.049	-0.040
1979	0.002	-0.342	-0.775	-1.338	-1.152	-1.370	-1.281	-2.003	-0.455	-1.342	-0.774	-2.256	-1.091
1980	-0.841	-0.843	-0.657	-1.232	-1.485	-1.591	-0.364	-0.684	-0.977	-0.526	0.126	1.116	-0.663
1981	0.065	-0.022	0.306	0.938	0.930	0.835	-0.584	0.160	-0.517	0.310	-0.715	-0.849	0.071
1982	-1.067	-0.239	-0.805	-0.022	-0.502	0.285	0.095	-0.306	0.564	0.681	1.419	0.977	0.090
1983	1.130	0.329	0.349	0.168	1.203	1.713	1.343	1.462	0.737	0.426	0.388	0.122	0.781
1984	1.019	1.706	1.016	0.580	-0.810	0.299	-0.295	0.868	-0.892	-0.124	-1.234	0.368	0.208
1985	-1.372	-1.006	-1.078	0.169	-0.161	-0.706	-0.104	-0.131	-0.751	0.288	-0.229	1.496	-0.299
1986	0.469	1.405	0.765	1.012	0.724	1.225	0.364	-0.198	0.171	0.161	-0.216	-0.116	0.480
1987	-0.058	1.484	1.019	1.450	0.447	1.252	-0.287	-4.971	-1.436	-0.919	3.789	0.101	0.156
1988	1.067	0.760	-0.304	-2.370	-2.583	-0.898	0.825	1.426	0.019	-0.101	-0.805	-0.659	-0.302
1989	-1.043	-1.193	-0.681	-1.616	-0.172	-0.074	1.171	1.121	0.079	-0.250	-0.867	-0.351	-0.323
1990	-0.092	0.807	0.648	0.337	-1.782	-0.621	********	********	********	********	********	********	-0.117

㉔ 합성변화율을 산출한다.

4.0 COMPOSED CHANGE RATE

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	1.940	1.611	2.269	0.957	0.633	1.565	1.541	1.517	0.601	0.894	1.473	1.364
1971	1.163	1.684	1.353	1.515	1.021	0.425	0.140	-0.233	-0.215	-1.347	1.900	-0.530	0.573
1972	1.190	-1.808	0.811	1.212	1.887	2.343	1.694	1.169	1.244	1.505	2.368	2.219	1.319
1973	1.660	0.562	0.056	0.734	1.012	0.547	1.272	2.512	3.265	2.709	1.464	0.566	1.363
1974	1.508	1.500	1.792	0.389	0.481	0.740	1.308	-1.500	-2.179	-2.183	0.287	2.290	0.369
1975	1.720	1.796	0.338	0.026	-0.033	-0.235	1.180	1.410	2.774	2.104	1.667	0.739	1.124
1976	2.013	2.390	2.508	0.959	0.287	1.099	2.887	2.471	0.831	-0.517	0.554	0.329	1.368
1977	0.026	0.116	-0.240	1.891	0.465	3.224	0.218	2.157	-0.308	2.300	0.574	2.149	1.048
1978	0.662	1.443	1.067	1.276	1.656	1.134	0.700	1.469	0.627	0.782	0.211	0.918	0.995
1979	0.970	0.540	-0.013	-0.723	-0.514	-0.828	-0.772	-1.687	0.323	-0.651	-0.006	-1.842	-0.433
1980	-0.209	-0.242	-0.028	-0.734	-1.084	-1.262	0.234	-0.189	-0.585	-0.068	0.697	1.907	-0.130
1981	0.621	0.487	0.829	1.558	1.578	1.462	-0.183	0.599	-0.141	0.763	-0.348	-0.513	0.559
1982	-0.774	0.127	-0.501	0.334	-0.197	0.593	0.402	-0.034	0.845	0.915	1.662	1.189	0.380
1983	1.351	0.572	0.582	0.397	1.340	1.847	1.533	1.654	0.973	0.673	0.643	0.381	0.995
1984	1.229	1.935	1.293	0.899	-0.430	0.654	0.109	1.218	-0.392	0.327	-0.699	0.788	0.578
1985	-0.731	-0.417	-0.491	0.621	0.366	-0.049	0.440	0.429	-0.050	0.784	0.372	1.718	0.249
1986	0.925	1.725	1.214	1.412	1.163	1.575	0.888	0.433	0.744	0.736	0.450	0.549	0.984
1987	0.619	1.821	1.491	1.858	1.114	1.760	0.577	-4.255	-0.764	-0.262	5.178	0.854	0.833
1988	2.011	1.670	0.400	-2.242	-2.765	-0.579	1.705	2.540	0.647	0.483	-0.485	-0.304	0.257
1989	-0.865	-1.122	-0.457	-1.825	0.198	0.329	2.108	2.061	0.606	0.138	-0.731	-0.020	0.035
1990	0.364	1.661	1.469	1.039	-2.048	-0.378	********	********	********	********	********	********	0.351

㉕ 합성변화율을 누적하여 지수를 산출한다.

6.J. RAV CI (NON REBASED)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	100.0	102.0	103.6	106.0	107.0	107.7	109.4	111.1	112.8	113.5	114.5	116.2	108.6
1971	117.5	119.5	121.2	123.0	124.3	124.8	125.0	124.7	124.4	122.8	125.1	124.5	123.1
1972	125.9	123.7	124.7	126.2	128.6	131.7	133.9	135.5	137.2	139.3	142.6	145.8	132.9
1973	148.2	149.1	149.2	150.3	151.8	152.6	154.6	158.5	163.8	168.3	170.7	171.7	157.4
1974	174.3	177.0	180.2	180.9	181.7	183.1	185.5	182.7	178.8	174.9	175.4	179.5	179.5
1975	182.6	185.9	186.6	186.6	186.5	186.1	188.3	191.0	196.4	200.5	203.9	205.4	191.7
1976	209.6	214.7	220.1	222.2	222.9	226.7	233.3	239.2	241.2	239.9	241.3	242.1	229.4
1977	242.1	242.4	241.8	246.4	247.6	255.7	256.3	261.8	261.0	267.1	268.6	274.5	255.4
1978	276.3	280.3	283.3	287.0	291.8	295.1	297.2	301.6	303.5	305.8	306.5	309.3	294.8
1979	312.3	314.0	314.0	311.7	310.1	307.6	305.2	300.1	301.1	299.1	299.1	293.6	305.6
1980	293.0	292.3	292.2	290.1	287.0	283.4	284.0	283.5	281.8	281.6	283.6	289.1	286.8
1981	290.9	292.3	294.7	299.4	304.1	308.6	308.0	309.9	309.4	311.8	310.7	309.1	304.1
1982	306.8	307.1	305.6	306.6	306.0	307.8	309.1	309.0	311.6	314.5	319.7	323.6	310.6
1983	328.0	329.8	331.8	333.1	337.6	343.9	349.2	355.0	358.5	360.9	363.2	364.6	346.3
1984	369.1	376.3	381.2	384.7	383.0	385.5	386.0	390.7	389.2	390.4	387.7	390.8	384.6
1985	387.9	386.3	384.4	386.8	388.2	388.0	389.8	391.4	391.2	394.3	395.8	402.6	390.6
1986	406.4	413.5	418.5	424.5	429.4	436.2	440.1	442.0	445.3	448.6	450.7	453.1	434.0
1987	455.9	464.3	471.3	480.1	485.5	494.1	497.0	476.3	472.7	471.4	496.5	500.7	480.5
1988	510.9	519.5	521.6	510.0	496.1	493.3	501.7	514.6	518.0	520.5	518.0	516.4	511.7
1989	512.0	506.2	503.9	494.8	495.8	497.4	508.0	518.6	521.8	522.5	518.7	518.6	509.9
1990	520.5	529.2	537.0	542.6	531.6	529.6	********	********	********	********	********	********	531.8

㉖ 누적하여 산출한 지수를 '85년 기준지수로 전환한 것이다.

6.J.R RAW CI------REBASED (YEAR=85)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	25.6	26.1	26.5	27.1	27.4	27.6	28.0	28.4	28.9	29.1	29.3	29.7	27.8
1971	30.1	30.6	31.0	31.5	31.8	32.0	32.0	31.9	31.9	31.4	32.0	31.9	31.5
1972	32.2	31.7	31.9	32.3	32.9	33.7	34.3	34.7	35.1	35.7	36.5	37.3	34.0
1973	38.0	38.2	38.2	38.5	38.9	39.1	39.6	40.6	41.9	43.1	43.7	44.0	40.3
1974	44.6	45.3	46.1	46.3	46.5	46.9	47.5	46.8	45.8	44.8	44.9	46.0	46.0
1975	46.8	47.6	47.8	47.8	47.8	47.6	48.2	48.9	50.3	51.3	52.2	52.6	49.1
1976	53.7	55.0	56.4	56.9	57.1	58.0	59.7	61.2	61.7	61.4	61.8	62.0	58.7
1977	62.0	62.1	61.9	63.1	63.4	65.5	65.6	67.0	66.8	68.4	68.8	70.3	65.4
1978	70.7	71.8	72.5	73.5	74.7	75.6	76.1	77.2	77.7	78.3	78.5	79.2	75.5
1979	80.0	80.4	80.4	79.8	79.4	78.7	78.1	76.8	77.1	76.6	76.6	75.2	78.3
1980	75.0	74.8	74.8	74.3	73.5	72.5	72.7	72.6	72.2	72.1	72.6	74.0	73.4
1981	74.5	74.8	75.5	76.6	77.9	79.0	78.9	79.3	79.2	79.8	79.6	79.1	77.9
1982	78.5	78.6	78.2	78.5	78.4	78.8	79.1	79.1	79.8	80.5	81.9	82.8	79.5
1983	84.0	84.5	84.9	85.3	86.4	88.0	89.4	90.9	91.8	92.4	93.0	93.4	88.7
1984	94.5	96.4	97.6	98.5	98.1	98.7	98.8	100.0	99.6	100.0	99.3	100.1	98.5
1985	99.3	98.9	98.4	99.0	99.4	99.4	99.8	100.2	100.2	101.0	101.3	103.1	100.0
1986	104.0	105.9	107.1	108.7	109.9	111.7	112.7	113.2	114.0	114.9	115.4	116.0	111.1
1987	116.7	118.9	120.7	122.9	124.3	126.5	127.2	121.9	121.0	120.7	127.1	128.2	123.0
1988	130.8	133.0	133.5	130.6	127.0	126.3	128.5	131.8	132.6	133.3	132.6	132.2	131.0
1989	131.1	129.6	129.0	126.7	126.9	127.4	130.1	132.8	133.6	133.8	132.8	132.8	130.5
1990	133.3	135.5	137.5	138.9	136.1	135.6	********	********	********	********	********	********	136.1

3. C의 CI

C의 CI계산은 크게 달라진 것은 없고 기존의 프로그램에서 C값 산출에 관한 일부 내용을 수정하였으며 또 PAT의 C값 산출시 최종 C값이 구해지지 않을 경우 50개월 이동평균하여 산출한 추세치에 의해 계산된 C값으로 대체하여 출력하는 등 PAT 계산 부분을 보완하였다.(이것은 다른 CI산출법으로 PAT를 계산할 때에도 공통적으로 적용된다)

(입력자료)

```
COIN        2700190068540
COMB       2200000 0110
TSTAN     170018912
PATP       00300000000050153 1 0.00619553 9004
GNP1      17089000001006881018
GNP2       70019006 6070
(8X,12F6.0)     METHOD JAPAN
  1970   1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122
  1971   1.122 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934
                 .                                              :
                 .                                              :
  1990   0.558 0.590 0.614 0.615 0.588 0.584
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(이 하 동 일)

(산출결과)

(1) 옵션정보 프린트

① 전체적으로 적용되는 옵션에 관한 정보가 프린트된다.

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******  OPTIONS INFORMATION  ******

THE PROPERTY OF COMPOSITE INDEX(BOSS) = COIN INDEX
THE NUMBER OF COMPONENT SERIES(NID) =  2 INPUT SERIES
THE PERIOD OF COMPOSITE INDEX(KFYR,KFMO,KEYR,KEMO) = 70. 1 - 90. 6
THE BASE YEAR = 85 YEAR
THE OPTION OF CALCULATING MONTH TO MONTH AND YEAR TO YEAR (LRATIO) 0(0:NO 1:YES)
THE NUMBER OF FLOATING POINT ABOVE SERIES(LRATIO)  =  1
THE OPTION OF THE SMOOTHED GROWTH RATE FOR A.0,E.0,3MA SERIES(KSGR) =  0(0:NO 1:YES)

THE TYPE OF CALCULATING THE COMPOSITE INDEX = COMB ( IF COMA=THE CI OF TC, COMB=THE CI OF C, COMC=12MS CI
                                                    DIFA=THE CDI ROUTINE, DIFB=THE DI OF C, DIFC=THE DI OF 12MS)
THE OPTION OF NEW METHOD OF CALCULATING THE CI(NADJ) = 0 (2:YES, OTHERS : NO)
THE OPTION OF CALCULATING THE PAT IN CI(NPAT1) =  2(IF 0 : NO  X>=1 : YES)
THE OPTION OF CALCULATING THE PAT IN COMPONENT SERIES(NPAT2) = 0 (0 OR 1 : NO2 : YES )
THE STANDARDIZATION FACTOR OF CI = 0.000


THE PERIODICITY OF THE DATA(NFORP) = 0 (0 OR 1:MONTHLY  2:QUARTERLY)
THE INVERSION OPTION(INVP) = 0 (0:NO  1:YES)
THE DEVIATION FR. TREND OPTION(IRDP) = 0 (0:RATIO  1:DIFFERENCE)
DETRENDING OPTION = 0 (0:YES  1:NO)
LOG. OPTION = 0 (0:YES  1:NO)
MCD VALUE = 0( IF 0 THEN MCD IS COMPUTED BY THE PROGRAM)
THE NB. OF TERMS FOR THE MOV.AVG. COMPUTING THE FIRST TREND(ITERMP) = 50
THE NUMBER OF PHASE AVERAGE(LTPP) = 3 (2:DOUBLE  3:TRIPLET)
MINMAL NB. OF MONTHS BETWEEN TWO SAME TURING POINT(NDIFFP) = 15


THE PERIOD NUMBER OF GNP ADJUST.(NGNP) = 1
THE PERIOD OF GNP ADJUST.(I1FGYR - I2EGYR) = 70 - 89  0 -  0
THE 1ST VALUE OF GNP(GOOT1) = 1.00688101
THE 2ND VALUE OF GNP(GOOT2) = **********


THE PERIOD OF COIN. ADJUSTED TREND(IGFYR - IGEMO) = 70. 1 - 90. 6
THE PERIOD OF MOV. AVG.(MOVNUM) =   0
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(2) 개별지표 입력 및 조정

② 산업생산지수의 원계열이다.

T PRODUCTION INDEX CC12

A.0 : ORIGINAL SERIES (REAL)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	9.4	8.9	10.5	10.8	11.3	11.1	11.1	10.9	10.8	11.6	11.4	12.0	10.8
1971	10.7	11.0	12.3	12.6	13.4	13.1	12.6	12.6	12.8	12.2	12.9	13.3	12.5
1972	12.2	11.4	13.1	13.6	14.8	14.8	14.3	14.3	14.4	15.7	16.0	16.8	14.3
1973	16.1	14.6	17.4	17.8	19.3	18.5	18.9	20.1	20.1	22.0	21.8	22.3	19.1
1974	21.2	21.9	24.0	24.5	25.4	26.1	25.7	23.7	24.3	24.3	24.3	26.6	24.3
1975	25.7	23.9	27.7	27.7	29.4	28.6	28.6	29.1	29.9	31.8	31.4	33.8	29.0
1976	31.6	31.9	36.1	36.1	37.6	39.0	39.6	39.3	37.9	40.5	40.4	41.5	37.6
1977	38.9	37.0	42.0	43.8	45.0	47.4	45.1	46.6	46.0	48.4	48.2	52.4	45.1
1978	48.3	44.9	53.9	53.9	57.5	57.2	54.6	57.5	56.0	58.6	60.0	62.4	55.4
1979	57.3	58.0	64.6	63.2	66.6	63.9	61.8	60.2	62.9	59.7	61.2	62.9	61.9
1980	57.7	55.3	62.0	61.2	62.6	60.9	60.9	60.2	58.2	62.9	62.9	64.9	60.8
1981	61.5	56.3	67.0	69.1	71.1	71.9	69.3	70.8	69.1	72.7	70.8	72.5	68.5
1982	63.9	64.3	70.4	72.4	73.7	73.0	72.2	70.7	74.0	73.4	76.6	78.9	72.0
1983	74.2	69.2	78.8	80.9	84.2	86.3	84.8	86.2	85.2	88.3	90.0	91.4	83.3
1984	85.9	83.2	94.9	97.2	100.2	100.2	97.7	99.1	92.7	98.9	98.8	100.8	95.8
1985	91.8	87.2	99.4	101.0	102.6	100.3	101.4	100.4	100.3	102.7	103.8	109.2	100.0
1986	107.3	101.4	116.2	120.2	123.7	122.9	123.5	121.9	122.4	127.9	128.0	133.5	120.7
1987	122.3	125.0	142.1	144.0	149.2	151.6	149.3	127.8	149.0	145.8	156.5	161.0	143.6
1988	157.4	149.1	165.7	155.3	158.5	160.6	165.9	166.5	162.4	171.4	172.8	171.9	163.1
1989	160.4	147.0	169.4	158.4	168.3	169.1	171.4	175.7	166.8	173.3	177.9	176.5	167.8
1990	159.9	168.4	186.3	180.4	178.8	182.3	********	********	********	********	********	********	176.0

③ 계절지수로 조정된 산업생산지수의 계절조정지수를 나타낸다.

T PRODUCTION INDEX CC12

D.11 : SEASONAL ADJUSTED SERIES

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	9.9	10.2	10.4	10.6	10.5	10.6	11.1	11.0	11.1	11.3	11.3	11.6	10.8
1971	11.7	12.1	12.2	12.4	12.5	12.5	12.6	12.7	12.8	12.3	12.8	12.8	12.4
1972	12.8	12.9	13.0	13.4	13.8	14.2	14.3	14.4	14.8	15.4	16.0	16.2	14.3
1973	16.7	16.7	17.2	17.5	18.0	17.7	19.0	20.2	20.8	21.4	21.8	21.5	19.0
1974	22.8	23.9	23.6	24.2	23.8	25.1	25.8	23.8	24.3	24.6	24.4	25.7	24.3
1975	26.7	26.8	27.2	27.3	27.6	27.5	28.7	29.1	30.8	31.3	31.5	32.8	28.9
1976	33.9	34.6	35.3	35.6	35.4	37.7	39.8	39.2	39.3	39.7	40.6	40.3	37.6
1977	40.5	41.3	40.9	43.2	42.4	45.9	45.3	46.4	46.0	49.3	48.3	50.9	45.0
1978	50.0	50.5	52.4	53.1	54.4	55.4	54.8	57.2	57.5	57.9	59.9	60.5	55.3
1979	62.0	62.7	62.9	62.1	63.2	62.0	62.0	59.9	62.6	60.8	60.9	61.0	61.8
1980	60.5	61.8	60.6	60.1	59.6	59.1	60.9	60.0	59.5	62.0	62.4	63.0	60.8
1981	64.0	63.5	65.8	67.7	68.0	69.7	69.1	70.6	70.9	71.2	70.1	70.4	68.4
1982	69.4	69.7	69.5	70.8	70.6	70.7	71.8	70.5	73.2	74.5	75.8	76.8	71.9
1983	78.1	77.4	77.9	78.9	80.7	83.6	84.1	86.1	86.9	87.0	89.0	89.1	83.2
1984	89.5	93.7	93.7	94.7	96.0	97.4	96.6	99.3	95.2	97.2	97.7	98.3	95.8
1985	96.2	97.0	97.7	98.4	98.3	97.9	100.2	100.9	99.6	104.8	102.6	106.4	100.0
1986	111.2	113.5	113.7	117.2	118.9	120.7	121.8	122.8	125.3	126.6	126.0	130.0	120.6
1987	131.6	134.1	138.5	140.8	144.0	149.7	147.2	128.9	148.0	148.5	153.4	156.5	143.4
1988	163.7	165.0	161.2	152.5	153.7	159.1	163.5	168.0	165.9	169.2	168.6	167.0	163.1
1989	165.1	164.2	164.8	156.1	163.9	167.8	169.0	177.1	171.3	169.8	173.0	171.1	167.8
1990	171.7	180.8	181.2	178.4	174.6	181.0	********	********	********	********	********	********	177.9

④ 두번째 입력된 제조업 가동율 지수의 원계열이다.

T OPERATING RATE INDEX(MANUFACTURE) CC17

A.0 : ORIGINAL SERIES (REAL)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.0
1971	72.1	70.7	81.4	80.0	85.0	83.9	79.9	77.6	78.8	73.8	92.2	77.4	79.4
1972	74.6	69.1	78.8	80.1	86.1	86.1	84.6	84.7	86.1	87.6	90.7	94.9	83.6
1973	84.7	78.0	85.8	86.5	89.6	88.2	86.4	88.2	87.1	92.7	91.3	92.3	87.6
1974	87.6	81.8	91.2	88.2	96.4	90.5	90.7	83.3	79.3	81.9	83.7	90.0	87.0
1975	81.1	76.1	84.0	81.3	83.8	82.5	84.7	84.2	84.2	90.2	86.5	86.5	83.8
1976	86.9	84.6	93.1	92.3	94.0	97.5	99.7	96.0	93.7	99.3	95.2	99.0	94.3
1977	91.1	85.7	94.6	98.7	98.1	103.1	96.6	99.1	98.9	100.7	97.6	104.7	97.4
1978	100.3	92.2	106.8	105.0	109.1	108.6	106.9	109.0	103.4	107.8	104.5	109.6	105.3
1979	98.0	95.8	104.4	100.1	104.3	101.3	95.8	95.1	99.8	92.6	93.1	94.0	97.9
1980	88.6	81.7	93.7	89.4	91.7	88.7	89.0	85.3	80.3	88.0	85.8	90.5	87.7
1981	83.7	78.0	90.7	91.8	94.2	93.9	87.8	88.9	86.3	91.2	88.3	89.1	88.7
1982	81.0	82.2	86.8	88.4	91.2	88.6	87.9	85.8	88.1	88.6	89.9	92.9	87.6
1983	88.2	81.8	94.5	96.1	99.2	98.5	97.1	96.8	95.7	99.5	99.3	100.9	95.6
1984	97.4	94.2	103.3	104.4	104.7	103.0	100.8	102.3	97.6	104.7	102.5	105.4	101.7
1985	93.4	90.1	102.8	102.5	105.0	101.5	101.1	98.6	97.6	100.5	102.5	104.4	100.0
1986	96.0	91.6	105.5	106.2	108.5	107.6	105.7	101.6	103.9	108.5	106.0	109.6	104.2
1987	98.4	100.4	112.7	112.3	112.6	113.6	110.1	91.5	108.8	106.9	110.5	111.3	107.4
1988	104.2	100.0	111.4	104.2	104.6	106.8	106.7	105.2	102.8	108.4	107.4	105.8	105.6
1989	98.7	90.0	104.8	98.0	104.3	102.5	102.6	103.6	99.8	105.6	107.0	105.5	101.9
1990	96.4	100.4	109.3	106.0	103.0	104.5	********	********	********	********	********	********	103.3

⑤ 사전조정 인자와 계절지수로 조정된 제조업 가동율 지수를 나타낸다.

T OPERATING RATE INDEX(MANUFACTURE) CC17

D.11 : SEASONAL ADJUSTED SERIES(BY JUST BEFORE SERIES)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.0
1971	76.9	78.0	80.9	80.4	81.2	81.3	79.8	78.2	77.5	74.2	89.9	74.4	79.4
1972	77.7	77.7	78.2	80.5	82.4	83.5	84.3	85.4	87.0	85.7	88.7	91.3	83.5
1973	87.4	87.8	85.1	87.1	86.0	85.7	85.9	88.8	88.7	90.1	89.8	88.9	87.6
1974	92.8	88.9	90.3	88.8	92.9	88.2	90.0	83.6	78.3	82.0	83.0	86.8	87.1
1975	83.9	84.2	82.9	81.8	81.0	80.4	83.9	84.3	85.6	87.8	86.4	83.5	83.8
1976	91.9	91.4	91.5	92.8	91.0	95.0	98.7	95.8	96.0	96.0	95.7	95.6	94.3
1977	94.2	94.6	92.7	99.0	94.8	100.4	95.6	98.9	98.3	100.8	98.3	101.2	97.4
1978	103.3	102.6	104.5	104.9	105.1	105.7	105.9	108.8	105.8	105.1	105.3	106.2	105.3
1979	104.0	103.9	102.0	99.5	100.0	98.6	95.0	95.2	99.5	93.0	93.6	91.2	98.0
1980	92.1	90.6	91.5	88.4	87.6	86.4	88.3	85.7	82.3	86.1	86.0	88.0	87.8
1981	86.6	87.1	88.6	90.2	89.8	91.6	87.2	89.7	89.0	88.7	88.2	86.6	88.6
1982	86.5	89.3	84.8	86.5	86.9	86.5	87.3	86.7	88.0	89.0	89.6	90.4	87.6
1983	92.4	90.9	92.3	93.6	94.7	96.3	96.5	98.1	98.2	97.2	98.7	98.0	95.6
1984	101.8	105.2	100.7	101.6	100.1	100.8	100.2	104.1	100.8	101.7	101.5	102.3	101.7
1985	98.3	99.8	100.0	99.8	100.6	99.5	100.6	100.6	97.5	100.8	101.1	101.3	100.0
1986	100.5	102.0	102.3	103.6	104.3	105.8	105.1	103.8	106.6	105.8	104.0	106.3	104.2
1987	105.8	108.7	109.0	110.1	108.6	111.9	109.4	93.6	108.5	107.0	107.9	108.0	107.4
1988	109.3	110.7	107.5	102.7	101.2	105.4	106.0	107.6	105.2	105.5	104.3	102.7	105.7
1989	102.7	100.2	101.1	97.1	101.3	101.2	101.9	105.8	102.6	102.1	103.6	102.4	101.8
1990	103.0	108.8	105.5	105.3	100.2	103.3	********	********	********	********	********	********	104.3

⑥ 입력된 계열수가 모두 2개임을 나타낸다.

*** THE END OF THE DATA INPUT !!!!

INPUT DATA NUMBER : 2

(3) 개별지표의 PAT 및 최종 C의 CI구하기

⑦ 위에서 구해진 D_{11}을 입력계열로 하여 PAT 산식에 넣어 산업생산지수의 C값을 구한다.

THE C SERIES OF PAT

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	108.9	110.3	110.6	110.8	107.9	107.1	110.2	107.3	106.4	106.4	104.5	105.4	108.0
1971	104.5	106.2	105.2	105.0	104.0	102.2	101.2	100.2	99.3	93.7	95.8	94.1	101.0
1972	92.5	91.6	90.7	91.8	92.9	94.0	93.0	92.0	92.9	94.9	96.9	96.4	93.3
1973	97.7	95.9	97.1	97.1	98.1	94.8	99.9	104.4	105.6	106.8	106.9	103.5	100.6
1974	107.9	111.1	107.8	108.6	104.9	108.7	109.7	99.4	99.6	99.0	96.4	99.7	104.4
1975	101.7	100.1	99.7	98.2	97.4	95.2	97.3	96.6	100.1	99.6	98.2	100.2	98.7
1976	101.4	101.4	101.4	100.2	97.7	102.0	105.8	102.1	100.3	99.4	99.7	97.1	100.7
1977	95.8	95.9	93.3	96.9	93.5	99.5	96.6	97.7	95.6	101.1	97.7	101.9	97.1
1978	99.0	98.9	101.6	101.9	103.4	104.3	102.2	105.8	105.5	105.3	108.1	108.2	103.7
1979	109.8	110.0	109.4	107.0	108.3	105.7	105.2	101.2	105.3	101.9	101.7	101.5	105.6
1980	100.3	102.2	99.9	98.8	97.4	95.9	98.2	96.1	94.8	98.1	98.2	98.5	98.2
1981	99.4	98.0	101.0	103.2	103.0	104.9	103.4	104.9	104.6	104.2	101.8	101.4	102.5
1982	99.1	98.7	97.5	98.5	97.3	96.6	97.2	94.5	97.2	98.0	98.8	99.2	97.7
1983	100.0	98.2	97.9	98.3	99.5	102.1	101.7	103.1	103.1	102.1	103.4	102.5	101.0
1984	101.9	105.6	104.5	104.5	104.9	105.3	103.4	105.2	99.8	100.9	100.5	100.2	103.1
1985	97.3	97.3	97.2	97.1	96.3	95.3	96.9	97.0	95.1	99.5	96.8	99.8	97.1
1986	103.6	105.1	104.6	107.2	108.1	109.0	109.3	109.6	111.1	111.6	110.4	113.2	108.6
1987	113.8	115.3	118.3	119.6	121.5	125.5	122.7	106.8	121.8	121.5	124.7	126.5	119.8
1988	131.5	131.7	127.9	120.2	120.4	123.9	126.5	129.2	126.8	128.5	127.3	125.3	126.6
1989	123.1	121.7	121.4	114.2	119.2	121.3	121.4	126.4	121.5	119.7	121.2	119.2	120.9
1990	118.8	124.4	123.9	121.2	117.9	121.4	********	********	********	********	********	********	121.3

⑧ 구해진 산업생산지수 C값의 대칭변화율이다.

T PRODUCTION INDEX CC12

3.1 THE STANDARD. OF THE SYMM. CHANGE RATE OF COMPONENT SERIES
THE SECTION OF STANT. = 1 WEIGHT = 1.057 1ST STAN. FACTOR= 6.930 (70. 1. - 89.12.)
2ND STAN. FACTOR=****** (0. 0. - 0. 0.)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	0.621	0.839	0.881	0.915	0.471	0.342	0.817	0.374	0.234	0.238	-0.046	0.091	0.481
1971	-0.054	0.203	0.051	0.029	-0.124	-0.402	-0.552	-0.701	-0.850	-1.696	-1.375	-1.631	-0.592
1972	-1.882	-2.020	-2.158	-1.982	-1.816	-1.660	-1.812	-1.962	-1.825	-1.508	-1.207	-1.284	-1.760
1973	-1.095	-1.355	-1.181	-1.186	-1.029	-1.536	-0.746	-0.066	0.120	0.295	0.309	-0.196	-0.639
1974	0.466	0.958	0.453	0.575	0.013	0.588	0.745	-0.830	-0.792	-0.884	-1.282	-0.784	-0.064
1975	-0.485	-0.718	-0.781	-1.012	-1.132	-1.465	-1.150	-1.258	-0.721	-0.794	-1.012	-0.712	-0.937
1976	-0.520	-0.520	-0.524	-0.704	-1.091	-0.436	0.145	-0.418	-0.688	-0.832	-0.784	-1.179	-0.629
1977	-1.379	-1.358	-1.756	-1.215	-1.734	-0.812	-1.253	-1.092	-1.414	-0.572	-1.081	-0.455	-1.177
1978	-0.895	-0.905	-0.499	-0.448	-0.221	-0.081	-0.395	0.146	0.094	0.075	0.501	0.510	-0.176
1979	0.762	0.792	0.689	0.323	0.527	0.135	0.060	-0.552	0.077	-0.447	-0.479	-0.508	0.115
1980	-0.685	-0.404	-0.750	-0.915	-1.139	-1.361	-1.016	-1.327	-1.538	-1.023	-1.019	-0.968	-1.012
1981	-0.824	-1.036	-0.591	-0.246	-0.276	0.016	-0.223	0.008	-0.035	-0.094	-0.465	-0.526	-0.358
1982	-0.874	-0.938	-1.112	-0.968	-1.145	-1.261	-1.172	-1.579	-1.172	-1.043	-0.918	-0.855	-1.086
1983	-0.737	-1.012	-1.055	-1.004	-0.808	-0.413	-0.472	-0.259	-0.270	-0.410	-0.214	-0.358	-0.584
1984	-0.450	0.113	-0.053	-0.048	0.005	0.071	-0.225	0.050	-0.765	-0.595	-0.659	-0.702	-0.272
1985	-1.157	-1.156	-1.167	-1.174	-1.295	-1.455	-1.211	-1.200	-1.480	-0.817	-1.227	-0.775	-1.176
1986	-0.187	0.041	-0.030	0.359	0.494	0.640	0.688	0.721	0.956	1.026	0.841	1.268	0.568
1987	1.373	1.593	2.058	2.245	2.544	3.159	2.722	0.295	2.593	2.540	3.033	3.298	2.288
1988	4.061	4.095	3.512	2.345	2.375	2.903	3.306	3.714	3.348	3.611	3.421	3.118	3.317
1989	2.784	2.566	2.519	1.434	2.191	2.509	2.526	3.294	2.547	2.271	2.501	2.185	2.444
1990	2.136	2.978	2.903	2.495	1.989	2.533	********	********	********	********	********	********	2.506

⑨ 제조업 가동율 지수의 C값을 구한 것이다.

THE C SERIES OF PAT

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.0
1971	97.0	98.1	101.7	100.8	101.5	101.5	99.4	97.2	96.2	91.9	111.1	91.8	99.0
1972	95.7	95.5	96.0	98.6	100.6	101.8	102.6	103.6	105.5	103.7	107.1	110.0	101.7
1973	105.1	105.3	101.9	104.0	102.5	102.0	102.1	105.3	104.9	106.4	105.8	104.5	104.2
1974	108.9	104.2	105.7	104.0	108.9	103.4	105.5	98.0	91.7	96.2	97.3	101.8	102.1
1975	98.3	98.7	96.9	95.4	94.2	93.4	96.8	96.6	97.4	99.4	97.1	93.1	96.4
1976	101.8	100.5	99.9	100.5	97.8	101.4	104.5	100.8	100.3	99.6	98.7	98.0	100.3
1977	96.0	95.9	93.4	99.3	94.6	99.7	94.7	97.8	97.1	99.6	97.2	100.1	97.1
1978	102.3	101.7	103.8	104.4	104.8	105.7	106.3	109.5	106.8	106.3	106.7	107.7	105.5
1979	105.7	105.8	104.5	102.5	103.7	102.9	99.8	100.7	105.9	99.7	100.9	99.0	102.6
1980	100.8	99.9	101.1	98.0	97.4	96.3	98.8	96.1	92.5	97.1	97.1	99.6	97.9
1981	98.2	98.9	100.8	102.8	102.4	104.5	99.6	102.3	101.3	100.7	99.9	97.8	100.8
1982	97.3	100.1	94.7	96.1	96.2	95.2	95.6	94.7	95.8	96.6	96.9	97.4	96.4
1983	99.1	97.1	98.3	99.3	100.0	101.3	101.1	102.4	102.1	100.6	101.7	100.7	100.3
1984	104.3	107.4	102.6	103.1	101.3	101.7	100.9	104.4	100.8	101.5	101.1	101.6	102.6
1985	97.4	98.6	98.6	98.2	98.8	97.5	98.4	98.2	95.0	98.0	98.1	98.1	97.9
1986	97.1	98.4	98.4	99.5	99.9	101.0	100.0	98.4	100.6	99.4	97.3	99.0	99.1
1987	97.9	100.0	99.7	100.1	98.1	100.4	97.6	83.0	95.6	93.7	93.9	93.4	96.1
1988	94.0	94.5	91.3	86.7	84.9	87.8	87.8	88.6	86.0	85.8	84.3	82.5	87.8
1989	81.9	79.5	79.7	76.1	78.9	78.3	78.3	80.9	77.9	77.0	77.7	76.4	78.6
1990	76.3	80.1	77.2	76.6	72.4	74.2	********	********	********	********	********	********	76.1

⑩ 제조업 가동율의 대칭변화율이다.

T OPERATING RATE INDEX(MANUFACTURE) CC17

3.1 THE STANDARD. OF THE SYMM. CHANGE RATE OF COMPONENT SERIES
THE SECTION OF STANT. = 1 WEIGHT = 0.877 1ST STAN. FACTOR= 4.677 (71. 1. - 89.12.)
2ND STAN. FACTOR=****** (0. 0. - 0. 0.)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.000
1971	-0.121	0.089	0.751	0.579	0.726	0.711	0.331	-0.082	-0.279	-1.071	2.524	-1.091	0.255
1972	-0.371	-0.409	-0.320	0.172	0.550	0.769	0.929	1.121	1.464	1.127	1.766	2.313	0.759
1973	1.392	1.431	0.794	1.194	0.910	0.816	0.830	1.425	1.358	1.641	1.527	1.290	1.217
1974	2.102	1.222	1.516	1.193	2.104	1.067	1.478	0.065	-1.111	-0.279	-0.077	0.766	0.837
1975	0.113	0.195	-0.150	-0.425	-0.644	-0.808	-0.164	-0.201	-0.040	0.318	-0.107	-0.851	-0.230
1976	0.773	0.541	0.412	0.537	0.029	0.692	1.274	0.583	0.496	0.361	0.186	0.060	0.495
1977	-0.315	-0.334	-0.798	0.301	-0.583	0.378	-0.549	0.029	-0.110	0.356	-0.090	0.450	-0.105
1978	0.866	0.758	1.152	1.268	1.347	1.516	1.615	2.219	1.712	1.626	1.686	1.889	1.471
1979	1.507	1.518	1.283	0.914	1.132	0.989	0.404	0.569	1.553	0.375	0.615	0.259	0.926
1980	0.588	0.417	0.645	0.054	-0.057	-0.248	0.208	-0.285	-0.961	-0.113	-0.101	0.358	0.042
1981	0.110	0.237	0.584	0.962	0.892	1.286	0.359	0.860	0.686	0.573	0.414	0.020	0.582
1982	-0.067	0.462	-0.563	-0.297	-0.281	-0.460	-0.385	-0.559	-0.350	-0.197	-0.144	-0.058	-0.242
1983	0.279	-0.103	0.111	0.306	0.434	0.674	0.646	0.890	0.827	0.551	0.764	0.577	0.496
1984	1.247	1.833	0.927	1.028	0.683	0.757	0.604	1.269	0.597	0.716	0.644	0.737	0.920
1985	-0.050	0.175	0.173	0.096	0.217	-0.034	0.133	0.099	-0.504	0.060	0.090	0.073	0.044
1986	-0.106	0.130	0.145	0.349	0.416	0.623	0.447	0.144	0.553	0.335	-0.067	0.243	0.268
1987	0.045	0.436	0.375	0.459	0.086	0.520	-0.004	-2.753	-0.386	-0.747	-0.711	-0.792	-0.289
1988	-0.688	-0.586	-1.190	-2.057	-2.393	-1.848	-1.851	-1.708	-2.180	-2.228	-2.504	-2.847	-1.840
1989	-2.950	-3.410	-3.363	-4.050	-3.527	-3.630	-3.622	-3.149	-3.696	-3.866	-3.736	-3.993	-3.583
1990	-4.009	-3.289	-3.838	-3.949	-4.737	-4.399	********	********	********	********	********	********	-4.037

⑪ 두 계열 대칭변화율의 합이다.(⑧+⑩)

4.0 THE SUM OF PCHG

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	0.621	0.839	0.881	0.915	0.471	0.342	0.817	0.374	0.234	0.238	-0.046	0.091	0.481
1971	-0.174	0.291	0.802	0.608	0.601	0.309	-0.221	-0.783	-1.130	-2.768	1.149	-2.721	-0.336
1972	-2.253	-2.429	-2.478	-1.810	-1.266	-0.891	-0.882	-0.841	-0.361	-0.381	0.559	1.029	-1.000
1973	0.297	0.076	-0.387	0.008	-0.119	-0.720	0.084	1.359	1.476	1.935	1.836	1.094	0.578
1974	2.568	2.180	1.969	1.768	2.117	1.655	2.223	-0.765	-1.902	-1.163	-1.359	-0.018	0.773
1975	-0.372	-0.523	-0.931	-1.437	-1.777	-2.273	-1.314	-1.459	-0.762	-0.477	-1.118	-1.563	-1.167
1976	0.253	0.021	-0.112	-0.166	-1.062	0.257	1.419	0.165	-0.192	-0.471	-0.598	-1.119	-0.134
1977	-1.694	-1.692	-2.554	-0.914	-2.317	-0.434	-1.802	-1.063	-1.523	-0.216	-1.172	-0.004	-1.282
1978	-0.030	-0.148	0.653	0.821	1.126	1.435	1.220	2.365	1.806	1.701	2.186	2.400	1.295
1979	2.269	2.311	1.971	1.237	1.660	1.124	0.465	0.017	1.630	-0.072	0.136	-0.249	1.041
1980	-0.097	0.013	-0.104	-0.860	-1.196	-1.609	-0.808	-1.611	-2.498	-1.136	-1.120	-0.611	-0.970
1981	-0.714	-0.800	-0.007	0.716	0.617	1.301	0.136	0.868	0.651	0.479	-0.051	-0.506	0.224
1982	-0.941	-0.476	-1.675	-1.264	-1.427	-1.721	-1.557	-2.138	-1.522	-1.240	-1.062	-0.913	-1.328
1983	-0.459	-1.115	-0.943	-0.698	-0.374	0.261	0.175	0.631	0.557	0.141	0.550	0.219	-0.088
1984	0.797	1.946	0.874	0.979	0.687	0.828	0.380	1.319	-0.169	0.122	-0.015	0.035	0.649
1985	-1.207	-0.981	-0.994	-1.078	-1.078	-1.489	-1.078	-1.101	-1.984	-0.757	-1.137	-0.702	-1.132
1986	-0.293	0.171	0.114	0.708	0.910	1.264	1.135	0.865	1.509	1.361	0.775	1.511	0.836
1987	1.418	2.030	2.433	2.703	2.630	3.678	2.719	-2.458	2.206	1.793	2.323	2.506	1.998
1988	3.373	3.509	2.321	0.288	-0.018	1.055	1.454	2.006	1.168	1.383	0.917	0.270	1.477
1989	-0.166	-0.844	-0.844	-2.616	-1.336	-1.121	-1.096	0.145	-1.149	-1.595	-1.235	-1.808	-1.139
1990	-1.874	-0.311	-0.935	-1.453	-2.748	-1.867	********	********	********	********	********	********	-1.531

⑫ 최종 C의 CI 산출결과이다.

6.0 THE CI OF C --ADJUSTED BY T TREND

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	28.0	28.2	28.4	28.6	28.8	29.0	29.2	29.4	29.6	29.8	30.0	30.2	29.1
1971	30.4	30.6	30.8	31.1	31.3	31.5	31.7	31.9	32.1	32.4	32.6	32.8	31.6
1972	33.0	33.3	33.5	33.7	33.9	34.2	34.4	34.7	34.9	35.1	35.4	35.6	34.3
1973	35.9	36.1	36.4	36.6	36.9	37.1	37.4	37.6	37.9	38.1	38.4	38.7	37.3
1974	38.9	39.2	39.5	39.7	40.0	40.3	40.6	40.9	41.1	41.4	41.7	42.0	40.4
1975	42.3	42.6	42.9	43.2	43.5	43.8	44.1	44.4	44.7	45.0	45.3	45.6	43.9
1976	45.9	46.2	46.5	46.9	47.2	47.5	47.8	48.2	48.5	48.8	49.2	49.5	47.7
1977	49.8	50.2	50.5	50.9	51.2	51.6	51.9	52.3	52.7	53.0	53.4	53.7	51.8
1978	54.1	54.5	54.9	55.2	55.6	56.0	56.4	56.8	57.2	57.6	58.0	58.4	56.2
1979	58.8	59.2	59.6	60.0	60.4	60.8	61.2	61.6	62.1	62.5	62.9	63.4	61.0
1980	63.8	64.2	64.7	65.1	65.6	66.0	66.5	66.9	67.4	67.9	68.3	68.8	66.3
1981	69.3	69.7	70.2	70.7	71.2	71.7	72.2	72.7	73.2	73.7	74.2	74.7	72.0
1982	75.2	75.7	76.3	76.8	77.3	77.8	78.4	78.9	79.5	80.0	80.6	81.1	78.1
1983	81.7	82.2	82.8	83.4	83.9	84.5	85.1	85.7	86.3	86.9	87.5	88.1	84.8
1984	88.7	89.3	89.9	90.5	91.1	91.8	92.4	93.0	93.7	94.3	95.0	95.6	92.1
1985	96.3	96.9	97.6	98.3	98.9	99.6	100.3	101.0	101.7	102.4	103.1	103.8	100.0
1986	104.5	105.2	106.0	106.7	107.4	108.2	108.9	109.7	110.4	111.2	111.9	112.7	108.6
1987	113.5	114.3	115.1	115.9	116.7	117.5	118.3	119.1	119.9	120.7	121.5	122.4	117.9
1988	123.2	124.1	124.9	125.8	126.7	127.5	128.4	129.3	130.2	131.1	132.0	132.9	128.0
1989	133.8	134.7	135.6	136.6	137.5	138.5	139.4	140.4	141.3	142.3	143.3	144.3	139.0
1990	145.3	146.3	147.3	148.3	149.3	150.3	********	********	********	********	********	********	147.8

4. 12MS의 CI

(입력자료)

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COIN        2700190068540
COMC       2200000 0110
TSTAN     170018912
PATP       00300000000050153 1 0.00619553 9004
GNP1      17089000001006881018
GNP2       70019006 6070
(8X,12F6.0)     METHOD JAPAN
  1970   1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122
  1971   1.122 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934
                    .                                   .
                    .                                   .
  1990   0.558 0.590 0.614 0.615 0.588 0.584
COMPOSITE INDEX OF ROUGHLY COINCIDENT INDICATORS
MBO    70019006 01001 0011013  3 3 01057 0                    CC12
STAND     170018912
T PRODUCTION INDEX                                           CC12
(8X,12F6.1)
1970         94    89   105   108   113   111   111   109   108   116   114   120
                    .                                   .
                    .                                   .

MBO    71019006 01110 1011013  3 3 00877 0                    CC17
STAND     171018912
T OPERATING RATE INDEX(MANUFACTURE)                        CC17
(8X,12F6.1)
1971         721   707   814   800   850   839   799   776   788   738   922   774
1972         746   691   788   801   861   861   846   847   861   876   907   949
                    .                                   .
                    .                                   .
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(이 하 동 일)

(산출결과)

(1) 옵션정보 프린트

① 전체적으로 적용되는 옵션에 관한 정보가 프린트된다.

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******  OPTIONS INFORMATION  ******

THE PROPERTY OF COMPOSITE INDEX(BOSS) = COIN INDEX
THE NUMBER OF COMPONENT SERIES(NID) =  2 INPUT SERIES
THE PERIOD OF COMPOSITE INDEX(KFYR,KFMO,KEYR,KEMO) = 70. 1 - 90. 6
THE BASE YEAR = 85 YEAR
THE OPTION OF CALCULATING MONTH TO MONTH AND YEAR TO YEAR (LRATIO) 0(0:NO 1:YES)
THE NUMBER OF FLOATING POINT ABOVE SERIES(LRATIO)  =  1
THE OPTION OF THE SMOOTHED GROWTH RATE FOR A.O,E.O,3MA SERIES(KSGR) =  0(0:NO 1:YES)

THE TYPE OF CALCULATING THE COMPOSITE INDEX = COMC  (IF COMA=THE CI OF TC, COMB=THE CI OF C, COMC=THE CI OF 12MS
                                                     DIFA=THE DI OF TCI, DIFB=THE DI OF C, DIFC=THE DI OF 12MS)
THE OPTION OF NEW METHOD OF CALCULATING THE CI(MTYPE)=  2(0: THE METHOD OF KOREA 1: THE METHOD OF JAPAN 2: THE METHOD OF   ALL)
THE OPTION OF CALCULATING THE PAT IN CI(NPAT1) =  2(IF 0 : NO  X>=1 : YES)
THE OPTION OF CALCULATING THE PAT IN COMPONENT SERIES(NPAT2) = 0 (0 OR 1:NO  2:YES )
THE STANDARDIZATION FACTOR OF CI = 0.000


THE PERIODICITY OF THE DATA(NFORP) = 0 (0 OR 1:MONTHLY  2:QUARTERLY)
THE INVERSION OPTION(INVP) = 0 (0:NO  1:YES)
THE DEVIATION FR. TREND OPTION(IRDP) = 0 (0:RATIO  1:DIFFERENCE)
DETRENDING OPTION = 0 (0:YES  1:NO)
LOG. OPTION = 0 (0:YES  1:NO)
MCD VALUE = 0( IF 0 THEN MCD IS COMPUTED BY THE PROGRAM)
THE NB. OF TERMS FOR THE MOV.AVG. COMPUTING THE FIRST TREND(ITERMP) = 50
THE NUMBER OF PHASE AVERAGE(LTPP) = 3 (2:DOUBLE  3:TRIPLET)
MINMAL NB. OF MONTHS BETWEEN TWO SAME TURING POINT(NDIFFP) = 15


THE PERIOD NUMBER OF GNP ADJUST.(NGNP) = 1
THE PERIOD OF GNP ADJUST.(I1FGYR - I2EGYR) = 70 - 89  0 -  0
THE 1ST VALUE OF GNP(GOOT1) = 1.00688101
THE 2ND VALUE OF GNP(GOOT2) = **********


THE PERIOD OF COIN. ADJUSTED TREND(IGFYR - IGEMO) = 70. 1 - 90. 6
THE PERIOD OF MOV. AVG.(MOVNUM) =   0
```

(2) 개별지표의 입력 및 전년동월비값 산출

② 처음 입력자료인 산업생산지수의 원계열이다.

T PRODUCTION INDEX CC12

A.0 : ORIGINAL SERIES (REAL)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	9.4	8.9	10.5	10.8	11.3	11.1	11.1	10.9	10.8	11.6	11.4	12.0	10.8
1971	10.7	11.0	12.3	12.6	13.4	13.1	12.6	12.6	12.8	12.2	12.9	13.3	12.5
1972	12.2	11.4	13.1	13.6	14.8	14.8	14.3	14.3	14.4	15.7	16.0	16.8	14.3
1973	16.1	14.6	17.4	17.8	19.3	18.5	18.9	20.1	20.1	22.0	21.8	22.3	19.1
1974	21.2	21.9	24.0	24.5	25.4	26.1	25.7	23.7	24.3	24.3	24.3	26.6	24.3
1975	25.7	23.9	27.7	27.7	29.4	28.6	28.6	29.1	29.9	31.8	31.4	33.8	29.0
1976	31.6	31.9	36.1	36.1	37.6	39.0	39.6	39.3	37.9	40.5	40.4	41.5	37.6
1977	38.9	37.0	42.0	43.8	45.0	47.4	45.1	46.6	46.0	48.4	48.2	52.4	45.1
1978	48.3	44.9	53.9	53.9	57.5	57.2	54.6	57.5	56.0	58.6	60.0	62.4	55.4
1979	57.3	58.0	64.6	63.2	66.6	63.9	61.8	60.2	62.9	59.7	61.2	62.9	61.9
1980	57.7	55.3	62.0	61.2	62.6	60.9	60.9	60.2	58.2	62.9	62.9	64.9	60.8
1981	61.5	56.3	67.0	69.1	71.1	71.9	69.3	70.8	69.1	72.7	70.8	72.5	68.5
1982	63.9	64.3	70.4	72.4	73.7	73.0	72.2	70.7	74.0	73.4	76.6	78.9	72.0
1983	74.2	69.2	78.8	80.9	84.2	86.3	84.8	86.2	85.2	88.3	90.0	91.4	83.3
1984	85.9	83.2	94.9	97.2	100.2	100.2	97.7	99.1	92.7	98.9	98.8	100.8	95.8
1985	91.8	87.2	99.4	101.0	102.6	100.3	101.4	100.4	100.3	102.7	103.8	109.2	100.0
1986	107.3	101.4	116.2	120.2	123.7	122.9	123.5	121.9	122.4	127.9	128.0	133.5	120.7
1987	122.3	125.0	142.1	144.0	149.2	151.6	149.3	127.8	149.0	145.8	156.5	161.0	143.6
1988	157.4	149.1	165.7	155.3	158.5	160.6	165.9	166.5	162.4	171.4	172.8	171.9	163.1
1989	160.4	147.0	169.4	158.4	168.3	169.1	171.4	175.7	166.8	173.3	177.9	176.5	167.8
1990	159.9	168.4	186.3	180.4	178.8	182.3	********	********	********	********	********	********	176.0

③ 산업생산지수의 전년동월비 계열이다.

T PRODUCTION INDEX CC12

C.0 : THE ADJ. SERIES BY YEAR TO YEAR CHANGE

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.0
1971	113.8	123.6	117.1	116.7	118.6	118.0	113.5	115.6	118.5	105.2	113.2	110.8	115.4
1972	114.0	103.6	106.5	107.9	110.4	113.0	113.5	113.5	112.5	128.7	124.0	126.3	114.5
1973	132.0	128.1	132.8	130.9	130.4	125.0	132.2	140.6	139.6	140.1	136.3	132.7	133.4
1974	131.7	150.0	137.9	137.6	131.6	141.1	136.0	117.9	120.9	110.5	111.5	119.3	128.8
1975	121.2	109.1	115.4	113.1	115.7	109.6	111.3	122.8	123.0	130.9	129.2	127.1	119.0
1976	123.0	133.5	130.3	130.3	127.9	136.4	138.5	135.1	126.8	127.4	128.7	122.8	130.0
1977	123.1	116.0	116.3	121.3	119.7	121.5	113.9	118.6	121.4	119.5	119.3	126.3	119.7
1978	124.2	121.4	128.3	123.1	127.8	120.7	121.1	123.4	121.7	121.1	124.5	119.1	123.0
1979	118.6	129.2	119.9	117.3	115.8	111.7	113.2	104.7	112.3	101.9	102.0	100.8	112.3
1980	100.7	95.3	96.0	96.8	94.0	95.3	98.5	100.0	92.5	105.4	102.8	103.2	98.4
1981	106.6	101.8	108.1	112.9	113.6	118.1	113.8	117.6	118.7	115.6	112.6	111.7	112.6
1982	103.9	114.2	105.1	104.8	103.7	101.5	104.2	99.9	107.1	101.0	108.2	108.8	105.2
1983	116.1	107.6	111.9	111.7	114.2	118.2	117.5	121.9	115.1	120.3	117.5	115.8	115.7
1984	115.8	120.2	120.4	120.1	119.0	116.1	115.2	115.0	108.8	112.0	109.8	110.3	115.2
1985	106.9	104.8	104.7	103.9	102.4	100.1	103.8	101.3	108.2	103.8	105.1	108.3	104.4
1986	116.9	116.3	116.9	119.0	120.6	122.5	121.8	121.4	122.0	124.5	123.3	122.3	120.6
1987	114.0	123.3	122.3	119.8	120.6	123.4	120.9	104.8	121.7	114.0	122.3	120.6	119.0
1988	128.7	119.3	116.6	107.8	106.2	105.9	111.1	130.3	109.0	117.6	110.4	106.8	114.1
1989	101.9	98.6	102.2	102.0	106.2	105.3	103.3	105.5	102.7	101.1	103.0	102.7	102.9
1990	99.7	114.6	110.0	113.9	106.2	107.8	********	********	********	********	********	********	108.7

④ 두번째 입력계열인 제조업 가동율 지수이다.

T OPERATING RATE INDEX(MANUFACTURE) CC17

A.0 : ORIGINAL SERIES (REAL)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.0
1971	72.1	70.7	81.4	80.0	85.0	83.9	79.9	77.6	78.8	73.8	92.2	77.4	79.4
1972	74.6	69.1	78.8	80.1	86.1	86.1	84.6	84.7	86.1	87.6	90.7	94.9	83.6
1973	84.7	78.0	85.8	86.5	89.6	88.2	86.4	88.2	87.1	92.7	91.3	92.3	87.6
1974	87.6	81.8	91.2	88.2	96.4	90.5	90.7	83.3	79.3	81.9	83.7	90.0	87.0
1975	81.1	76.1	84.0	81.3	83.8	82.5	84.7	84.2	84.2	90.2	86.5	86.5	83.8
1976	86.9	84.6	93.1	92.3	94.0	97.5	99.7	96.0	93.7	99.3	95.2	99.0	94.3
1977	91.1	85.7	94.6	98.7	98.1	103.1	96.6	99.1	98.9	100.7	97.6	104.7	97.4
1978	100.3	92.2	106.8	105.0	109.1	108.6	106.9	109.0	103.4	107.8	104.5	109.6	105.3
1979	98.0	95.8	104.4	100.1	104.3	101.3	95.8	95.1	99.8	92.6	93.1	94.0	97.9
1980	88.6	81.7	93.7	89.4	91.7	88.7	89.0	85.3	80.3	88.0	85.8	90.5	87.7
1981	83.7	78.0	90.7	91.8	94.2	93.9	87.8	88.9	86.3	91.2	88.3	89.1	88.7
1982	81.0	82.2	86.8	88.4	91.2	88.6	87.9	85.8	88.1	88.6	89.9	92.9	87.6
1983	88.2	81.8	94.5	96.1	99.2	98.5	97.1	96.8	95.7	99.5	99.3	100.9	95.6
1984	97.4	94.2	103.3	104.4	104.7	103.0	100.8	102.3	97.6	104.7	102.5	105.4	101.7
1985	93.4	90.1	102.8	102.5	105.0	101.5	101.1	98.6	97.6	100.5	102.5	104.4	100.0
1986	96.0	91.6	105.5	106.2	108.5	107.6	105.7	101.6	103.9	108.5	106.0	109.6	104.2
1987	98.4	100.4	112.7	112.3	112.6	113.6	110.1	91.5	108.8	106.9	110.5	111.3	107.4
1988	104.2	100.0	111.4	104.2	104.6	106.8	106.7	105.2	102.8	108.4	107.4	105.8	105.6
1989	98.7	90.0	104.8	98.0	104.3	102.5	102.6	103.6	99.8	105.6	107.0	105.5	101.9
1990	96.4	100.4	109.3	106.0	103.0	104.5	********	********	********	********	********	********	103.3

⑤ 제조업 가동율 지수의 전년동월비 계열이다.

T OPERATING RATE INDEX(MANUFACTURE) CC17

C.0 : THE ADJ. SERIES BY YEAR TO YEAR CHANGE

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.0
1971	********	********	********	********	********	********	********	********	********	********	********	********	0.0
1972	103.5	97.7	96.8	100.1	101.3	102.6	105.9	109.1	109.3	118.7	98.4	122.6	105.5
1973	113.5	112.9	108.9	108.0	104.1	102.4	102.1	104.1	101.2	105.8	100.7	97.3	105.1
1974	103.4	104.9	106.3	102.0	107.6	102.6	105.0	94.4	91.0	88.3	91.7	97.5	99.6
1975	92.6	93.0	92.1	92.2	86.9	91.2	93.4	101.1	106.2	110.1	103.3	96.1	96.5
1976	107.2	111.2	110.8	113.5	112.2	118.2	117.7	114.0	111.3	110.1	110.1	114.5	112.6
1977	104.8	101.3	101.6	106.9	104.4	105.7	96.9	103.2	105.5	101.4	102.5	105.8	103.3
1978	110.1	107.6	112.9	106.4	111.2	105.3	110.7	110.0	104.5	107.1	107.1	104.7	108.1
1979	97.7	103.9	97.8	95.3	95.6	93.3	89.6	87.2	96.5	85.9	89.1	85.8	93.1
1980	90.4	85.3	89.8	89.3	87.9	87.6	92.9	89.7	80.5	95.0	92.2	96.3	89.7
1981	94.5	95.5	96.8	102.7	102.7	105.9	98.7	104.2	107.5	103.6	102.9	98.5	101.1
1982	96.8	105.4	95.7	96.3	96.8	94.4	100.1	96.5	102.1	97.1	101.8	104.3	98.9
1983	108.9	99.5	108.9	108.7	108.8	111.2	110.5	112.8	108.6	112.3	110.5	108.6	109.1
1984	110.4	115.2	109.3	108.6	105.5	104.6	103.8	105.7	102.0	105.2	103.2	104.5	106.5
1985	95.9	95.6	99.5	98.2	100.3	98.5	100.3	96.4	100.0	96.0	100.0	99.1	98.3
1986	102.8	101.7	102.6	103.6	103.3	106.0	104.5	103.0	106.5	108.0	103.4	105.0	104.2
1987	102.5	109.6	106.8	105.7	103.8	105.6	104.2	90.1	104.7	98.5	104.2	101.6	103.1
1988	105.9	99.6	98.8	92.8	92.9	94.0	96.9	115.0	94.5	101.4	97.2	95.1	98.7
1989	94.7	90.0	94.1	94.0	99.7	96.0	96.2	98.5	97.1	97.4	99.6	99.7	96.4
1990	97.7	111.6	104.3	108.2	98.8	102.0	********	********	********	********	********	********	103.7

(3) 이하 TC의 CI와 같은 방법으로 CI산출

⑥ 두 계열에 의해 산출된 최종 CI값이다.

COMPOSITE INDEX OF ROUGHLY COINCIDENT INDICATORS

6.1.A COMPOSITE INDEX ADJUSTED TO GNP TREND 85=100

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	27.9	28.1	28.4	28.6	28.8	29.0	29.2	29.4	29.6	29.8	30.0	30.2	29.1
1971	30.5	30.7	30.9	31.3	31.2	31.5	31.5	31.6	31.8	31.5	31.6	31.4	31.3
1972	32.2	32.0	32.1	32.1	32.6	33.2	33.9	34.4	34.9	36.1	36.3	37.5	33.9
1973	37.7	38.6	38.6	38.7	38.7	38.5	38.6	39.3	40.0	40.6	40.7	40.6	39.2
1974	40.5	41.4	42.3	42.7	42.5	42.8	43.1	42.4	41.6	40.3	40.2	40.7	41.7
1975	41.5	41.8	41.7	41.7	42.0	42.1	42.3	43.5	45.0	46.8	47.6	47.6	43.6
1976	47.5	48.4	49.5	50.5	50.7	51.6	52.6	53.4	53.0	52.5	52.4	52.7	51.2
1977	52.7	52.0	51.5	51.9	52.6	53.4	52.9	53.2	53.6	54.5	54.9	55.5	53.2
1978	56.6	57.4	58.3	58.4	59.4	59.0	59.6	59.7	60.1	60.4	60.7	61.0	59.2
1979	60.8	61.3	61.4	61.6	60.8	60.6	60.4	59.7	60.4	59.9	60.3	59.4	60.5
1980	60.0	59.7	60.1	60.2	60.7	60.9	61.7	62.7	62.5	63.6	64.4	66.6	61.9
1981	67.1	67.7	68.6	70.1	71.9	73.8	74.1	75.0	75.7	76.7	76.8	76.2	72.8
1982	75.4	76.3	76.1	76.7	75.8	75.9	76.7	76.9	78.5	78.6	80.3	81.1	77.4
1983	83.9	84.3	85.5	85.8	87.7	89.1	90.3	92.0	92.2	93.2	93.3	94.1	89.3
1984	94.2	95.5	96.7	97.6	97.3	97.2	97.0	97.4	97.1	97.7	97.6	98.7	97.0
1985	98.1	97.6	97.3	97.9	98.8	98.9	99.8	100.0	101.8	102.1	103.6	104.3	100.0
1986	107.1	109.3	111.3	112.4	113.9	115.7	116.9	117.8	118.7	120.2	121.3	122.0	115.5
1987	121.1	122.7	123.8	125.7	125.7	126.5	127.4	124.9	125.5	124.9	129.6	130.0	125.6
1988	133.6	133.6	133.8	130.5	129.0	127.9	129.8	136.6	138.1	140.5	136.6	137.4	134.0
1989	135.3	133.7	133.9	134.8	138.1	139.8	141.3	142.0	142.8	143.7	144.5	145.9	139.6
1990	146.7	151.3	154.2	159.1	157.0	157.5	********	********	********	********	********	********	154.3

⑦ 최종 cycle의 값이다.

COMPOSITE INDEX OF ROUGHLY COINCIDENT INDICATORS

8.0.A CYCLE IF 6.1 CI (ADDED)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9
1971	99.9	100.1	99.8	100.4	99.4	99.6	99.0	98.4	98.5	96.9	96.5	95.0	98.6
1972	96.7	95.6	95.2	94.3	95.3	96.4	97.5	98.5	99.0	101.8	101.8	104.4	98.0
1973	104.3	106.1	105.4	104.8	104.2	102.9	102.5	103.4	104.5	105.5	104.7	103.6	104.3
1974	102.6	104.1	105.3	105.7	104.4	104.3	104.4	102.0	99.2	95.4	94.6	95.1	101.4
1975	96.5	96.5	95.6	94.8	94.9	94.3	94.0	95.7	98.1	101.2	101.8	101.0	97.0
1976	99.8	100.7	102.2	103.2	102.6	103.6	104.7	105.4	103.9	102.2	101.3	101.3	102.6
1977	100.5	98.6	97.0	97.1	97.9	98.9	97.4	97.4	97.6	98.7	98.9	99.7	98.3
1978	101.3	102.4	103.7	103.7	105.0	104.0	104.7	104.6	105.0	105.1	105.4	105.3	104.2
1979	104.4	104.7	104.3	104.2	102.4	101.4	100.6	99.0	99.5	98.2	98.3	96.3	101.1
1980	96.7	95.8	95.8	95.4	95.6	95.5	96.1	96.8	95.8	96.6	96.9	99.3	96.4
1981	99.2	99.2	99.5	100.7	102.3	103.9	103.3	103.7	103.8	104.4	103.6	101.9	102.1
1982	99.9	100.2	99.1	99.0	97.0	96.4	96.5	96.0	97.1	96.4	97.7	98.0	97.8
1983	100.5	100.1	100.9	100.4	102.0	102.8	103.6	104.7	104.2	104.6	104.0	104.1	102.7
1984	103.5	104.2	104.7	104.8	103.7	102.8	101.8	101.4	100.4	100.1	99.4	99.7	102.2
1985	98.3	97.1	96.1	96.0	96.2	95.7	95.9	95.4	96.4	96.1	96.8	96.8	96.4
1986	98.7	100.0	101.2	101.5	102.1	103.1	103.5	103.6	103.7	104.3	104.6	104.6	102.6
1987	103.2	103.9	104.1	105.1	104.4	104.5	104.5	101.8	101.7	100.6	103.7	103.4	103.4
1988	105.6	105.0	104.5	101.3	99.5	98.1	98.9	103.5	103.9	105.1	101.5	101.5	102.4
1989	99.3	97.5	97.1	97.1	98.9	99.5	99.9	99.8	99.8	99.8	99.7	100.0	99.0
1990	100.0	102.5	103.8	106.4	104.4	104.0	********	********	********	********	********	********	103.5

5. TCI의 DI

(입력자료)

```
COIN         2700190068540
DIFA        2200000 0110
TSTAN      170018912
PATP        00300000000050153 1 0.00619553 9004
GNP1       17089000001006881018
GNP2        70019006 6070
(8X,12F6.0)     METHOD JAPAN
  1970   1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122
  1971   1.122 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934
                                  :                   :
                                  :                   :
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(이 하 동 일)

(산출결과)

(1) 개별지표의 MCD 변화율을 구함

① 산업생산지수의 TCI계열을 나타낸다.

T PRODUCTION INDEX CC12

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	9.8	10.1	10.3	10.6	10.5	10.6	11.1	11.0	11.1	11.3	11.3	11.6	10.8
1971	11.6	12.1	12.1	12.3	12.5	12.5	12.6	12.6	12.8	12.3	12.8	12.8	12.4
1972	12.8	12.8	13.0	13.3	13.8	14.1	14.3	14.3	14.8	15.3	16.0	16.1	14.2
1973	16.6	16.6	17.1	17.5	18.0	17.6	19.0	20.1	20.8	21.3	21.8	21.5	19.0
1974	22.8	23.8	23.6	24.1	23.8	25.1	25.8	23.8	24.3	24.6	24.3	25.6	24.3
1975	26.6	26.8	27.1	27.3	27.6	27.5	28.6	29.1	30.8	31.3	31.5	32.8	28.9
1976	33.8	34.6	35.3	35.6	35.3	37.6	39.8	39.1	39.3	39.6	40.6	40.3	37.6
1977	40.5	41.3	40.8	43.1	42.3	45.8	45.3	46.3	46.0	49.3	48:3	50.8	45.0
1978	50.0	50.5	52.3	53.1	54.3	55.3	54.8	57.1	57.5	57.8	59.8	60.5	55.2
1979	62.0	62.6	62.8	62.1	63.1	62.0	62.0	59.8	62.6	60.8	60.8	61.0	61.8
1980	60.5	61.8	60.6	60.1	59.6	59.1	60.8	60.0	59.5	62.0	62.3	63.0	60.8
1981	64.0	63.5	65.8	67.6	68.0	69.6	69.1	70.6	70.8	71.1	70.1	70.3	68.4
1982	69.3	69.6	69.5	70.8	70.6	70.6	71.8	70.5	73.1	74.5	75.8	76.8	71.9
1983	78.1	77.3	77.8	78.8	80.6	83.6	84.1	86.1	86.8	87.0	89.0	89.1	83.2
1984	89.5	93.6	93.6	94.6	96.0	97.3	96.6	99.3	95.1	97.1	97.6	98.3	95.7
1985	96.1	97.0	97.6	98.3	98.3	97.8	100.1	100.8	99.6	104.8	102.6	106.3	99.9
1986	111.1	113.5	113.6	117.1	118.8	120.6	121.8	122.8	125.3	126.6	126.0	130.0	120.6
1987	131.6	134.1	138.5	140.8	144.0	149.6	147.1	128.8	148.0	148.5	153.3	156.5	143.4
1988	163.6	165.0	161.1	152.5	153.6	159.1	163.5	168.0	165.8	169.1	168.6	167.0	163.1
1989	165.1	164.1	164.8	156.1	163.8	167.8	169.0	177.1	171.3	169.8	173.0	171.1	167.7
1990	171.6	180.8	181.1	178.3	174.6	181.0	********	********	********	********	********	********	177.9

② 위 계열을 비교시점과 대비한 변화율 값이다.

3.0 THE MCD CHANGE RATE OF COMPONENT SERIES MCD VALUE = 3

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	8.163	3.960	2.913	4.717	4.762	4.717	1.802	2.727	4.505	4.252
1971	2.655	7.080	4.310	6.034	3.306	3.306	2.439	0.800	2.400	-2.381	1.587	0.000	2.628
1972	4.065	0.000	1.563	3.906	7.813	8.462	7.519	3.623	4.965	6.993	11.888	8.784	5.798
1973	8.497	3.750	6.211	5.422	8.434	2.924	8.571	11.667	18.182	12.105	8.458	3.365	8.132
1974	7.042	9.174	9.767	5.702	0.000	6.356	7.054	0.000	-3.187	-4.651	2.101	5.350	3.726
1975	8.130	10.288	5.859	2.632	2.985	1.476	4.762	5.435	12.000	9.441	8.247	6.494	6.479
1976	7.987	9.841	7.622	5.325	2.023	6.516	11.798	10.765	4.521	-0.503	3.836	2.545	6.023
1977	2.273	1.724	1.241	6.420	2.421	12.255	5.104	9.456	0.437	8.830	4.320	10.435	5.410
1978	1.420	4.555	2.953	6.200	7.525	5.736	3.202	5.157	3.978	5.474	4.729	5.217	4.679
1979	7.266	4.682	3.802	0.161	0.799	-1.274	-0.161	-5.230	0.968	-1.936	1.672	-2.556	0.683
1980	-0.493	1.645	-0.656	-0.661	-3.560	-2.475	1.165	0.671	0.677	1.974	3.833	5.882	0.667
1981	3.226	1.926	4.444	5.625	7.087	5.775	2.219	3.824	1.724	2.894	-0.708	-0.706	3.111
1982	-2.532	-0.713	-1.138	2.165	1.437	1.583	1.412	-0.142	3.541	3.760	7.518	5.062	1.829
1983	4.832	1.979	1.302	0.896	4.269	7.455	6.726	6.824	3.828	3.448	3.368	2.650	3.965
1984	2.874	5.169	5.051	5.698	2.564	3.953	2.114	3.437	-2.261	0.518	-1.712	3.365	2.564
1985	-1.030	-0.615	-0.712	2.289	1.340	0.205	1.831	2.543	1.840	4.695	1.786	6.727	1.742
1986	6.011	10.624	6.867	5.401	4.670	6.162	4.014	3.367	3.897	3.941	2.606	3.751	5.109
1987	3.949	6.429	6.538	6.991	7.383	8.014	4.474	-10.556	-1.070	0.952	19.022	5.743	4.823
1988	10.168	7.632	2.939	-6.785	-6.909	-1.241	7.213	9.375	4.211	3.425	0.357	0.724	2.592
1989	-2.365	-2.669	-1.317	-5.451	-0.183	1.820	8.264	8.120	2.086	0.473	-2.315	-0.117	0.529
1990	1.060	4.509	5.845	3.904	-3.429	-0.055	********	********	********	********	********	********	1.972

③ 위 계열의 변화율 값에 따른 변화방향을 수치화한 값이다.

3.1 THE SCORE OF COMPONENT SERIES BY MCD CHANGE RATE

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1971	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.50	0.88
1972	1.00	0.50	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96
1973	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1974	1.00	1.00	1.00	1.00	0.50	1.00	1.00	0.50	0.00	0.00	1.00	1.00	0.75
1975	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1976	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.92
1977	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1978	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1979	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.58
1980	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.58
1981	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.83
1982	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.67
1983	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1984	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.83
1985	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.75
1986	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1987	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.83
1988	1.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.75
1989	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.42
1990	1.00	1.00	1.00	1.00	0.00	0.00	********	********	********	********	********	********	0.67

④ 제조업 가동율지수의 TCI계열이다.

T OPERATING RATE INDEX(MANUFACTURE) CC17

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.0
1971	76.9	77.9	80.9	80.3	81.1	81.2	79.7	78.1	77.4	74.2	89.8	74.4	79.3
1972	77.7	77.7	78.2	80.5	82.3	83.4	84.3	85.3	87.0	85.7	88.7	91.3	83.5
1973	87.4	87.7	85.1	87.0	85.9	85.7	85.9	88.7	88.6	90.1	89.7	88.8	87.5
1974	92.7	88.9	90.2	88.7	92.9	88.1	90.0	83.6	78.2	82.0	82.9	86.8	87.1
1975	83.8	84.2	82.8	81.8	80.9	80.4	83.9	84.2	85.5	87.8	86.4	83.4	83.8
1976	91.8	91.4	91.4	92.7	90.9	95.0	98.6	95.8	96.0	95.9	95.6	95.6	94.2
1977	94.2	94.6	92.6	99.0	94.7	100.4	95.5	98.8	98.3	100.7	98.3	101.1	97.3
1978	103.2	102.5	104.4	104.9	105.0	105.7	105.9	108.8	105.7	105.1	105.2	106.1	105.2
1979	103.9	103.8	102.0	99.4	99.9	98.6	95.0	95.2	99.5	93.0	93.5	91.1	97.9
1980	92.1	90.6	91.4	88.3	87.5	86.4	88.3	85.7	82.3	86.1	85.9	87.9	87.7
1981	86.6	87.0	88.5	90.2	89.8	91.5	87.1	89.6	89.0	88.7	88.2	86.6	88.6
1982	86.5	89.3	84.8	86.4	86.9	86.4	87.3	86.7	88.0	89.0	89.5	90.3	87.6
1983	92.3	90.8	92.2	93.6	94.6	96.2	96.5	98.1	98.2	97.1	98.6	98.0	95.5
1984	101.7	105.1	100.7	101.5	100.0	100.7	100.2	104.0	100.7	101.6	101.5	102.3	101.7
1985	98.3	99.7	99.9	99.7	100.6	99.4	100.5	100.5	97.4	100.7	101.1	101.2	99.9
1986	100.4	101.9	102.2	103.6	104.2	105.7	105.1	103.8	106.5	105.7	104.0	106.3	104.1
1987	105.7	108.6	108.9	110.1	108.6	111.8	109.4	93.5	108.4	106.9	107.8	108.0	107.3
1988	109.3	110.6	107.5	102.7	101.2	105.3	105.9	107.5	105.1	105.5	104.3	102.7	105.6
1989	102.6	100.2	101.1	97.0	101.2	101.2	101.8	105.8	102.6	102.0	103.6	102.4	101.8
1990	102.9	108.8	105.4	105.3	100.1	103.3	********	********	********	********	********	********	104.3

⑤ 위 계열은 비교시점과 대비한 변화율 값이다.

3.0 THE MCD CHANGE RATE OF COMPONENT SERIES MCD VALUE = 3

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.000
1971	********	********	********	3.400	3.200	0.300	-0.600	-3.000	-3.800	-5.500	11.700	-3.000	0.300
1972	3.500	-12.100	3.800	2.800	4.600	5.200	3.800	3.000	3.600	1.400	3.400	4.300	2.275
1973	1.700	-1.000	-6.200	-0.400	-1.800	0.600	-1.100	2.800	2.900	4.200	1.000	0.200	0.242
1974	2.600	-0.800	1.400	-4.000	4.000	-2.100	1.300	-9.300	-9.900	-8.000	-0.700	8.600	-1.408
1975	1.800	1.300	-4.000	-2.000	-3.300	-2.400	2.100	3.300	5.100	3.900	2.200	-2.100	0.492
1976	4.000	5.000	8.000	0.900	-0.500	3.600	5.900	4.900	1.000	-2.700	-0.200	-0.400	2.458
1977	-1.700	-1.000	-3.000	4.800	0.100	7.800	-3.500	4.100	-2.100	5.200	-0.500	2.800	1.083
1978	2.500	4.200	3.300	1.700	2.500	1.300	1.000	3.800	0.000	-0.800	-3.600	0.400	1.358
1979	-1.200	-1.400	-4.100	-4.500	-3.900	-3.400	-4.400	-4.700	0.900	-2.000	-1.700	-8.400	-3.233
1980	-0.900	-2.900	0.300	-3.800	-3.100	-5.000	0.000	-1.800	-4.100	-2.200	0.200	5.600	-1.475
1981	0.500	1.100	0.600	3.600	2.800	3.000	-3.100	-0.200	-2.500	1.600	-1.400	-2.400	0.300
1982	-2.200	1.100	-1.800	-0.100	-2.400	1.600	0.900	-0.200	1.600	1.700	2.800	2.300	0.442
1983	3.300	1.300	1.900	1.300	3.800	4.000	2.900	3.500	2.000	0.600	0.500	-0.200	2.075
1984	4.600	6.500	2.700	-0.200	-5.100	0.000	-1.300	4.000	0.000	1.400	-2.500	1.600	0.975
1985	-3.300	-1.800	-2.400	1.400	0.900	-0.500	0.800	-0.100	-2.000	0.200	0.600	3.800	-0.200
1986	-0.300	0.800	1.000	3.200	2.300	-3.500	1.500	-0.400	0.800	0.600	0.200	-0.200	1.083
1987	0.000	4.600	2.600	4.400	0.000	2.900	-0.700	-15.100	-3.400	-2.500	14.300	-0.400	0.558
1988	2.400	2.800	-0.500	-6.600	-9.400	-2.200	3.200	6.300	-0.200	-0.400	-3.200	-2.400	-0.850
1989	-2.900	-4.100	-1.600	-5.600	1.000	0.100	4.800	4.600	1.400	0.200	-2.200	-0.200	-0.375
1990	0.900	5.200	3.000	2.400	-8.700	-2.100	********	********	********	********	********	********	0.117

⑥ 위 계열의 변화율 값에 따른 변화방향을 수치화한 값이다.

3.1 THE SCORE OF COMPONENT SERIES BY MCD CHANGE RATE

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.00
1971	********	********	********	1.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.44
1972	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.92
1973	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.58
1974	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.42
1975	1.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.58
1976	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.67
1977	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.50
1978	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.50	0.00	0.00	1.00	0.79
1979	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.08
1980	0.00	0.00	1.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00	1.00	1.00	0.29
1981	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.58
1982	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.58
1983	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.92
1984	1.00	1.00	1.00	0.00	0.00	0.50	0.00	1.00	0.50	1.00	0.00	1.00	0.58
1985	0.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.50
1986	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.75
1987	0.50	1.00	1.00	1.00	0.50	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.50
1988	1.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.33
1989	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.50
1990	1.00	1.00	1.00	1.00	0.00	0.00	********	********	********	********	********	********	0.67

(2) DI를 산출함

⑦ ③과 ⑥의 합이다.

COMPOSITE INDEX OF ROUGHLY COINCIDENT INDICATORS

4.0 TOTAL SCORE

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1971	1.0	1.0	1.0	2.0	2.0	2.0	1.0	1.0	1.0	0.0	2.0	0.5	1.2
1972	2.0	0.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9
1973	2.0	1.0	1.0	1.0	1.0	2.0	1.0	2.0	2.0	2.0	2.0	2.0	1.6
1974	2.0	1.0	2.0	1.0	1.5	1.0	2.0	0.5	0.0	0.0	1.0	2.0	1.2
1975	2.0	2.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0	1.0	1.6
1976	2.0	2.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	0.0	1.0	1.0	1.6
1977	1.0	1.0	1.0	2.0	2.0	2.0	1.0	2.0	1.0	2.0	1.0	2.0	1.5
1978	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.0	1.0	2.0	1.8
1979	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	2.0	0.0	1.0	0.0	0.7
1980	0.0	1.0	1.0	0.0	0.0	0.0	1.5	1.0	1.0	1.0	2.0	2.0	0.9
1981	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	2.0	0.0	0.0	1.4
1982	0.0	1.0	0.0	1.0	1.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	1.3
1983	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.9
1984	2.0	2.0	2.0	1.0	1.0	1.5	1.0	2.0	0.5	2.0	0.0	2.0	1.4
1985	0.0	0.0	0.0	2.0	2.0	1.0	2.0	1.0	1.0	2.0	2.0	2.0	1.3
1986	1.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0	2.0	2.0	1.0	1.8
1987	1.5	2.0	2.0	2.0	1.5	2.0	1.0	0.0	0.0	1.0	2.0	1.0	1.3
1988	2.0	2.0	1.0	0.0	0.0	0.0	2.0	2.0	1.0	1.0	1.0	1.0	1.1
1989	0.0	0.0	0.0	0.0	1.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.9
1990	2.0	2.0	2.0	2.0	0.0	0.0	********	********	********	********	********	********	1.3

⑧ 각 월별의 변화율 값의 갯수이다.

4.1 MONTHLY COUNTER

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1971	1.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.8
1972	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1973	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1974	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1975	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1976	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1977	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1978	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1979	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1980	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1981	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1982	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1983	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1984	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1985	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1986	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1987	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1988	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1989	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1990	2.0	2.0	2.0	2.0	2.0	2.0	********	********	********	********	********	********	2.0

⑨ 산출된 DI 값이다.

4.2 MEAN SCORE

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1971	100.0	100.0	100.0	100.0	100.0	100.0	50.0	50.0	50.0	0.0	100.0	25.0	72.9
1972	100.0	25.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	93.8
1973	100.0	50.0	50.0	50.0	50.0	100.0	50.0	100.0	100.0	100.0	100.0	100.0	79.2
1974	100.0	50.0	100.0	50.0	75.0	50.0	100.0	25.0	0.0	0.0	50.0	100.0	58.3
1975	100.0	100.0	50.0	50.0	50.0	50.0	100.0	100.0	100.0	100.0	100.0	50.0	79.2
1976	100.0	100.0	100.0	100.0	50.0	100.0	100.0	100.0	100.0	0.0	50.0	50.0	79.2
1977	50.0	50.0	50.0	100.0	100.0	100.0	50.0	100.0	50.0	100.0	50.0	100.0	75.0
1978	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	75.0	50.0	50.0	100.0	89.6
1979	50.0	50.0	50.0	50.0	50.0	0.0	0.0	0.0	100.0	0.0	50.0	0.0	33.3
1980	0.0	50.0	50.0	0.0	0.0	0.0	75.0	50.0	50.0	50.0	100.0	100.0	43.8
1981	100.0	100.0	100.0	100.0	100.0	100.0	50.0	50.0	50.0	100.0	0.0	0.0	70.8
1982	0.0	50.0	0.0	50.0	50.0	100.0	100.0	0.0	100.0	100.0	100.0	100.0	62.5
1983	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	50.0	95.8
1984	100.0	100.0	100.0	50.0	50.0	75.0	50.0	100.0	25.0	100.0	0.0	100.0	70.8
1985	0.0	0.0	0.0	100.0	100.0	50.0	100.0	50.0	50.0	100.0	100.0	100.0	62.5
1986	50.0	100.0	100.0	100.0	100.0	100.0	100.0	50.0	100.0	100.0	100.0	50.0	87.5
1987	75.0	100.0	100.0	100.0	75.0	100.0	50.0	0.0	0.0	50.0	100.0	50.0	66.7
1988	100.0	100.0	50.0	0.0	0.0	0.0	100.0	100.0	50.0	50.0	50.0	50.0	54.2
1989	0.0	0.0	0.0	0.0	50.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	45.8
1990	100.0	100.0	100.0	100.0	0.0	0.0	********	********	********	********	********	********	66.7

⑩ 누적 DI 값이다.

4.3 ROW CDI

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	50.0	100.0	150.0	200.0	250.0	300.0	350.0	400.0	450.0	250.0
1971	500.0	550.0	600.0	650.0	700.0	750.0	750.0	750.0	750.0	700.0	750.0	725.0	681.2
1972	775.0	750.0	800.0	850.0	900.0	950.0	1000.0	1050.0	1100.0	1150.0	1200.0	1250.0	981.2
1973	1300.0	1300.0	1300.0	1300.0	1300.0	1350.0	1350.0	1400.0	1450.0	1500.0	1550.0	1600.0	1391.7
1974	1650.0	1650.0	1700.0	1700.0	1725.0	1725.0	1775.0	1750.0	1700.0	1650.0	1650.0	1700.0	1697.9
1975	1750.0	1800.0	1800.0	1800.0	1800.0	1800.0	1850.0	1900.0	1950.0	2000.0	2050.0	2050.0	1879.2
1976	2100.0	2150.0	2200.0	2250.0	2250.0	2300.0	2350.0	2400.0	2450.0	2400.0	2400.0	2400.0	2304.2
1977	2400.0	2400.0	2400.0	2450.0	2500.0	2550.0	2550.0	2600.0	2600.0	2650.0	2650.0	2700.0	2537.5
1978	2750.0	2800.0	2850.0	2900.0	2950.0	3000.0	3050.0	3100.0	3125.0	3125.0	3125.0	3175.0	2995.8
1979	3175.0	3175.0	3175.0	3175.0	3175.0	3125.0	3075.0	3025.0	3075.0	3025.0	3025.0	2975.0	3100.0
1980	2925.0	2925.0	2925.0	2875.0	2825.0	2775.0	2800.0	2800.0	2800.0	2800.0	2850.0	2900.0	2850.0
1981	2950.0	3000.0	3050.0	3100.0	3150.0	3200.0	3200.0	3200.0	3200.0	3250.0	3200.0	3150.0	3137.5
1982	3100.0	3100.0	3050.0	3050.0	3050.0	3100.0	3150.0	3100.0	3150.0	3200.0	3250.0	3300.0	3133.3
1983	3350.0	3400.0	3450.0	3500.0	3550.0	3600.0	3650.0	3700.0	3750.0	3800.0	3850.0	3850.0	3620.8
1984	3900.0	3950.0	4000.0	4000.0	4000.0	4025.0	4025.0	4075.0	4050.0	4100.0	4050.0	4100.0	4022.9
1985	4050.0	4000.0	3950.0	4000.0	4050.0	4050.0	4100.0	4100.0	4100.0	4150.0	4200.0	4250.0	4083.3
1986	4250.0	4300.0	4350.0	4400.0	4450.0	4500.0	4550.0	4550.0	4600.0	4650.0	4700.0	4700.0	4500.0
1987	4725.0	4775.0	4825.0	4875.0	4900.0	4950.0	4950.0	4900.0	4850.0	4850.0	4900.0	4900.0	4866.7
1988	4950.0	5000.0	5000.0	4950.0	4900.0	4850.0	4900.0	4950.0	4950.0	4950.0	4950.0	4950.0	4941.7
1989	4900.0	4850.0	4800.0	4750.0	4750.0	4800.0	4850.0	4900.0	4950.0	5000.0	4950.0	4900.0	4866.7
1990	4950.0	5000.0	5050.0	5100.0	5050.0	5000.0	********	********	********	********	********	********	5025.0

⑪ 누적 DI 값('85년 평균 100으로 조정된 값)이다.

4.4 CDI------REBASED (YEAR=85)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	1.2	2.4	3.7	4.9	6.1	7.3	8.6	9.8	11.0	6.1
1971	12.2	13.5	14.7	15.9	17.1	18.4	18.4	18.4	18.4	17.1	18.4	17.8	16.7
1972	19.0	18.4	19.6	20.8	22.0	23.3	24.5	25.7	26.9	28.2	29.4	30.6	24.0
1973	31.8	31.8	31.8	31.8	31.8	33.1	33.1	34.3	35.5	36.7	38.0	39.2	34.1
1974	40.4	40.4	41.6	41.6	42.2	42.2	43.5	42.9	41.6	40.4	40.4	41.6	41.6
1975	42.9	44.1	44.1	44.1	44.1	44.1	45.3	46.5	47.8	49.0	50.2	50.2	46.0
1976	51.4	52.7	53.9	55.1	55.1	56.3	57.6	58.8	60.0	58.8	58.8	58.8	56.4
1977	58.8	58.8	58.8	60.0	61.2	62.4	62.4	63.7	63.7	64.9	64.9	66.1	62.1
1978	67.3	68.6	69.8	71.0	72.2	73.5	74.7	75.9	76.5	76.5	76.5	77.8	73.4
1979	77.8	77.8	77.8	77.8	77.8	76.5	75.3	74.1	75.3	74.1	74.1	72.9	75.9
1980	71.6	71.6	71.6	70.4	69.2	68.0	68.6	68.6	68.6	68.6	69.8	71.0	69.8
1981	72.2	73.5	74.7	75.9	77.1	78.4	78.4	78.4	78.4	79.6	78.4	77.1	76.8
1982	75.9	75.9	74.7	74.7	74.7	75.9	77.1	75.9	77.1	78.4	79.6	80.8	76.7
1983	82.0	83.3	84.5	85.7	86.9	88.2	89.4	90.6	91.8	93.1	94.3	94.3	88.7
1984	95.5	96.7	98.0	98.0	98.0	98.6	98.6	99.8	99.2	100.4	99.2	100.4	98.5
1985	99.2	98.0	96.7	98.0	99.2	99.2	100.4	100.4	100.4	101.6	102.9	104.1	100.0
1986	104.1	105.3	106.5	107.8	109.0	110.2	111.4	111.4	112.7	113.9	115.1	115.1	110.2
1987	115.7	116.9	118.2	119.4	120.0	121.2	121.2	120.0	118.8	118.8	120.0	120.0	119.2
1988	121.2	122.4	122.4	121.2	120.0	118.8	120.0	121.2	121.2	121.2	121.2	121.2	121.0
1989	120.0	118.8	117.6	116.3	116.3	117.6	118.8	120.0	121.2	122.4	121.2	120.0	119.2
1990	121.2	122.4	123.7	124.9	123.7	122.4	********	********	********	********	********	********	123.1

6. C의 DI

(입력자료)

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COIN        2700190068540
DIFB       2200000 0110
TSTAN     170018912
PATP       00300000000050153 1 0.00619553 9004
GNP1      17089000001006881018
GNP2       70019006 6070
(8X,12F6.0)     METHOD JAPAN
  1970   1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122
  1971   1.122 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934
                                    :
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(이 하 동 일)

(산출결과)

(1) 개별지표의 C값 산출 및 MCD 변화율을 구함

① 산업생산지수의 C값 계열을 나타낸다.

THE C SERIES OF PAT

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	108.9	110.3	110.6	110.8	107.9	107.1	110.2	107.3	106.4	106.4	104.5	105.4	108.0
1971	104.5	106.2	105.2	105.0	104.0	102.2	101.2	100.2	99.3	93.7	95.8	94.1	101.0
1972	92.5	91.6	90.7	91.8	92.9	94.0	93.0	92.0	92.9	94.9	96.9	96.4	93.3
1973	97.7	95.9	97.1	97.1	98.1	94.8	99.9	104.4	105.6	106.8	106.9	103.5	100.6
1974	107.9	111.1	107.8	108.6	104.9	108.7	109.7	99.4	99.6	99.0	96.4	99.7	104.4
1975	101.7	100.1	99.7	98.2	97.4	95.2	97.3	96.6	100.1	99.6	98.2	100.2	98.7
1976	101.4	101.4	101.4	100.2	97.7	102.0	105.8	102.1	100.3	99.4	99.7	97.1	100.7
1977	95.8	95.9	93.3	96.9	93.5	99.5	96.6	97.7	95.6	101.1	97.7	101.9	97.1
1978	99.0	98.9	101.6	101.9	103.4	104.3	102.2	105.8	105.5	105.3	108.1	108.2	103.7
1979	109.8	110.0	109.4	107.0	108.3	105.7	105.2	101.2	105.3	101.9	101.7	101.5	105.6
1980	100.3	102.2	99.9	98.8	97.4	95.9	98.2	96.1	94.8	98.1	98.2	98.5	98.2
1981	99.4	98.0	101.0	103.2	103.0	104.9	103.4	104.9	104.6	104.2	101.8	101.4	102.5
1982	99.1	98.7	97.5	98.5	97.3	96.6	97.2	94.5	97.2	98.0	98.8	99.2	97.7
1983	100.0	98.2	97.9	98.3	99.5	102.1	101.7	103.1	103.1	102.1	103.4	102.5	101.0
1984	101.9	105.6	104.5	104.5	104.9	105.3	103.4	105.2	99.8	100.9	100.5	100.2	103.1
1985	97.3	97.3	97.2	97.1	96.3	95.3	96.9	97.0	95.1	99.5	96.8	99.8	97.1
1986	103.6	105.1	104.6	107.2	108.1	109.0	109.3	109.6	111.1	111.6	110.4	113.2	108.6
1987	113.8	115.3	118.3	119.6	121.5	125.5	122.7	106.8	121.8	121.5	124.7	126.5	119.8
1988	131.5	131.7	127.9	120.2	120.4	123.9	126.5	129.2	126.8	128.5	127.3	125.3	126.6
1989	123.1	121.7	121.4	114.2	119.2	121.3	121.4	126.4	121.5	119.7	121.2	119.2	120.9
1990	118.8	124.4	123.9	121.2	117.9	121.4	********	********	********	********	********	********	121.3

② 제조업 가동율 지수의 C값 계열을 나타낸다.

THE C SERIES OF PAT

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.0
1971	97.0	98.1	101.7	100.8	101.5	101.5	99.4	97.2	96.2	91.9	111.1	91.8	99.0
1972	95.7	95.5	96.0	98.6	100.6	101.8	102.6	103.6	105.5	103.7	107.1	110.0	101.7
1973	105.1	105.3	101.9	104.0	102.5	102.0	102.1	105.3	104.9	106.4	105.8	104.5	104.2
1974	108.9	104.2	105.7	104.0	108.9	103.4	105.5	98.0	91.7	96.2	97.3	101.8	102.1
1975	98.3	98.7	96.9	95.4	94.2	93.4	96.8	96.6	97.4	99.4	97.1	93.1	96.4
1976	101.8	100.5	99.9	100.5	97.8	101.4	104.5	100.8	100.3	99.6	98.7	98.0	100.3
1977	96.0	95.9	93.4	99.3	94.6	99.7	94.7	97.8	97.1	99.6	97.2	100.1	97.1
1978	102.3	101.7	103.8	104.4	104.8	105.7	106.3	109.5	106.8	106.3	106.7	107.7	105.5
1979	105.7	105.8	104.5	102.5	103.7	102.9	99.8	100.7	105.9	99.7	100.9	99.0	102.6
1980	100.8	99.9	101.1	98.0	97.4	96.3	98.8	96.1	92.5	97.1	97.1	99.6	97.9
1981	98.2	98.9	100.8	102.8	102.4	104.5	99.6	102.3	101.3	100.7	99.9	97.8	100.8
1982	97.3	100.1	94.7	96.1	96.2	95.2	95.6	94.7	95.8	96.6	96.9	97.4	96.4
1983	99.1	97.1	98.3	99.3	100.0	101.3	101.1	102.4	102.1	100.6	101.7	100.7	100.3
1984	104.3	107.4	102.6	103.1	101.3	101.7	100.9	104.4	100.8	101.5	101.1	101.6	102.6
1985	97.4	98.6	98.6	98.2	98.8	97.5	98.4	98.2	95.0	98.0	98.1	98.1	97.9
1986	97.1	98.4	98.4	99.5	99.9	101.0	100.0	98.4	100.6	99.4	97.3	99.0	99.1
1987	97.9	100.0	99.7	100.1	98.1	100.4	97.6	83.0	95.6	93.7	93.9	93.4	96.1
1988	94.0	94.5	91.3	86.7	84.9	87.8	87.8	88.6	86.0	85.8	84.3	82.5	87.8
1989	81.9	79.5	79.7	76.1	78.9	78.3	78.3	80.9	77.9	77.0	77.7	76.4	78.6
1990	76.3	80.1	77.2	76.6	72.4	74.2	********	********	********	********	********	********	76.1

③ 산업생산지수의 C값을 이용한 DI 입력계열이다.

THE C SERIES OF PAT

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	108.9	110.3	110.6	110.8	107.9	107.1	110.2	107.3	106.4	106.4	104.5	105.4	108.0
1971	104.5	106.2	105.2	105.0	104.0	102.2	101.2	100.2	99.3	93.7	95.8	94.1	101.0
1972	92.5	91.6	90.7	91.8	92.9	94.0	93.0	92.0	92.9	94.9	96.9	96.4	93.3
1973	97.7	95.9	97.1	97.1	98.1	94.8	99.9	104.4	105.6	106.8	106.9	103.5	100.6
1974	107.9	111.1	107.8	108.6	104.9	108.7	109.7	99.4	99.6	99.0	96.4	99.7	104.4
1975	101.7	100.1	99.7	98.2	97.4	95.2	97.3	96.6	100.1	99.6	98.2	100.2	98.7
1976	101.4	101.4	101.4	100.2	97.7	102.0	105.8	102.1	100.3	99.4	99.7	97.1	100.7
1977	95.8	95.9	93.3	96.9	93.5	99.5	96.6	97.7	95.6	101.1	97.7	101.9	97.1
1978	99.0	98.9	101.6	101.9	103.4	104.3	102.2	105.8	105.5	105.3	108.1	108.2	103.7
1979	109.8	110.0	109.4	107.0	108.3	105.7	105.2	101.2	105.3	101.9	101.7	101.5	105.6
1980	100.3	102.2	99.9	98.8	97.4	95.9	98.2	96.1	94.8	98.1	98.2	98.5	98.2
1981	99.4	98.0	101.0	103.2	103.0	104.9	103.4	104.9	104.6	104.2	101.8	101.4	102.5
1982	99.1	98.7	97.5	98.5	97.3	96.6	97.2	94.5	97.2	98.0	98.8	99.2	97.7
1983	100.0	98.2	97.9	98.3	99.5	102.1	101.7	103.1	103.1	102.1	103.4	102.5	101.0
1984	101.9	105.6	104.5	104.5	104.9	105.3	103.4	105.2	99.8	100.9	100.5	100.2	103.1
1985	97.3	97.3	97.2	97.1	96.3	95.3	96.9	97.0	95.1	99.5	96.8	99.8	97.1
1986	103.6	105.1	104.6	107.2	108.1	109.0	109.3	109.6	111.1	111.6	110.4	113.2	108.6
1987	113.8	115.3	118.3	119.6	121.5	125.5	122.7	106.8	121.8	121.5	124.7	126.5	119.8
1988	131.5	131.7	127.9	120.2	120.4	123.9	126.5	129.2	126.8	128.5	127.3	125.3	126.6
1989	123.1	121.7	121.4	114.2	119.2	121.3	121.4	126.4	121.5	119.7	121.2	119.2	120.9
1990	118.8	124.4	123.9	121.2	117.9	121.4	********	********	********	********	********	********	121.3

④ ③의 계열을 비교시점과 대비한 변화율 값이다.

3.0 THE MCD CHANGE RATE OF COMPONENT SERIES MCD VALUE = 3

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	1.745	-2.176	-3.255	-0.632	-0.649	-0.654	-3.451	-2.519	-0.847	-1.382
1971	-1.787	1.531	-0.285	0.575	-1.979	-2.759	-3.619	-3.654	-2.935	-7.411	-4.391	-5.141	-2.655
1972	-1.387	-4.489	-3.719	-0.649	1.530	3.642	1.198	-1.076	-1.171	2.153	5.441	3.879	0.446
1973	2.845	-1.032	0.622	-0.615	2.190	-2.371	2.990	6.531	11.510	6.807	2.299	-1.989	2.482
1974	1.031	4.026	4.155	0.742	-5.581	0.742	1.013	-5.338	-8.287	-9.754	-2.920	0.000	-1.681
1975	2.626	3.838	0.100	-3.346	-2.697	-4.514	-1.018	-0.924	5.147	2.469	1.762	0.000	0.287
1976	1.807	3.259	1.299	-1.183	-3.748	0.493	5.489	4.508	-1.570	-6.055	-2.353	-3.190	-0.104
1977	-3.625	-3.715	-3.913	1.149	-2.607	6.645	-0.207	4.497	-4.020	4.555	0.102	6.597	0.455
1978	-2.079	1.126	-0.295	3.033	4.555	2.759	0.294	2.323	1.055	3.033	2.271	2.562	1.720
1979	4.274	1.758	1.110	-2.641	-1.636	-3.294	-1.590	-6.469	-0.378	-3.137	0.395	-3.609	-1.268
1980	-1.570	0.492	-1.576	-1.496	-4.701	-4.004	-0.708	-1.233	-1.251	0.000	2.081	3.907	-0.838
1981	1.325	-0.102	2.541	3.823	5.102	3.964	0.097	1.748	-0.286	0.871	-2.958	-3.155	1.081
1982	-4.894	-3.048	-3.751	-0.706	-1.318	-1.026	-1.321	-2.980	0.622	0.824	4.661	2.163	-0.898
1983	2.145	-0.607	-1.310	-1.800	1.324	4.290	3.564	3.618	0.881	0.393	0.291	-0.583	1.017
1984	-0.294	2.031	1.953	2.652	-0.664	0.862	-1.148	0.286	-5.223	-2.323	-4.377	0.401	-0.487
1985	-3.667	-3.284	-3.094	-0.103	-0.926	-1.957	-0.309	0.623	-0.105	2.686	-0.206	4.837	-0.459
1986	4.225	8.687	4.915	3.378	2.759	4.207	2.054	1.389	1.927	2.013	0.731	1.800	3.174
1987	2.063	4.442	4.598	5.009	5.469	6.086	2.594	-12.181	-2.948	-0.979	16.870	3.777	2.900
1988	8.237	5.533	1.108	-8.524	-8.511	-3.130	5.241	7.226	2.342	1.581	-1.472	-1.184	0.704
1989	-4.280	-4.403	-3.115	-7.154	-1.974	-0.082	6.217	6.040	0.248	-1.319	-4.114	-1.975	-1.326
1990	-0.752	2.558	3.946	1.936	-5.229	-1.939	********	********	********	********	********	********	0.087

⑤ ④의 계열의 변화율 값에 따른 변화방향을 수치화한 값이다.

3.1 THE SCORE OF COMPONENT SERIES BY MCD CHANGE RATE

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
1971	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17
1972	0.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.50
1973	1.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.67
1974	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.50	0.54
1975	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	0.50	0.54
1976	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.50
1977	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.50
1978	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.83
1979	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.33
1980	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.00	1.00	0.29
1981	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.67
1982	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.33
1983	1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.67
1984	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00	0.50
1985	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	0.25
1986	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1987	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.75
1988	1.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	0.58
1989	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.25
1990	0.00	1.00	1.00	1.00	0.00	0.00	********	********	********	********	********	********	0.50

⑥ 제조업 가동율 지수의 C값을 이용한 DI 입력계열이다.

T OPERATING RATE INDEX(MANUFACTURE) CC17

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.0
1971	97.0	98.1	101.6	100.7	101.5	101.4	99.4	97.2	96.1	91.9	111.1	91.8	99.0
1972	95.6	95.4	95.9	98.5	100.5	101.7	102.6	103.6	105.4	103.6	107.0	110.0	101.6
1973	105.0	105.2	101.8	104.0	102.5	102.0	102.0	105.2	104.8	106.4	105.8	104.5	104.1
1974	108.8	104.1	105.7	104.0	108.8	103.3	105.5	98.0	91.7	96.1	97.2	101.7	102.1
1975	98.2	98.7	96.8	95.3	94.2	93.3	96.7	96.5	97.4	99.3	97.0	93.1	96.4
1976	101.7	100.5	99.8	100.5	97.8	101.3	104.4	100.7	100.3	99.5	98.6	97.9	100.2
1977	95.9	95.8	93.4	99.2	94.5	99.6	94.7	97.8	97.0	99.5	97.1	100.0	97.0
1978	102.2	101.7	103.8	104.4	104.8	105.7	106.2	109.4	106.7	106.3	106.6	107.7	105.5
1979	105.7	105.7	104.5	102.5	103.7	102.9	99.8	100.6	105.9	99.6	100.9	99.0	102.6
1980	100.8	99.8	101.1	97.9	97.3	96.3	98.7	96.1	92.5	97.0	97.1	99.5	97.8
1981	98.2	98.9	100.7	102.7	102.4	104.5	99.5	102.2	101.3	100.7	99.8	97.7	100.7
1982	97.3	100.1	94.6	96.0	96.1	95.2	95.6	94.6	95.7	96.6	96.8	97.3	96.3
1983	99.1	97.1	98.2	99.2	99.9	101.2	101.1	102.4	102.0	100.6	101.7	100.7	100.3
1984	104.3	107.4	102.6	103.1	101.3	101.7	100.8	104.4	100.8	101.4	101.0	101.5	102.5
1985	97.3	98.5	98.5	98.1	98.8	97.4	98.3	98.1	94.9	97.9	98.1	98.0	97.8
1986	97.0	98.3	98.4	99.5	99.8	100.9	100.0	98.4	100.6	99.4	97.3	98.9	99.0
1987	97.9	99.9	99.6	100.1	98.1	100.4	97.6	82.9	95.6	93.6	93.8	93.4	96.1
1988	93.9	94.5	91.3	86.6	84.8	87.8	87.7	88.5	86.0	85.7	84.3	82.4	87.8
1989	81.9	79.4	79.7	76.0	78.8	78.3	78.3	80.8	77.9	77.0	77.7	76.3	78.5
1990	76.2	80.1	77.1	76.6	72.3	74.2	********	********	********	********	********	********	76.1

⑦ ⑥의 계열을 비교시점과 대비한 변화율 값이다.

3.0 THE MCD CHANGE RATE OF COMPONENT SERIES MCD VALUE = 3

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.000
1971	********	********	********	3.700	3.400	-0.200	-1.300	-4.300	-5.300	-7.500	13.900	-4.300	-0.211
1972	3.700	-15.700	4.100	2.900	5.100	5.800	4.100	3.100	3.700	1.000	3.400	4.600	2.150
1973	1.400	-1.800	-8.200	-1.000	-2.700	0.200	-2.000	2.700	2.800	4.400	0.600	-0.300	-0.325
1974	2.400	-1.700	1.200	-4.800	4.700	-2.400	1.500	-10.800	-11.600	-9.400	-0.800	10.000	-1.808
1975	2.100	1.500	-4.900	-2.900	-4.500	-3.500	1.400	2.300	4.100	2.600	0.500	-4.300	-0.467
1976	2.400	3.500	6.700	-1.200	-2.700	1.500	3.900	2.900	-1.000	-4.900	-2.100	-2.400	0.550
1977	-3.600	-2.800	-4.500	3.300	-1.300	6.200	-4.500	3.300	-2.600	4.800	-0.700	3.000	0.050
1978	2.700	4.600	3.800	2.200	3.100	1.900	1.800	4.600	1.000	0.100	-2.800	1.000	2.000
1979	-0.600	-0.900	-3.200	-3.200	-2.000	-1.600	-2.700	-3.100	3.000	-0.200	0.300	-6.900	-1.758
1980	1.200	-1.100	2.100	-2.900	-2.500	-4.800	0.800	-1.200	-3.800	-1.700	1.000	7.000	-0.492
1981	1.200	1.800	1.200	4.500	3.500	3.800	-3.200	-0.200	-3.200	1.200	-2.400	-3.600	0.383
1982	-3.400	0.300	-3.100	-1.300	-4.000	0.600	-0.400	-1.500	0.500	1.000	2.200	1.600	-0.625
1983	2.500	0.300	0.900	0.100	2.800	3.000	1.900	2.500	0.800	-0.500	-0.700	-1.300	1.025
1984	3.700	5.700	1.900	-1.200	-6.100	-0.900	-2.300	3.100	-0.900	0.600	-3.400	0.700	0.075
1985	-4.100	-2.500	-3.000	0.800	0.300	-1.100	0.200	-0.700	-2.500	-0.400	0.000	3.100	-0.825
1986	-0.900	0.200	0.400	2.500	1.500	2.500	0.500	-1.400	-0.300	-0.600	-1.100	-1.700	0.133
1987	-1.500	2.600	0.700	2.200	-1.800	0.800	-2.500	-15.200	-4.800	-4.000	10.900	-2.200	-1.233
1988	0.300	0.700	-2.100	-7.300	-9.700	-3.500	1.100	3.700	-1.800	-2.000	-4.200	-3.600	-2.367
1989	-3.800	-4.900	-2.700	-5.900	-0.600	-1.400	2.300	2.000	-0.400	-1.300	-3.100	-1.600	-1.783
1990	-0.800	2.400	0.800	0.400	-7.800	-2.900	********	********	********	********	********	********	-1.317

⑧ ⑦의 계열의 변화율 값에 따른 변화방향을 수치화한 값이다.

3.1 THE SCORE OF COMPONENT SERIES BY MCD CHANGE RATE

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.00
1971	********	********	********	1.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.33
1972	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.92
1973	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.50
1974	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.42
1975	1.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.58
1976	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.50
1977	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.42
1978	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.92
1979	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.17
1980	1.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.42
1981	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.58
1982	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.50
1983	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.75
1984	1.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	0.50
1985	0.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.50	1.00	0.38
1986	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.50
1987	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.42
1988	1.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.33
1989	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.17
1990	0.00	1.00	1.00	1.00	0.00	0.00	********	********	********	********	********	********	0.50

(2) DI를 산출함

⑨ ⑤와 ⑧의 합이다.

COMPOSITE INDEX OF ROUGHLY COINCIDENT INDICATORS

4.0 TOTAL SCORE

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
1971	0.0	1.0	0.0	2.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.4
1972	1.0	0.0	1.0	1.0	2.0	2.0	2.0	1.0	1.0	2.0	2.0	2.0	1.4
1973	2.0	0.0	1.0	0.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0	0.0	1.2
1974	2.0	1.0	2.0	1.0	1.0	1.0	2.0	0.0	0.0	0.0	0.0	1.5	1.0
1975	2.0	2.0	1.0	0.0	0.0	0.0	1.0	1.0	2.0	2.0	2.0	0.5	1.1
1976	2.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	1.0
1977	0.0	0.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	1.0	2.0	0.9
1978	1.0	2.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0	1.8
1979	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	2.0	0.0	0.5
1980	1.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.5	2.0	2.0	0.7
1981	2.0	1.0	2.0	2.0	2.0	2.0	1.0	1.0	0.0	2.0	0.0	0.0	1.3
1982	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	2.0	2.0	2.0	2.0	0.8
1983	2.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0	0.0	1.4
1984	1.0	2.0	2.0	1.0	0.0	1.0	0.0	2.0	0.0	1.0	0.0	2.0	1.0
1985	0.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.5	2.0	0.6
1986	1.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.5
1987	1.0	2.0	2.0	2.0	1.0	2.0	1.0	0.0	0.0	0.0	2.0	1.0	1.2
1988	2.0	2.0	1.0	0.0	0.0	0.0	2.0	2.0	1.0	1.0	0.0	0.0	0.9
1989	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	1.0	0.0	0.0	0.0	0.4
1990	0.0	2.0	2.0	2.0	0.0	0.0	********	********	********	********	********	********	1.0

⑩ 각 월별의 변화율 값의 갯수이다.

4.1 MONTHLY COUNTER

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1971	1.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.8
1972	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1973	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1974	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1975	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1976	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1977	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1978	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1979	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1980	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1981	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1982	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1983	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1984	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1985	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1986	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1987	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1988	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1989	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1990	2.0	2.0	2.0	2.0	2.0	2.0	********	********	********	********	********	********	2.0

⑪ 산출된 DI 값이다.

4.2 MEAN SCORE

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.1
1971	0.0	100.0	0.0	100.0	50.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	25.0
1972	50.0	0.0	50.0	50.0	100.0	100.0	100.0	50.0	50.0	100.0	100.0	100.0	70.8
1973	100.0	0.0	50.0	0.0	50.0	50.0	50.0	100.0	100.0	100.0	100.0	0.0	58.3
1974	100.0	50.0	100.0	50.0	50.0	50.0	100.0	0.0	0.0	0.0	0.0	75.0	47.9
1975	100.0	100.0	50.0	0.0	0.0	0.0	50.0	50.0	100.0	100.0	100.0	25.0	58.3
1976	100.0	100.0	100.0	0.0	0.0	100.0	100.0	100.0	0.0	0.0	0.0	0.0	50.0
1977	0.0	0.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0	100.0	50.0	100.0	45.8
1978	50.0	100.0	50.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	50.0	100.0	87.5
1979	50.0	50.0	50.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	100.0	0.0	25.0
1980	50.0	50.0	50.0	0.0	0.0	0.0	50.0	0.0	0.0	25.0	100.0	100.0	35.4
1981	100.0	50.0	100.0	100.0	100.0	100.0	50.0	50.0	0.0	100.0	0.0	0.0	62.5
1982	0.0	50.0	0.0	0.0	0.0	50.0	0.0	0.0	100.0	100.0	100.0	100.0	41.7
1983	100.0	50.0	50.0	50.0	100.0	100.0	100.0	100.0	100.0	50.0	50.0	0.0	70.8
1984	50.0	100.0	100.0	50.0	0.0	50.0	0.0	100.0	0.0	50.0	0.0	100.0	50.0
1985	0.0	0.0	0.0	50.0	50.0	0.0	50.0	50.0	0.0	50.0	25.0	100.0	31.3
1986	50.0	100.0	100.0	100.0	100.0	100.0	100.0	50.0	50.0	50.0	50.0	50.0	75.0
1987	50.0	100.0	100.0	100.0	50.0	100.0	50.0	0.0	0.0	0.0	100.0	50.0	58.3
1988	100.0	100.0	50.0	0.0	0.0	0.0	100.0	100.0	50.0	50.0	0.0	0.0	45.8
1989	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	50.0	0.0	0.0	0.0	20.8
1990	0.0	100.0	100.0	100.0	0.0	0.0	********	********	********	********	********	********	50.0

⑫ 누적 DI값이다.

4.3 ROV CDI

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	50.0	0.0	-50.0	-100.0	-150.0	-200.0	-250.0	-300.0	-350.0	-150.0
1971	-400.0	-350.0	-400.0	-350.0	-350.0	-400.0	-450.0	-500.0	-550.0	-600.0	-600.0	-650.0	-466.7
1972	-650.0	-700.0	-700.0	-700.0	-650.0	-600.0	-550.0	-550.0	-550.0	-500.0	-450.0	-400.0	-583.3
1973	-350.0	-400.0	-400.0	-450.0	-450.0	-450.0	-450.0	-400.0	-350.0	-300.0	-250.0	-300.0	-379.2
1974	-250.0	-250.0	-200.0	-200.0	-200.0	-200.0	-150.0	-200.0	-250.0	-300.0	-350.0	-325.0	-239.6
1975	-275.0	-225.0	-225.0	-275.0	-325.0	-375.0	-375.0	-375.0	-325.0	-275.0	-225.0	-250.0	-293.7
1976	-200.0	-150.0	-100.0	-150.0	-200.0	-150.0	-100.0	-50.0	-100.0	-150.0	-200.0	-250.0	-150.0
1977	-300.0	-350.0	-400.0	-350.0	-400.0	-350.0	-400.0	-350.0	-400.0	-350.0	-350.0	-300.0	-358.3
1978	-300.0	-250.0	-250.0	-200.0	-150.0	-100.0	-50.0	0.0	50.0	100.0	100.0	150.0	-75.0
1979	150.0	150.0	150.0	100.0	50.0	0.0	-50.0	-100.0	-100.0	-150.0	-100.0	-150.0	-4.2
1980	-150.0	-150.0	-150.0	-200.0	-250.0	-300.0	-300.0	-350.0	-400.0	-425.0	-375.0	-325.0	-281.2
1981	-275.0	-275.0	-225.0	-175.0	-125.0	-75.0	-75.0	-75.0	-125.0	-75.0	-125.0	-175.0	-150.0
1982	-225.0	-225.0	-275.0	-325.0	-375.0	-375.0	-425.0	-475.0	-425.0	-375.0	-325.0	-275.0	-341.7
1983	-225.0	-225.0	-225.0	-225.0	-175.0	-125.0	-75.0	-25.0	25.0	25.0	25.0	-25.0	-104.2
1984	-25.0	25.0	75.0	75.0	25.0	25.0	-25.0	25.0	-25.0	-25.0	-75.0	-25.0	4.2
1985	-75.0	-125.0	-175.0	-175.0	-175.0	-225.0	-225.0	-225.0	-275.0	-275.0	-300.0	-250.0	-208.3
1986	-250.0	-200.0	-150.0	-100.0	-50.0	0.0	50.0	50.0	50.0	50.0	50.0	50.0	-37.5
1987	50.0	100.0	150.0	200.0	200.0	250.0	250.0	200.0	150.0	100.0	150.0	150.0	162.5
1988	200.0	250.0	250.0	200.0	150.0	100.0	150.0	200.0	200.0	200.0	150.0	100.0	179.2
1989	50.0	0.0	-50.0	-100.0	-150.0	-200.0	-150.0	-100.0	-100.0	-150.0	-200.0	-250.0	-116.7
1990	-300.0	-250.0	-200.0	-150.0	-200.0	-250.0	********	********	********	********	********	********	-225.0

⑬ 누적 DI값('85년 평균 100으로 조정된 값)이다.

4.4 CDI------REBASED (YEAR=85)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	-24.0	0.0	24.0	48.0	72.0	96.0	120.0	144.0	168.0	72.0
1971	192.0	168.0	192.0	168.0	168.0	192.0	216.0	240.0	264.0	288.0	288.0	312.0	224.0
1972	312.0	336.0	336.0	336.0	312.0	288.0	264.0	264.0	264.0	240.0	216.0	192.0	280.0
1973	168.0	192.0	192.0	216.0	216.0	216.0	216.0	192.0	168.0	144.0	120.0	144.0	182.0
1974	120.0	120.0	96.0	96.0	96.0	96.0	72.0	96.0	120.0	144.0	168.0	156.0	115.0
1975	132.0	108.0	108.0	132.0	156.0	180.0	180.0	180.0	156.0	132.0	108.0	120.0	141.0
1976	96.0	72.0	48.0	72.0	96.0	72.0	48.0	24.0	48.0	72.0	96.0	120.0	72.0
1977	144.0	168.0	192.0	168.0	192.0	168.0	192.0	168.0	192.0	168.0	168.0	144.0	172.0
1978	144.0	120.0	120.0	96.0	72.0	48.0	24.0	0.0	-24.0	-48.0	-48.0	-72.0	36.0
1979	-72.0	-72.0	-72.0	-48.0	-24.0	0.0	24.0	48.0	48.0	72.0	48.0	72.0	2.0
1980	72.0	72.0	72.0	96.0	120.0	144.0	144.0	168.0	192.0	204.0	180.0	156.0	135.0
1981	132.0	132.0	108.0	84.0	60.0	36.0	36.0	36.0	60.0	36.0	60.0	84.0	72.0
1982	108.0	108.0	132.0	156.0	180.0	180.0	204.0	228.0	204.0	180.0	156.0	132.0	164.0
1983	108.0	108.0	108.0	108.0	84.0	60.0	36.0	12.0	-12.0	-12.0	-12.0	12.0	50.0
1984	12.0	-12.0	-36.0	-36.0	-12.0	-12.0	12.0	-12.0	12.0	12.0	36.0	12.0	-2.0
1985	36.0	60.0	84.0	84.0	84.0	108.0	108.0	108.0	132.0	132.0	144.0	120.0	100.0
1986	120.0	96.0	72.0	48.0	24.0	0.0	-24.0	-24.0	-24.0	-24.0	-24.0	-24.0	18.0
1987	-24.0	-48.0	-72.0	-96.0	-96.0	-120.0	-120.0	-96.0	-72.0	-48.0	-72.0	-72.0	-78.0
1988	-96.0	-120.0	-120.0	-96.0	-72.0	-48.0	-72.0	-96.0	-96.0	-96.0	-72.0	-48.0	-86.0
1989	-24.0	0.0	24.0	48.0	72.0	96.0	72.0	48.0	48.0	72.0	96.0	120.0	56.0
1990	144.0	120.0	96.0	72.0	96.0	120.0	********	********	********	********	********	********	108.0

7. 12MS의 DI

(입력자료)

```
COIN        2700190068540
DIFC       2200000 0110
TSTAN     170018912
PATP       00300000000050153 1 0.00619553 9004
GNP1      17089000001006881018
GNP2       70019006 6070
(8X,12F6.0)     METHOD JAPAN
  1970   1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122
  1971   1.122 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934
                          .                                   .
                          .                                   .
  1989   0.588 0.555 0.537 0.523 0.519 0.511 0.522 0.539 0.555 0.556 0.552 0.541
  1990   0.558 0.590 0.614 0.615 0.588 0.584
COMPOSITE INDEX OF ROUGHLY COINCIDENT INDICATORS
MBO   70019006 01001 0011013  3 3 01057 0                  CC12
STAND    170018912
T PRODUCTION INDEX                                        CC12
(8X,12F6.1)
1970        94    89   105   108   113   111   111   109   108   116   114   120
1971       107   110   123   126   134   131   126   126   128   122   129   133
                          .                                   .
                          .                                   .
1990      1599  1684  1863  1804  1788  1823
MBO   71019006 01110 1011013  3 3 00877 0                  CC17
STAND    171018912
T OPERATING RATE INDEX(MANUFACTURE)                  CC17
(8X,12F6.1)
1971       721   707   814   800   850   839   799   776   788   738   922   774
                          .                                   .
                          .                                   .
1990      9564  9037 10361 10063 10282 10115 10073  9805  9822 10248 10345 10296
Z
/*
//
```

(산출결과)

(1) 개별지표의 12개월 전비 산출 및 MCD 변화율을 구함

① 산업생산지수의 12개월 전비 계열을 나타낸다.

C.O : THE ADJ. SERIES BY YEAR TO YEAR CHANGE

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.0
1971	113.8	123.6	117.1	116.7	118.6	118.0	113.5	115.6	118.5	105.2	113.2	110.8	115.4
1972	114.0	103.6	106.5	107.9	110.4	113.0	113.5	113.5	112.5	128.7	124.0	126.3	114.5
1973	132.0	128.1	132.8	130.9	130.4	125.0	132.2	140.6	139.6	140.1	136.3	132.7	133.4
1974	131.7	150.0	137.9	137.6	131.6	141.1	136.0	117.9	120.9	110.5	111.5	119.3	128.8
1975	121.2	109.1	115.4	113.1	115.7	109.6	111.3	122.8	123.0	130.9	129.2	127.1	119.0
1976	123.0	133.5	130.3	130.3	127.9	136.4	138.5	135.1	126.8	127.4	128.7	122.8	130.0
1977	123.1	116.0	116.3	121.3	119.7	121.5	113.9	118.6	121.4	119.5	119.3	126.3	119.7
1978	124.2	121.4	128.3	123.1	127.8	120.7	121.1	123.4	121.7	121.1	124.5	119.1	123.0
1979	118.6	129.2	119.9	117.3	115.8	111.7	113.2	104.7	112.3	101.9	102.0	100.8	112.3
1980	100.7	95.3	96.0	96.8	94.0	95.3	98.5	100.0	92.5	105.4	102.8	103.2	98.4
1981	106.6	101.8	108.1	112.9	113.6	118.1	113.8	117.6	118.7	115.6	112.6	111.7	112.6
1982	103.9	114.2	105.1	104.8	103.7	101.5	104.2	99.9	107.1	101.0	108.2	108.8	105.2
1983	116.1	107.6	111.9	111.7	114.2	118.2	117.5	121.9	115.1	120.3	117.5	115.8	115.7
1984	115.8	120.2	120.4	120.1	119.0	116.1	115.2	115.0	108.8	112.0	109.8	110.3	115.2
1985	106.9	104.8	104.7	103.9	102.4	100.1	103.8	101.3	108.2	103.8	105.1	108.3	104.4
1986	116.9	116.3	116.9	119.0	120.6	122.5	121.8	121.4	122.0	124.5	123.3	122.3	120.6
1987	114.0	123.3	122.3	119.8	120.6	123.4	120.9	104.8	121.7	114.0	122.3	120.6	119.0
1988	128.7	119.3	116.6	107.8	106.2	105.9	111.1	130.3	109.0	117.6	110.4	106.8	114.1
1989	101.9	98.6	102.2	102.0	106.2	105.3	103.3	105.5	102.7	101.1	103.0	102.7	102.9
1990	99.7	114.6	110.0	113.9	106.2	107.8	********	********	********	********	********	********	108.7

② 제조업 가동율 지수의 12개월 전비 계열을 나타낸다.

C.0 : THE ADJ. SERIES BY YEAR TO YEAR CHANGE

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.0
1971	********	********	********	********	********	********	********	********	********	********	********	********	0.0
1972	103.5	97.7	96.8	100.1	101.3	102.6	105.9	109.1	109.3	118.7	98.4	122.6	105.5
1973	113.5	112.9	108.9	108.0	104.1	102.4	102.1	104.1	101.2	105.8	100.7	97.3	105.1
1974	103.4	104.9	106.3	102.0	107.6	102.6	105.0	94.4	91.0	88.3	91.7	97.5	99.6
1975	92.6	93.0	92.1	92.2	86.9	91.2	93.4	101.1	106.2	110.1	103.3	96.1	96.5
1976	107.2	111.2	110.8	113.5	112.2	118.2	117.7	114.0	111.3	110.1	110.1	114.5	112.6
1977	104.8	101.3	101.6	106.9	104.4	105.7	96.9	103.2	105.5	101.4	102.5	105.8	103.3
1978	110.1	107.6	112.9	106.4	111.2	105.3	110.7	110.0	104.5	107.1	107.1	104.7	108.1
1979	97.7	103.9	97.8	95.3	95.6	93.3	89.6	87.2	96.5	85.9	89.1	85.8	93.1
1980	90.4	85.3	89.8	89.3	87.9	87.6	92.9	89.7	80.5	95.0	92.2	96.3	89.7
1981	94.5	95.5	96.8	102.7	102.7	105.9	98.7	104.2	107.5	103.6	102.9	98.5	101.1
1982	96.8	105.4	95.7	96.3	96.8	94.4	100.1	96.5	102.1	97.1	101.8	104.3	98.9
1983	108.9	99.5	108.9	108.7	108.8	111.2	110.5	112.8	108.6	112.3	110.5	108.6	109.1
1984	110.4	115.2	109.3	108.6	105.5	104.6	103.8	105.7	102.0	105.2	103.2	104.5	106.5
1985	95.9	95.6	99.5	98.2	100.3	98.5	100.3	96.4	100.0	96.0	100.0	99.1	98.3
1986	102.8	101.7	102.6	103.6	103.3	106.0	104.5	103.0	106.5	108.0	103.4	105.0	104.2
1987	102.5	109.6	106.8	105.7	103.8	105.6	104.2	90.1	104.7	98.5	104.2	101.6	103.1
1988	105.9	99.6	98.8	92.8	92.9	94.0	96.9	115.0	94.5	101.4	97.2	95.1	98.7
1989	94.7	90.0	94.1	94.0	99.7	96.0	96.2	98.5	97.1	97.4	99.6	99.7	96.4
1990	97.7	111.6	104.3	108.2	98.8	102.0	********	********	********	********	********	********	103.7

③ 산업생산지수의 12개월 전비를 이용한 DI 입력 계열이다.

T PRODUCTION INDEX CC12

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.0
1971	113.8	123.5	117.1	116.6	118.5	118.0	113.5	115.5	118.5	105.1	113.1	110.8	115.3
1972	114.0	103.6	106.5	107.9	110.4	112.9	113.4	113.4	112.4	128.6	124.0	126.3	114.4
1973	131.9	128.0	132.8	130.8	130.4	124.9	132.1	140.5	139.5	140.1	136.2	132.7	133.3
1974	131.6	149.9	137.9	137.6	131.6	141.0	135.9	117.9	120.8	110.4	111.4	119.2	128.8
1975	121.2	109.1	115.4	113.0	115.7	109.5	111.2	122.7	123.0	130.8	129.2	127.0	119.0
1976	122.9	133.4	130.3	130.3	127.8	136.3	138.4	135.0	126.7	127.3	128.6	122.7	130.0
1977	123.1	115.9	116.3	121.3	119.6	121.5	113.8	118.5	121.3	119.5	119.3	126.2	119.7
1978	124.1	121.3	128.3	123.0	127.7	120.6	121.0	123.3	121.7	121.0	124.4	119.0	122.9
1979	118.6	129.1	119.8	117.2	115.8	111.7	113.1	104.6	112.3	101.8	101.9	100.8	112.2
1980	100.6	95.3	95.9	96.8	93.9	95.3	98.5	100.0	92.5	105.3	102.7	103.1	98.3
1981	106.5	101.8	108.0	112.9	113.5	118.0	113.7	117.6	118.7	115.5	112.5	111.7	112.5
1982	103.9	114.2	105.0	104.7	103.6	101.5	104.1	99.8	107.0	100.9	108.1	108.8	105.1
1983	116.1	107.6	111.9	111.7	114.2	118.2	117.4	121.9	115.1	120.2	117.4	115.8	115.6
1984	115.7	120.2	120.4	120.1	119.0	116.1	115.2	114.9	108.8	112.0	109.7	110.2	115.2
1985	106.8	104.8	104.7	103.9	102.3	100.0	103.7	101.3	108.1	103.8	105.0	108.3	104.4
1986	116.8	116.2	116.9	119.0	120.5	122.5	121.7	121.4	122.0	124.5	123.3	122.2	120.6
1987	113.9	123.2	122.2	119.8	120.6	123.3	120.8	104.8	121.7	113.9	122.2-	120.5	118.9
1988	128.6	119.2	116.6	107.8	106.2	105.9	111.1	130.2	108.9	117.5	110.4	106.7	114.1
1989	101.9	98.5	102.2	101.9	106.1	105.2	103.3	105.5	102.7	101.1	102.9	102.6	102.8
1990	99.6	114.5	109.9	113.8	106.2	107.8	********	********	********	********	********	********	108.6

④ ③의 계열을 비교시점과 대비한 변화율 값이다.

3.0 THE MCD CHANGE RATE OF COMPONENT SERIES MCD VALUE = 3

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.000
1971	********	********	********	2.460	-4.049	0.769	-2.659	-2.532	0.424	-7.401	-2.078	-6.498	-2.396
1972	8.468	-8.400	-3.881	-5.351	6.564	6.009	5.097	2.717	-0.443	13.404	9.347	12.367	3.825
1973	2.566	3.226	5.146	-0.834	1.875	-5.949	0.994	7.745	11.689	6.056	-3.061	-4.875	2.048
1974	-6.067	10.059	3.919	4.559	-12.208	2.248	-1.235	-10.410	-14.326	-18.764	-5.513	-1.324	-4.089
1975	9.783	-2.065	-3.188	-6.766	6.050	-5.113	-1.593	6.050	12.329	17.626	5.297	3.252	3.472
1976	-6.040	3.251	2.598	6.021	-4.198	4.605	6.216	5.634	-7.043	-8.020	-4.741	-3.157	-0.406
1977	-3.299	-9.876	-5.216	-1.462	3.192	4.471	-6.183	-0.920	-0.165	5.009	0.675	4.040	-0.811
1978	3.849	1.676	1.664	-0.886	5.276	-6.002	-1.626	-3.446	0.912	0.000	0.892	-2.219	0.008
1979	-1.983	3.778	0.672	-1.180	-10.302	-6.761	-3.498	-9.672	0.537	-9.991	-2.581	-10.240	-4.269
1980	-1.179	-6.477	-4.861	-3.777	-1.469	-0.626	1.756	6.496	-2.938	6.904	2.700	11.459	0.666
1981	1.140	-0.876	4.753	6.009	11.493	9.259	0.709	3.612	0.593	1.583	-4.337	-5.897	2.337
1982	-10.043	1.511	-5.998	0.770	-9.282	-3.333	-0.573	-3.668	5.419	-3.074	8.317	1.682	-1.523
1983	15.064	-0.463	2.849	-3.790	6.134	5.630	5.103	6.743	-2.623	2.385	-3.692	0.608	2.829
1984	-3.744	2.385	3.972	3.803	-0.998	-3.571	-4.080	-3.445	-6.288	-2.778	-4.526	1.287	-1.499
1985	-4.643	-4.467	-4.991	-2.715	-2.385	-4.489	-0.192	-0.978	8.100	0.096	3.653	0.185	-1.069
1986	12.524	10.667	7.941	1.884	3.701	4.790	2.269	0.747	-0.408	2.301	1.565	0.164	4.012
1987	-8.514	-0.081	0.000	5.180	-2.110	0.900	0.835	-13.101	-1.298	-5.712	16.603	-0.986	-0.690
1988	12.906	-2.455	-3.237	-16.174	-10.906	-9.177	3.061	22.599	2.833	5.761	-15.207	-2.020	-1.001
1989	-13.277	-10.779	-4.217	0.000	7.716	2.935	1.374	-0.565	-2.376	-2.130	-2.464	-0.097	-1.990
1990	-1.484	11.273	7.115	14.257	-7.249	-1.911	********	********	********	********	********	********	3.667

⑤ ④의 계열의 변화율 값에 따른 변화방향을 수치화한 값이다.

3.1 THE SCORE OF COMPONENT SERIES BY MCD CHANGE RATE

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.00
1971	********	********	********	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.33
1972	1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.67
1973	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	0.67
1974	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33
1975	1.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.58
1976	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.50
1977	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00	0.42
1978	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00	0.50	1.00	0.00	0.54
1979	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.25
1980	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.42
1981	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.75
1982	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00	0.42
1983	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.67
1984	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.33
1985	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.33
1986	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.92
1987	0.00	0.00	0.50	1.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	0.38
1988	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	0.42
1989	0.00	0.00	0.00	0.50	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.29
1990	0.00	1.00	1.00	1.00	0.00	0.00	********	********	********	********	********	********	0.50

⑥ 제조업 가동율 지수의 12MS값을 이용한 DI 입력 계열이다.

T OPERATING RATE INDEX(MANUFACTURE) CC17

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.0
1971	********	********	********	********	********	********	********	********	********	********	********	********	0.0
1972	103.4	97.7	96.8	100.1	101.2	102.6	105.8	109.1	109.2	118.6	98.3	122.6	105.4
1973	113.5	112.8	108.8	107.9	104.0	102.4	102.1	104.1	101.1	105.8	100.6	97.2	105.0
1974	103.4	104.8	106.2	101.9	107.5	102.6	104.9	94.4	91.0	88.3	91.6	97.5	99.5
1975	92.5	93.0	92.1	92.1	86.9	91.1	93.3	101.0	106.1	110.1	103.3	96.1	96.5
1976	107.1	111.1	110.8	113.5	112.1	118.1	117.7	114.0	111.2	110.0	110.0	114.4	112.5
1977	104.8	101.3	101.6	106.9	104.3	105.7	96.8	103.2	105.5	101.4	102.5	105.7	103.3
1978	110.0	107.5	112.8	106.3	111.2	105.3	110.6	109.9	104.5	107.0	107.0	104.6	108.1
1979	97.7	103.9	97.7	95.3	95.6	93.2	89.6	87.2	96.5	85.8	89.0	85.7	93.1
1980	90.4	85.2	89.7	89.3	87.9	87.5	92.9	89.6	80.4	95.0	92.1	96.2	89.7
1981	94.4	95.4	96.7	102.6	102.7	105.8	98.6	104.2	107.4	103.6	102.9	98.4	101.1
1982	96.7	105.3	95.7	96.2	96.8	94.3	100.1	96.5	102.0	97.1	101.8	104.2	98.9
1983	108.8	99.5	108.8	108.7	108.7	111.1	110.4	112.8	108.6	112.3	110.4	108.6	109.1
1984	110.4	115.1	109.3	108.6	105.5	104.5	103.8	105.6	101.9	105.2	103.2	104.4	106.5
1985	95.8	95.6	99.5	98.1	100.2	98.5	100.2	96.3	100.0	95.9	100.0	99.0	98.3
1986	102.7	101.6	102.6	103.6	103.3	106.0	104.5	103.0	106.4	107.9	103.4	104.9	104.2
1987	102.4	109.6	106.8	105.7	103.7	105.5	104.1	90.0	104.7	98.5	104.2	101.5	103.1
1988	105.8	99.6	98.8	92.7	92.8	94.0	96.9	114.9	94.4	101.4	97.1	95.0	98.6
1989	94.7	89.9	94.0	94.0	99.7	95.9	96.1	98.4	97.0	97.4	99.6	99.7	96.4
1990	97.6	111.5	104.2	108.1	98.7	101.9	********	********	********	********	********	********	103.7

⑦ ⑥의 계열을 비교시점과 대비한 변화율 값이다.

3.0 THE MCD CHANGE RATE OF COMPONENT SERIES MCD VALUE = 3

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.000
1971	********	********	********	********	********	********	********	********	********	********	********	********	0.000
1972	********	********	********	-3.300	3.500	5.800	5.700	7.900	6.600	12.800	-10.800	13.400	4.622
1973	-5.100	14.500	-13.800	-5.600	-8.800	-6.400	-5.800	0.100	-1.300	3.700	-3.500	-3.900	-2.992
1974	-2.400	4.200	9.000	-1.500	2.700	-3.600	3.000	-13.100	-11.600	-16.600	-2.800	6.500	-2.183
1975	4.200	1.400	-5.400	-0.400	-6.100	-1.000	1.200	14.100	15.000	16.800	2.300	-10.000	2.675
1976	-3.000	7.800	14.700	6.400	1.000	7.300	4.200	1.900	-6.900	-7.700	-4.000	3.200	2.075
1977	-5.200	-8.700	-12.800	2.100	3.000	4.100	-10.100	-1.100	-0.200	4.600	-0.700	0.200	-2.067
1978	8.600	5.000	7.100	-3.700	3.700	-7.500	4.300	-1.300	-0.800	-3.600	-2.900	0.100	0.750
1979	-9.300	-3.100	-6.900	-2.400	-8.300	-4.500	-5.700	-8.400	3.300	-3.800	1.800	-10.800	-4.842
1980	4.600	-3.800	4.000	-1.100	2.700	-2.200	3.600	1.700	-7.100	2.100	2.500	15.800	1.900
1981	-0.600	3.300	0.500	8.200	7.300	9.100	-4.000	1.500	1.600	5.000	-1.300	-9.000	1.800
1982	-6.900	2.400	-2.700	-0.500	-8.500	-1.400	3.900	-0.300	7.700	-3.000	5.300	2.200	-0.150
1983	11.700	-2.300	4.600	-0.100	9.200	2.300	1.700	4.100	-2.500	1.900	-2.400	0.000	2.350
1984	-1.900	4.700	0.700	-1.800	-9.600	-4.800	-4.800	0.100	-2.600	1.400	-2.400	2.500	-1.542
1985	-9.400	-7.600	-4.900	2.300	4.600	-1.000	2.100	-3.900	1.500	-4.300	3.700	-1.000	-1.492
1986	6.800	1.600	3.600	0.900	1.700	3.400	0.900	-0.300	0.400	3.400	0.400	-1.500	1.775
1987	-5.500	6.200	1.900	3.300	-5.900	-1.300	-1.600	-13.700	-0.800	-5.600	14.200	-3.200	-1.000
1988	7.300	-4.600	-2.700	-13.100	-6.800	-4.800	4.200	22.100	0.400	4.500	-17.800	0.600	-0.892
1989	-6.700	-7.200	-1.000	-0.700	9.800	1.900	2.100	-1.300	1.100	1.300	1.200	2.700	0.267
1990	0.200	11.900	4.500	10.500	-12.800	-2.300	********	********	********	********	********	********	2.000

⑧ ⑦의 변화율 값에 따른 변화방향을 수치화한 값이다.

3.1 THE SCORE OF COMPONENT SERIES BY MCD CHANGE RATE

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.00
1971	********	********	********	********	********	********	********	********	********	********	********	********	0.00
1972	********	********	********	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.78
1973	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.25
1974	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.42
1975	1.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.58
1976	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	1.00	0.67
1977	0.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00	0.42
1978	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.50
1979	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.17
1980	1.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.67
1981	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.67
1982	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.42
1983	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.50	0.63
1984	0.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	0.42
1985	0.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.42
1986	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.83
1987	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.33
1988	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.50
1989	0.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.58
1990	1.00	1.00	1.00	1.00	0.00	0.00	********	********	********	********	********	********	0.67

(2) DI를 산출함

⑨ ⑤와 ⑧의 합이다.

COMPOSITE INDEX OF ROUGHLY COINCIDENT INDICATORS

4.0 TOTAL SCORE

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.0
1971	********	********	********	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.3
1972	1.0	0.0	0.0	0.0	2.0	2.0	2.0	2.0	1.0	2.0	1.0	2.0	1.3
1973	1.0	2.0	1.0	0.0	1.0	0.0	1.0	2.0	1.0	2.0	0.0	0.0	0.9
1974	0.0	2.0	2.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0	0.8
1975	2.0	1.0	0.0	0.0	1.0	0.0	1.0	2.0	2.0	2.0	2.0	1.0	1.2
1976	0.0	2.0	2.0	2.0	1.0	2.0	2.0	2.0	0.0	0.0	0.0	1.0	1.2
1977	0.0	0.0	0.0	1.0	2.0	2.0	0.0	0.0	0.0	2.0	1.0	2.0	0.8
1978	2.0	2.0	2.0	0.0	2.0	0.0	1.0	0.0	1.0	0.5	1.0	1.0	1.0
1979	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	1.0	0.0	0.4
1980	1.0	0.0	1.0	0.0	1.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	1.1
1981	1.0	1.0	2.0	2.0	2.0	2.0	1.0	2.0	2.0	2.0	0.0	0.0	1.4
1982	0.0	2.0	0.0	1.0	0.0	0.0	1.0	0.0	2.0	0.0	2.0	2.0	0.8
1983	2.0	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	1.5	1.3
1984	0.0	2.0	2.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0	2.0	0.8
1985	0.0	0.0	0.0	1.0	1.0	0.0	1.0	0.0	2.0	1.0	2.0	1.0	0.8
1986	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0	2.0	2.0	1.0	1.8
1987	0.0	1.0	1.5	2.0	0.0	1.0	1.0	0.0	0.0	0.0	2.0	0.0	0.7
1988	2.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0	1.0	0.9
1989	0.0	0.0	0.0	0.5	2.0	2.0	2.0	0.0	1.0	1.0	1.0	1.0	0.9
1990	1.0	2.0	2.0	2.0	0.0	0.0	********	********	********	********	********	********	1.2

⑩ 각 월별의 변화율 값의 갯수이다.

4.1 MONTHLY COUNTER

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.0
1971	********	********	********	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1972	1.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.8
1973	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1974	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1975	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1976	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1977	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1978	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1979	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1980	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1981	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1982	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1983	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1984	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1985	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1986	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1987	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1988	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1989	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1990	2.0	2.0	2.0	2.0	2.0	2.0	********	********	********	********	********	********	2.0

⑪ 산출된 DI값이다.

4.2 MEAN SCORE

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.0
1971	********	********	********	100.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	33.3
1972	100.0	0.0	0.0	0.0	100.0	100.0	100.0	100.0	50.0	100.0	50.0	100.0	66.7
1973	50.0	100.0	50.0	0.0	50.0	0.0	50.0	100.0	50.0	100.0	0.0	0.0	45.8
1974	0.0	100.0	100.0	50.0	50.0	50.0	50.0	0.0	0.0	0.0	0.0	50.0	37.5
1975	100.0	50.0	0.0	0.0	50.0	0.0	50.0	100.0	100.0	100.0	100.0	50.0	58.3
1976	0.0	100.0	100.0	100.0	50.0	100.0	100.0	100.0	0.0	0.0	0.0	50.0	58.3
1977	0.0	0.0	0.0	50.0	100.0	100.0	0.0	0.0	0.0	100.0	50.0	100.0	41.7
1978	100.0	100.0	100.0	0.0	100.0	0.0	50.0	0.0	50.0	25.0	50.0	50.0	52.1
1979	0.0	50.0	50.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	50.0	0.0	20.8
1980	50.0	0.0	50.0	0.0	50.0	0.0	100.0	100.0	0.0	100.0	100.0	100.0	54.2
1981	50.0	50.0	100.0	100.0	100.0	100.0	50.0	100.0	100.0	100.0	0.0	0.0	70.8
1982	0.0	100.0	0.0	50.0	0.0	0.0	50.0	0.0	100.0	0.0	100.0	100.0	41.7
1983	100.0	0.0	100.0	0.0	100.0	100.0	100.0	100.0	0.0	100.0	0.0	75.0	64.6
1984	0.0	100.0	100.0	50.0	0.0	0.0	0.0	50.0	0.0	50.0	0.0	100.0	37.5
1985	0.0	0.0	0.0	50.0	50.0	0.0	50.0	0.0	100.0	50.0	100.0	50.0	37.5
1986	100.0	100.0	100.0	100.0	100.0	100.0	100.0	50.0	50.0	100.0	100.0	50.0	87.5
1987	0.0	50.0	75.0	100.0	0.0	50.0	50.0	0.0	0.0	0.0	100.0	0.0	35.4
1988	100.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	100.0	100.0	0.0	50.0	45.8
1989	0.0	0.0	0.0	25.0	100.0	100.0	100.0	0.0	50.0	50.0	50.0	50.0	43.8
1990	50.0	100.0	100.0	100.0	0.0	0.0	********	********	********	********	********	********	58.3

⑫ 누적 DI값이다.

4.3 ROV CDI

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.0
1971	********	********	********	50.0	0.0	50.0	0.0	-50.0	0.0	-50.0	-100.0	-150.0	-27.8
1972	-100.0	-150.0	-200.0	-250.0	-200.0	-150.0	-100.0	-50.0	-50.0	0.0	0.0	50.0	-100.0
1973	50.0	100.0	100.0	50.0	50.0	0.0	0.0	50.0	50.0	100.0	50.0	0.0	50.0
1974	-50.0	0.0	50.0	50.0	50.0	50.0	50.0	0.0	-50.0	-100.0	-150.0	-150.0	-20.8
1975	-100.0	-100.0	-150.0	-200.0	-200.0	-250.0	-250.0	-200.0	-150.0	-100.0	-50.0	-50.0	-150.0
1976	-100.0	-50.0	0.0	50.0	50.0	100.0	150.0	200.0	150.0	100.0	50.0	50.0	62.5
1977	0.0	-50.0	-100.0	-100.0	-50.0	0.0	-50.0	-100.0	-150.0	-100.0	-100.0	-50.0	-70.8
1978	0.0	50.0	100.0	50.0	100.0	50.0	50.0	0.0	0.0	-25.0	-25.0	-25.0	27.1
1979	-75.0	-75.0	-75.0	-125.0	-175.0	-225.0	-275.0	-325.0	-275.0	-325.0	-325.0	-375.0	-220.8
1980	-375.0	-425.0	-425.0	-475.0	-475.0	-525.0	-475.0	-425.0	-475.0	-425.0	-375.0	-325.0	-433.3
1981	-325.0	-325.0	-275.0	-225.0	-175.0	-125.0	-125.0	-75.0	-25.0	25.0	-25.0	-75.0	-145.8
1982	-125.0	-75.0	-125.0	-125.0	-175.0	-225.0	-225.0	-275.0	-225.0	-275.0	-225.0	-175.0	-187.5
1983	-125.0	-175.0	-125.0	-175.0	-125.0	-75.0	-25.0	25.0	-25.0	25.0	-25.0	0.0	-68.8
1984	-50.0	0.0	50.0	50.0	0.0	-50.0	-100.0	-100.0	-150.0	-150.0	-200.0	-150.0	-70.8
1985	-200.0	-250.0	-300.0	-300.0	-300.0	-350.0	-350.0	-400.0	-350.0	-350.0	-300.0	-300.0	-312.5
1986	-250.0	-200.0	-150.0	-100.0	-50.0	0.0	50.0	50.0	50.0	100.0	150.0	150.0	-16.7
1987	100.0	100.0	125.0	175.0	125.0	125.0	125.0	75.0	25.0	-25.0	25.0	-25.0	79.2
1988	25.0	-25.0	-75.0	-125.0	-175.0	-225.0	-175.0	-125.0	-75.0	-25.0	-75.0	-75.0	-95.8
1989	-125.0	-175.0	-225.0	-250.0	-200.0	-150.0	-100.0	-150.0	-150.0	-150.0	-150.0	-150.0	-164.6
1990	-150.0	-100.0	-50.0	0.0	-50.0	-100.0	********	********	********	********	********	********	-75.0

⑬ 누적 DI값('85년 평균 100으로 조정된 값)이다.

4.4 CDI------REBASED (YEAR=85)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	********	********	********	********	********	********	********	********	********	********	********	********	0.0
1971	********	********	********	-16.0	0.0	-16.0	0.0	16.0	0.0	16.0	32.0	48.0	8.9
1972	32.0	48.0	64.0	80.0	64.0	48.0	32.0	16.0	16.0	0.0	0.0	-16.0	32.0
1973	-16.0	-32.0	-32.0	-16.0	-16.0	0.0	0.0	-16.0	-16.0	-32.0	-16.0	0.0	-16.0
1974	16.0	0.0	-16.0	-16.0	-16.0	-16.0	-16.0	0.0	16.0	32.0	48.0	48.0	6.7
1975	32.0	32.0	48.0	64.0	64.0	80.0	80.0	64.0	48.0	32.0	16.0	16.0	48.0
1976	32.0	16.0	0.0	-16.0	-16.0	-32.0	-48.0	-64.0	-48.0	-32.0	-16.0	-16.0	-20.0
1977	0.0	16.0	32.0	32.0	16.0	0.0	16.0	32.0	48.0	32.0	32.0	16.0	22.7
1978	0.0	-16.0	-32.0	-16.0	-32.0	-16.0	-16.0	0.0	0.0	8.0	8.0	8.0	-8.7
1979	24.0	24.0	24.0	40.0	56.0	72.0	88.0	104.0	88.0	104.0	104.0	120.0	70.7
1980	120.0	136.0	136.0	152.0	152.0	168.0	152.0	136.0	152.0	136.0	120.0	104.0	138.7
1981	104.0	104.0	88.0	72.0	56.0	40.0	40.0	24.0	8.0	-8.0	8.0	24.0	46.7
1982	40.0	24.0	40.0	40.0	56.0	72.0	72.0	88.0	72.0	88.0	72.0	56.0	60.0
1983	40.0	56.0	40.0	56.0	40.0	24.0	8.0	-8.0	8.0	-8.0	8.0	0.0	22.0
1984	16.0	0.0	-16.0	-16.0	0.0	16.0	32.0	32.0	48.0	48.0	64.0	48.0	22.7
1985	64.0	80.0	96.0	96.0	96.0	112.0	112.0	128.0	112.0	112.0	96.0	96.0	100.0
1986	80.0	64.0	48.0	32.0	16.0	0.0	-16.0	-16.0	-16.0	-32.0	-48.0	-48.0	5.3
1987	-32.0	-32.0	-40.0	-56.0	-40.0	-40.0	-40.0	-24.0	-8.0	8.0	-8.0	8.0	-25.3
1988	-8.0	8.0	24.0	40.0	56.0	72.0	56.0	40.0	24.0	8.0	24.0	24.0	30.7
1989	40.0	56.0	72.0	80.0	64.0	48.0	32.0	48.0	48.0	48.0	48.0	48.0	52.7
1990	48.0	32.0	16.0	0.0	16.0	32.0	********	********	********	********	********	********	24.0

8. 국면평균법 (PAT)

기존의 프로그램은 추세치 계산시 전체 PAT옵션이 개별지표에까지 영향을 미쳤으나 새로운 프로그램은 전체지표·개별지표 각각에 대해 옵션이 적용되어 지도록 되어 있다. 예제에서는 개별지표에 대해서는 PAT방법을 적용하지 않고 전체지표에 대해서만 PAT를 적용하기로 하고 기울기 산출방법시 세가지 방법의 각기 다른 산출 결과를 보기로 한다.

(입력자료)

(1) Original PAT 입력시

```
COIN        2700190068540
COMA       2200000 0110
TSTAN     170018912
PATP       00300000000050153 0
GNP1      17089000001006881018
GNP2       70019006 6070
(8X,12F6.0)     METHOD JAPAN
  1970   1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122
  1971   1.122 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934
                    :                                   :
```

(이 하 동 일)

(2) 강제입력법 입력시

```
COIN        2700190068540
COMA       2200000 0110
TSTAN     170018912
PATP       00300000000050153 1 0.00619553
GNP1      17089000001006881018
GNP2       70019006 6070
(8X,12F6.0)     METHOD JAPAN
  1970   1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122
  1971   1.122 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934
                    :                                   :
```

(이 하 동 일)

(3) 내부계산방법 (구간입력 - 고정) 입력시

```
COIN        2700190068540
COMA       2200000 0110
TSTAN     170018912
PATP       00300000000050153 2
GNP1      17089000001006881018
GNP2       70019006 6070
(8X,12F6.0)     METHOD JAPAN
  1970   1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122
  1971   1.122 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934
                    :                                   :
```

(이 하 동 일)

(4) 내부계산방법(구간 입력-변동, 여기서는 90년 4월까지)입력시

```
COIN         2700190068540
COMA        2200000 0110
TSTAN      170018912
PATP        00300000000050153 3              9004
GNP1       17089000001006881018
GNP2        70019006 6070
(8X,12F6.0)     METHOD JAPAN
  1970   1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122 1.122
  1971   1.122 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934 0.934
                    :                                 :
                    :                                 :
```

(이 하 동 일)

(산출결과)

(1) original PAT방법

① 입력자료를 나타낸다.

NBER GROWTH CYCLE PROGRAM
TIME SERIES DATA

YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1970	25.89	26.30	26.67	27.16	27.40	27.58	27.95	28.32	28.69	28.86	29.11	29.48
1971	29.78	30.24	30.64	31.09	31.43	31.59	31.68	31.65	31.60	31.29	31.97	31.87
1972	32.26	31.72	32.03	32.41	32.99	33.69	34.22	34.63	35.07	35.53	36.25	36.97
1973	37.51	37.71	37.68	37.94	38.25	38.49	38.89	39.70	40.75	41.70	42.23	42.49
1974	43.08	43.60	44.26	44.38	44.72	44.99	45.52	44.93	44.12	43.37	43.53	44.52
1975	45.19	45.88	45.99	46.04	46.05	46.01	46.54	47.17	48.32	49.23	49.96	50.27
1976	51.19	52.29	53.54	54.03	54.24	55.10	56.50	57.74	58.23	58.06	58.40	58.64
1977	58.72	58.85	58.79	59.82	60.14	61.87	62.00	63.20	63.12	64.43	64.80	66.03
1978	66.52	67.46	68.18	68.99	70.03	70.77	71.28	72.28	72.75	73.27	73.40	74.04
1979	74.65	75.04	75.02	74.63	74.37	73.97	73.55	72.65	72.97	72.68	72.76	71.68
1980	71.67	71.59	71.69	71.33	70.78	70.12	70.35	70.32	70.04	70.07	70.56	71.83
1981	72.30	72.71	73.30	74.37	75.45	76.49	76.44	76.91	76.89	77.50	77.39	77.16
1982	76.78	77.00	76.78	77.10	77.06	77.56	77.94	78.04	78.71	79.43	80.64	81.56
1983	82.62	83.15	83.70	84.12	85.22	86.67	87.91	89.26	90.12	90.75	91.36	91.78
1984	92.94	94.68	95.85	96.64	96.31	96.95	97.14	98.35	98.25	98.72	98.30	99.10
1985	98.62	98.42	98.15	98.82	99.30	99.42	99.94	100.43	100.50	101.28	101.75	103.38
1986	104.28	105.90	107.12	108.55	109.77	111.39	112.39	112.95	113.81	114.68	115.27	115.96
1987	116.72	118.70	120.35	122.42	123.70	125.70	126.46	122.09	121.46	121.32	126.95	127.95
1988	130.22	132.21	132.82	130.53	127.67	127.23	129.23	132.21	133.07	133.77	133.36	133.18
1989	132.40	131.33	131.02	129.20	129.62	130.15	132.66	135.15	136.04	136.40	135.76	135.93
1990	136.55	138.69	140.61	142.04	139.74	139.47						

② 구한 경기전환점을 나타낸다.(중간 과정은 프린트를 생략하였음)

TURNING POINTS OF THE RATIO TO FIRST TREND

TROUGHS			PEAKS		
YEAR	M	VALUE	YEAR	M	VALUE
			1971	5	100.82
1972	3	94.51	1974	3	105.21
1975	6	94.04	1976	8	103.19
1977	3	97.82	1979	2	108.12
1980	10	94.41	1981	6	101.02
1982	8	95.54	1984	4	104.58
1985	11	95.72	1988	2	105.74
1989	6	95.14			

③ 입력자료의 대수화(log 化)된 값을 나타낸다.

LOG OF INPUT DATA

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEPT	OCT	NOV	DEC
1970	3.2537	3.2697	3.2834	3.3018	3.3107	3.3171	3.3304	3.3435	3.3564	3.3626	3.3709	3.3836
1971	3.3939	3.4093	3.4225	3.4368	3.4477	3.4529	3.4557	3.4546	3.4532	3.4431	3.4647	3.4615
1972	3.4737	3.4568	3.4666	3.4786	3.4961	3.5171	3.5329	3.5447	3.5572	3.5704	3.5906	3.6102
1973	3.6246	3.6300	3.6292	3.6361	3.6442	3.6504	3.6606	3.6815	3.7075	3.7304	3.7431	3.7492
1974	3.7631	3.7750	3.7902	3.7928	3.8004	3.8065	3.8182	3.8051	3.7869	3.7698	3.7736	3.7960
1975	3.8109	3.8260	3.8283	3.8295	3.8297	3.8289	3.8402	3.8538	3.8777	3.8964	3.9112	3.9173
1976	3.9355	3.9567	3.9803	3.9896	3.9934	4.0091	4.0343	4.0560	4.0644	4.0615	4.0674	4.0715
1977	4.0728	4.0750	4.0739	4.0914	4.0966	4.1250	4.1271	4.1463	4.1450	4.1656	4.1714	4.1901
1978	4.1975	4.2115	4.2222	4.2339	4.2489	4.2594	4.2667	4.2806	4.2870	4.2941	4.2959	4.3046
1979	4.3128	4.3180	4.3178	4.3125	4.3091	4.3036	4.2980	4.2856	4.2900	4.2861	4.2872	4.2723
1980	4.2720	4.2709	4.2724	4.2673	4.2596	4.2502	4.2535	4.2531	4.2491	4.2495	4.2565	4.2743
1981	4.2808	4.2865	4.2946	4.3091	4.3235	4.3371	4.3365	4.3426	4.3424	4.3503	4.3488	4.3459
1982	4.3409	4.3437	4.3410	4.3451	4.3446	4.3511	4.3560	4.3572	4.3657	4.3748	4.3900	4.4013
1983	4.4143	4.4206	4.4272	4.4323	4.4453	4.4621	4.4763	4.4916	4.5012	4.5082	4.5149	4.5193
1984	4.5319	4.5505	4.5628	4.5710	4.5676	4.5741	4.5762	4.5885	4.5875	4.5923	4.5880	4.5961
1985	4.5912	4.5892	4.5865	4.5933	4.5981	4.5993	4.6046	4.6095	4.6102	4.6178	4.6225	4.6384
1986	4.6471	4.6625	4.6739	4.6872	4.6984	4.7131	4.7220	4.7269	4.7346	4.7421	4.7473	4.7532
1987	4.7597	4.7766	4.7904	4.8075	4.8179	4.8339	4.8399	4.8047	4.7996	4.7985	4.8438	4.8517
1988	4.8693	4.8844	4.8890	4.8716	4.8494	4.8460	4.8616	4.8844	4.8909	4.8961	4.8931	4.8917
1989	4.8859	4.8777	4.8753	4.8614	4.8646	4.8687	4.8878	4.9064	4.9129	4.9156	4.9109	4.9122
1990	4.9167	4.9323	4.9460	4.9561	4.9398	4.9379						

④ 각 국면의 평균값과 평균값이 위치하는 점이다.

PHASE AVERAGE	WEIGHT	BEGIN (70.1=841)	END	LENGTH	PHASE MIDPOINT
					WEIGHT=(2.*DV*DV)/(2.*DV-1.)
3.352692	16.516	841	857	16.000	9.000
3.457335	10.526	857	867	10.000	22.000
3.631294	24.511	867	891	24.000	39.000
3.805537	15.517	891	906	15.000	58.500
3.938434	14.519	906	920	14.000	73.000
4.068234	7.538	920	927	7.000	83.500
4.211718	23.511	927	950	23.000	98.500
4.279689	20.513	950	970	20.000	120.000
4.289831	8.533	970	978	8.000	134.000
4.345421	14.519	978	992	14.000	145.000
4.462715	20.513	992	1012	20.000	162.000
4.592996	19.514	1012	1031	19.000	181.500
4.759013	27.509	1031	1058	27.000	204.500
4.875935	16.516	1058	1074	16.000	226.000

⑤ 추세치를 구하기 위한 계산값들이다.

PRELIMINARY STEPS FOR COMPUTING THE FINAL TREND

SPA	SPM	SMN	SC	SS	SMD	SMW	SPAW	SPMW	SCW	SMNW	SMDW	SSW
10.4413	70.0	243.6308	247.8560	2086.00	1633.33	51.5531	180.7718	1336.1384	4770.21	4685.19	34629.65	43713.20
10.8942	119.5	433.9509	440.3057	5427.25	4760.08	50.5542	184.4497	2095.2520	7726.36	7644.64	86839.12	95479.25
11.3753	170.5	646.4941	651.7500	10272.25	9690.08	54.5464	205.2370	2923.5249	11099.87	11000.09	156692.25	167753.62
11.8122	215.0	846.5413	849.8269	15723.50	15408.33	37.5742	146.8999	2597.0718	10189.45	10153.49	179505.62	183032.94
12.2184	255.0	1038.5627	1042.0571	22003.50	21675.00	45.5681	186.8706	4005.1572	16488.62	16424.78	352028.87	358039.75
12.5596	302.0	1264.3372	1268.1140	31074.50	30401.33	51.5624	217.4788	5406.8398	22849.09	22804.86	566961.87	576055.19
12.7812	352.5	1501.7942	1503.2537	42058.25	41418.75	52.5573	223.4172	5920.8437	25193.57	25169.09	667013.25	676719.69
12.9149	399.0	1717.6860	1718.4856	53381.00	53067.00	43.5647	187.4841	5710.1875	24587.80	24574.26	748456.31	753860.87
13.0980	441.0	1925.4009	1927.8828	65225.00	64827.00	43.5647	191.2385	6571.7266	28883.13	28848.29	991344.25	996814.69
13.4011	488.5	2182.1497	2186.6743	80211.25	79544.06	54.5448	244.2573	8969.9570	40244.87	40168.37	**********	**********
13.8147	548.0	2523.4883	2529.8064	********	********	67.5358	312.0859	**********	57869.62	57718.97	**********	**********
14.2279	612.0	2902.5000	2908.8079	********	********	63.5391	301.0747	**********	61239.81	61125.69	**********	**********

SLOPE (SC-SMN)/(SS-S MD)	WTD. SLOPE (SCW-SMNW)/(SSW-SMDW)
0.0093342	0.0093597
0.0095249	0.0094581
0.0090281	0.0090200
0.0104251	0.0101950
0.0106374	0.0106214
0.0056106	0.0048632
0.0022822	0.0025225
0.0025464	0.0025066
0.0062360	0.0063702
0.0067817	0.0067765
0.0069799	0.0069905
0.0063684	0.0064047

⑥ 3국면 평균값과 3국면 중간점 그리고 추세치 산출과정을 나타낸다.

PRELIMINARY STEPS FOR COMPUTING THE FINAL TREND

PHASE:	FROM YEAR	M	TO YEAR	M	AVG. ANTILOG	TRIPLETS AVG.	MIDPOINTS : YEAR	M
1	1970	1	1971	5	28.58			
2	1971	5	1972	3	31.73	32.47	1971	10
3	1972	3	1974	3	37.76	37.77	1973	3
4	1974	3	1975	6	44.95	44.33	1974	10
5	1975	6	1976	8	51.34	51.29	1976	1
6	1976	8	1977	3	58.45	58.72	1976	11
7	1977	3	1979	2	67.47	65.80	1978	2
8	1979	2	1980	10	72.22	70.84	1979	12
9	1980	10	1981	6	72.95	74.07	1981	2
10	1981	6	1982	8	77.12	78.73	1982	1
11	1982	8	1984	4	86.72	87.10	1983	6
12	1984	4	1985	11	98.79	99.97	1985	1
13	1985	11	1988	2	116.63	114.74	1986	12
14	1988	2	1989	6	131.10			

1ST PHASE	LAST PHASE	MIDPOINT	SLOPE	WTD. SLOPE	LEVEL ADJMT.
70 1	71 5	72 3	74 3	71 10	0.00933
					0.00915

3.253664	3.262812	3.271959	3.281107	3.290255	3.299402	3.308550	3.317698	3.326845	3.335993	3.345140	3.354288
3.363436	3.372583	3.381731	3.390879	3.400026	3.409174	3.418322	3.427469	3.436617	3.445765	3.454912	3.464060
3.473207	3.482355	3.491503	3.500650	3.509798	3.518946	3.528093	3.537241	3.546389	3.555536	3.564684	3.573832
3.582979	3.592127	3.601274									

0.01761

3.271276	3.280424	3.289572	3.298719	3.307867	3.317015	3.326162	3.335310	3.344458	3.353605	3.362753	3.371901
3.381048	3.390196	3.399343	3.408491	3.417639	3.426786	3.435934	3.445082	3.454229	3.463377	3.472525	3.481672
3.490820	3.499968	3.509115	3.518263	3.527411	3.536558	3.545706	3.554853	3.564001	3.573149	3.582296	3.591444
3.600592	3.609739	3.618887									

71 5	72 3	74 3	75 6	73 3							
										0.00952	
										0.00943	

3.271276	3.280424	3.289572	3.298719	3.307867	3.317015	3.326162	3.335310	3.344458	3.353605	3.362753	3.371901
3.381048	3.390196	3.399343	3.408491	3.417639	3.426786	3.435934	3.445082	3.454229	3.463377	3.472525	3.481672
3.490820	3.499968	3.509115	3.518263	3.527411	3.536558	3.545706	3.554853	3.564001	3.573149	3.582296	3.591444
3.600592	3.609739	3.618887	3.628320	3.637753	3.647185	3.656618	3.666051	3.675484	3.684916	3.694349	3.703782
3.713215	3.722648	3.732080	3.741513	3.750946	3.760379	3.769812	3.779244				

0.01054

3.281815	3.290962	3.300110	3.309258	3.318405	3.327553	3.336700	3.345848	3.354996	3.364143	3.373291	3.382439
3.391586	3.400734	3.409882	3.419029	3.428177	3.437325	3.446472	3.455620	3.464767	3.473915	3.483063	3.492210
3.501358	3.510506	3.519653	3.528801	3.537949	3.547096	3.556244	3.565392	3.574539	3.583687	3.592834	3.601982
3.611130	3.620277	3.629425	3.638858	3.648291	3.657723	3.667156	3.676589	3.686022	3.695455	3.704887	3.714320
3.723753	3.733186	3.742619	3.752051	3.761484	3.770917	3.780350	3.789783				

72 3	74 3	75 6	76 8	74 10							
										0.00903	
										0.00982	

3.638858	3.648291	3.657723	3.667156	3.676589	3.686022	3.695455	3.704887	3.714320	3.723753	3.733186	3.742619
3.752051	3.761484	3.770917	3.780350	3.789783	3.799601	3.809419	3.819237	3.829055	3.838873	3.848691	3.858509
3.868327	3.878145	3.887963	3.897781	3.907599	3.917418	3.927236	3.937054				

-0.00484

3.634016	3.643449	3.652882	3.662314	3.671747	3.681180	3.690613	3.700046	3.709478	3.718911	3.728344	3.737777
3.747210	3.756642	3.766075	3.775508	3.784941	3.794759	3.804577	3.814395	3.824213	3.834031	3.843849	3.853667
3.863485	3.873303	3.883121	3.892940	3.902758	3.912576	3.922394	3.932212				

74 3	75 6	76 8	77 3	76 1							
										0.01043	
										0.01015	

3.794759	3.804577	3.814395	3.824213	3.834031	3.843849	3.853667	3.863485	3.873303	3.883121	3.892940	3.902758
3.912576	3.922394	3.932212	3.942366	3.952519	3.962673	3.972827	3.982981	3.993134	4.003288	4.013442	4.023596
4.033750	4.043903	4.054057	4.064211	4.074365							

-0.01381

3.780952	3.790771	3.800589	3.810407	3.820225	3.830043	3.839861	3.849679	3.859497	3.869315	3.879133	3.888951
3.898769	3.908587	3.918406	3.928559	3.938713	3.948867	3.959021	3.969174	3.979328	3.989482	3.999636	4.009789
4.019943	4.030097	4.040251	4.050405	4.060558							

75 6	76 8	77 3	79 2	76 11							
										0.01064	
										0.00726	

3.928559	3.938713	3.948867	3.959021	3.969174	3.979328	3.989482	3.999636	4.009789	4.019943	4.030097	4.040251
4.050405	4.060558	4.067819	4.075079	4.082339	4.089600	4.096860	4.104120	4.111381	4.118641	4.125901	4.133162
4.140422	4.147682	4.154943	4.162203	4.169463							

0.02687

3.955427	3.965581	3.975735	3.985888	3.996042	4.006196	4.016350	4.026504	4.036657	4.046811	4.056965	4.067119
4.077272	4.087426	4.094687	4.101947	4.109207	4.116467	4.123728	4.130988	4.138248	4.145509	4.152769	4.160029
4.167290	4.174550	4.181810	4.189071	4.196331							

76 8	77 3	79 2	80 10	78 2							
										0.00561	
										0.00439	

4.094687	4.101947	4.109207	4.116467	4.123728	4.130988	4.138248	4.145509	4.152769	4.160029	4.167290	4.174550
4.181810	4.189071	4.196331	4.200719	4.205107	4.209495	4.213882	4.218270	4.222658	4.227046	4.231434	4.235822
4.240210	4.244597	4.248985	4.253373	4.257761	4.262149	4.266537	4.270925				

0.03330

4.127986	4.135246	4.142507	4.149767	4.157027	4.164288	4.171548	4.178808	4.186069	4.193329	4.200589	4.207850
4.215110	4.222370	4.229630	4.234018	4.238406	4.242794	4.247182	4.251570	4.255958	4.260345	4.264733	4.269121
4.273509	4.277897	4.282285	4.286673	4.291060	4.295448	4.299836	4.304224				

77 3	79 2	80 10	81 6	79 12							
										0.00228	
										0.00288	

4.234018	4.238406	4.242794	4.247182	4.251570	4.255958	4.260345	4.264733	4.269121	4.273509	4.277897	4.282285
4.286673	4.291060	4.295448	4.299836	4.304224	4.307099	4.309975	4.312850	4.315725	4.318601	4.321476	4.324351
4.327227	4.330102	4.332977	4.335853	4.338728	4.341603	4.344479	4.347354	4.350229			

-0.01801

4.216008	4.220396	4.224784	4.229172	4.233560	4.237947	4.242335	4.246723	4.251111	4.255499	4.259887	4.264275
4.268662	4.273050	4.277438	4.281826	4.286214	4.289089	4.291965	4.294840	4.297715	4.300591	4.303466	4.306341
4.309216	4.312092	4.314967	4.317842	4.320718	4.323593	4.326468	4.329344	4.332219			

79 2	80 10	81 6	82 8	81 2							
										0.00255	
										0.00436	

4.289089	4.291965	4.294840	4.297715	4.300591	4.303466	4.306341	4.309216	4.312092	4.314967	4.317842	4.320718
4.323593	4.326468	4.329344	4.332219	4.336576	4.340934	4.345291	4.349648	4.354006	4.358363	4.362720	4.367078
4.371435	4.375793	4.380150	4.384507	4.388865	4.393222						

-0.03938

4.249708	4.252584	4.255459	4.258334	4.261209	4.264085	4.266960	4.269835	4.272711	4.275586	4.278461	4.281337
4.284212	4.287087	4.289963	4.292838	4.297195	4.301553	4.305910	4.310267	4.314625	4.318982	4.323339	4.327697
4.332054	4.336411	4.340769	4.345126	4.349483	4.353841						

80 10	81 6	82 8	84 4	82 1							
										0.00624	
										0.00638	

4.297195	4.301553	4.305910	4.310267	4.314625	4.318982	4.323339	4.327697	4.332054	4.336411	4.340769	4.345126
4.349483	4.353841	4.360223	4.366605	4.372987	4.379369	4.385751	4.392133	4.398515	4.404897	4.411279	4.417661
4.424043	4.430425	4.436807	4.443189	4.449571							

-0.00345
4.293742 4.298100 4.302457 4.306814 4.311172 4.315529 4.319886 4.324244 4.328601 4.332958 4.337316 4.341673
4.346030 4.350388 4.356770 4.363152 4.369534 4.375916 4.382298 4.388680 4.395061 4.401443 4.407825 4.414207
4.420589 4.426971 4.433353 4.439735 4.446117
81 6 82 8 84 4 85 11 83 6 0.00678 0.00678
0.00695
4.356770 4.363152 4.369534 4.375916 4.382298 4.388680 4.395061 4.401443 4.407825 4.414207 4.420589 4.426971
4.433353 4.439735 4.446117 4.453068 4.460018 4.466969 4.473919 4.480869 4.487820 4.494770 4.501720 4.508671
4.515621 4.522572 4.529522 4.536472 4.543423 4.550373 4.557323 4.564274 4.571224 4.578175 4.585125
0.01608
4.372844 4.379226 4.385608 4.391990 4.398372 4.404754 4.411136 4.417518 4.423900 4.430282 4.436664 4.443046
4.449428 4.455810 4.462192 4.469142 4.476092 4.483043 4.489993 4.496943 4.503894 4.510844 4.517795 4.524745
4.531695 4.538646 4.545596 4.552547 4.559497 4.566447 4.573398 4.580348 4.587298 4.594249 4.601199
82 8 84 4 85 11 88 2 85 1 0.00698 0.00699
0.00646
4.469142 4.476092 4.483043 4.489993 4.496943 4.503894 4.510844 4.517795 4.524745 4.531695 4.538646 4.545596
4.552547 4.559497 4.566447 4.573398 4.580348 4.587298 4.594249 4.601199 4.607656 4.614112 4.620568 4.627025
4.633481 4.639937 4.646394 4.652850 4.659307 4.665763 4.672219 4.678676 4.685132 4.691588 4.698045 4.704501
4.710958 4.717414 4.723870 4.730327 4.736783 4.743239
0.00247
4.471614 4.478564 4.485515 4.492465 4.499415 4.506366 4.513316 4.520267 4.527217 4.534167 4.541118 4.548068
4.555018 4.561969 4.568919 4.575870 4.582820 4.589770 4.596721 4.603671 4.610127 4.616584 4.623040 4.629497
4.635953 4.642409 4.648866 4.655322 4.661778 4.668235 4.674691 4.681148 4.687604 4.694060 4.700517 4.706973
4.713429 4.719886 4.726342 4.732799 4.739255 4.745711
84 4 85 11 88 2 89 6 86 12 0.00637 0.00640
4.751513 4.757316 4.763118 4.768920 4.774722 4.780524 4.786326 4.792129 4.797931 4.803733 4.809535 4.815337
4.821139 4.826941 4.832744 4.838546 4.844348 4.850150 4.855952 4.861754 4.867557 4.873359 4.879161 4.884963
4.890765 4.896567 4.902369 4.908172 4.913974 4.919776 4.925578 4.931380 4.937182 4.942985 4.948787 4.954589
4.960391 4.966193 4.971995 4.977798 4.983600 4.989402

⑦ 최종추세치 계열이다.

COMPUTED FINAL TREND

YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1970	26.52	26.76	27.00	27.25	27.49	27.74	28.00	28.26	28.51	28.78	29.04	29.31
	26.519	26.758	27.000	27.245								
	27.493	27.744	27.998	28.255								
	28.515	28.777	29.041	29.308								
1971	29.58	29.85	30.12	30.40	30.68	30.96	31.25	31.53	31.82	32.12	32.41	32.71
	29.577	29.849	30.123	30.400								
	30.679	30.961	31.246	31.533								
	31.823	32.115	32.410	32.708								
1972	33.01	33.31	33.62	33.93	34.24	34.55	34.87	35.19	35.51	35.84	36.16	36.48
	33.009	33.312	33.618	33.927								
	34.239	34.553	34.871	35.191								
	35.515	35.841	36.157	36.476								
1973	36.80	37.13	37.46	37.79	38.13	38.47	38.82	39.17	39.52	39.88	40.26	40.64
	36.799	37.126	37.456	37.790								
	38.128	38.471	38.817	39.167								
	39.521	39.880	40.258	40.639								
1974	41.02	41.41	41.81	42.15	42.51	42.87	43.23	43.59	43.96	44.34	44.72	45.11
	41.024	41.413	41.805	42.154								
	42.508	42.865	43.227	43.594								
	43.965	44.340	44.720	45.105								
1975	45.49	45.89	46.29	46.75	47.21	47.67	48.25	48.84	49.44	50.04	50.66	51.28
	45.495	45.889	46.289	46.745								
	47.207	47.672	48.252	48.840								
	49.436	50.042	50.656	51.279								
1976	51.91	52.55	53.20	53.86	54.53	55.21	55.78	56.35	57.07	57.78	58.49	59.19
	51.911	52.552	53.203	53.863								
	54.533	55.213	55.777	56.346								
	57.065	57.780	58.489	59.193								
1977	59.89	60.58	61.27	61.95	62.62	63.28	63.93	64.58	65.05	65.52	66.00	66.36
	59.891	60.583	61.268	61.945								
	62.615	63.277	63.931	64.575								
	65.046	65.520	65.997	66.362								
1978	66.71	67.05	67.37	67.68	67.97	68.25	68.52	68.76	68.99	69.21	69.41	69.72
	66.713	67.051	67.373	67.681								
	67.974	68.253	68.515	68.763								
	68.995	69.210	69.410	69.716								
1979	70.02	70.33	70.64	70.95	71.02	71.08	71.13	71.17	71.21	71.23	71.25	71.26
	70.022	70.330	70.639	70.950								
	71.019	71.080	71.131	71.174								
	71.208	71.233	71.249	71.255								
1980	71.25	71.24	71.22	71.19	71.40	71.60	71.81	72.02	72.21	72.42	72.63	72.86
	71.253	71.242	71.222	71.193								
	71.398	71.604	71.810	72.016								
	72.212	72.417	72.631	72.855								
1981	73.09	73.33	73.59	73.85	74.12	74.41	74.70	75.01	75.33	75.66	76.11	76.57
	73.089	73.333	73.586	73.850								
	74.123	74.407	74.701	75.006								
	75.333	75.662	76.107	76.568								

1982	77.04	77.54	78.04	78.57	79.11	79.67	80.25	80.84	81.46	82.09	82.61	83.14
77.044	77.536	78.045	78.570									
79.112	79.672	80.248	80.843									
81.456	82.087	82.613	83.142									
1983	83.67	84.23	84.80	85.37	85.95	86.54	87.13	87.74	88.35	88.97	89.60	90.24
83.674	84.231	84.795	85.368									
85.948	86.537	87.134	87.738									
88.352	88.973	89.604	90.243									
1984	90.89	91.52	92.16	92.81	93.45	94.10	94.76	95.42	96.09	96.75	97.42	98.09
90.891	91.525	92.163	92.806									
93.453	94.105	94.761	95.422									
96.087	96.753	97.420	98.087									
1985	98.75	99.42	100.09	100.76	101.43	102.10	102.77	103.44	104.11	104.78	105.46	106.14
98.755	99.423	100.091	100.760									
101.430	102.099	102.769	103.439									
104.108	104.783	105.461	106.144									
1986	106.83	107.52	108.22	108.92	109.63	110.34	111.05	111.76	112.47	113.18	113.89	114.60
106.832	107.523	108.220	108.921									
109.626	110.336	111.050	111.763									
112.475	113.185	113.893	114.599									
1987	115.30	116.01	116.71	117.40	118.10	118.79	119.49	120.18	120.88	121.58	122.29	123.00
115.304	116.006	116.706	117.404									
118.100	118.794	119.485	120.180									
120.879	121.583	122.290	123.001									
1988	123.72	124.44	125.16	125.89	126.62	127.36	128.10	128.84	129.59	130.35	131.11	131.87
123.717	124.437	125.161	125.889									
126.621	127.358	128.099	128.844									
129.594	130.348	131.106	131.869									
1989	132.64	133.41	134.18	134.96	135.75	136.54	137.33	138.13	138.94	139.74	140.56	141.38
132.636	133.407	134.184	134.964									
135.749	136.539	137.334	138.132									
138.936	139.744	140.557	141.375									
1990	142.20	143.03	143.86	144.70	145.54	146.40						
142.198	143.025	143.859	144.699									
145.544	146.395											

⑧ 추세치의 연평균 변화율의 값이다.

PERCENT CHANGE IN FINAL TREND, ANNUAL RATE

YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1970	11.4	11.4	11.4	11.4	11.5	11.5	11.5	11.6	11.6	11.6	11.6	11.6
1971	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6
1972	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.1	11.1
1973	11.2	11.2	11.2	11.3	11.3	11.3	11.3	11.4	11.4	11.4	12.0	12.0
1974	12.0	12.0	12.0	10.5	10.5	10.6	10.6	10.7	10.7	10.7	10.8	10.8
1975	10.9	10.9	11.0	12.5	12.5	12.5	15.6	15.6	15.7	15.7	15.8	15.8
1976	15.8	15.9	15.9	16.0	16.0	16.0	13.0	13.0	16.4	16.1	15.8	15.4
1977	15.1	14.8	14.4	14.1	13.8	13.5	13.1	12.8	9.1	9.1	9.1	6.8
1978	6.5	6.2	5.9	5.6	5.3	5.0	4.7	4.4	4.1	3.8	3.5	5.4
1979	5.4	5.4	5.4	5.4	1.2	1.0	0.9	0.7	0.6	0.4	0.3	0.1
1980	0.0	-0.2	-0.3	-0.5	3.5	3.5	3.5	3.5	3.3	3.5	3.6	3.8
1981	3.9	4.1	4.2	4.4	4.5	4.7	4.8	5.0	5.4	5.4	7.3	7.5
1982	7.7	7.9	8.2	8.4	8.6	8.8	9.0	9.3	9.5	9.7	8.0	8.0
1983	8.0	8.3	8.3	8.4	8.5	8.5	8.6	8.7	8.7	8.8	8.8	8.9
1984	9.0	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.6	8.6	8.5
1985	8.5	8.4	8.4	8.3	8.3	8.2	8.2	8.1	8.1	8.1	8.1	8.1
1986	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.0	7.9	7.8	7.8	7.7
1987	7.6	7.6	7.5	7.4	7.3	7.3	7.2	7.2	7.2	7.2	7.2	7.2
1988	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
1989	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
1990	7.2	7.2	7.2	7.2	7.2	7.2						

⑨ 최종 순환변환치 (cycle) 값이다.

TIME SERIES DATA OF THE RATIO TO FINAL TREND

YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1970	97.61	98.30	98.76	99.70	99.67	99.41	99.82	100.22	100.60	100.30	100.22	100.57
97.611	98.304	98.759	99.698									
99.673	99.407	99.824	100.221									
100.602	100.304	100.224	100.572									
1971	100.69	101.32	101.73	102.26	102.44	102.04	101.39	100.36	99.31	97.42	98.63	97.42
100.690	101.324	101.730	102.263									
102.437	102.036	101.388	100.358									
99.307	97.416	98.627	97.424									
1972	97.72	95.21	95.27	95.54	96.34	97.49	98.14	98.40	98.74	99.14	100.27	101.36
97.718	95.211	95.269	95.537									
96.345	97.493	98.142	98.399									
98.737	99.135	100.269	101.362									
1973	101.93	101.59	100.60	100.41	100.32	100.05	100.18	101.37	103.11	104.56	104.90	104.55
101.929	101.585	100.602	100.409									
100.325	100.052	100.178	101.373									
103.115	104.557	104.898	104.553									

1974	105.02	105.28	105.88	105.28	105.20	104.96	105.31	103.06	100.35	97.82	97.35	98.71
105.018	105.280	105.881	105.281									
105.202	104.958	105.311	103.060									
100.354	97.815	97.349	98.709									
1975	99.33	99.98	99.35	98.49	97.55	96.52	96.45	96.58	97.73	98.37	98.62	98.03
99.329	99.977	99.346	98.493									
97.547	96.517	96.445	96.583									
97.732	98.371	98.623	98.027									
1976	98.61	99.49	100.62	100.31	99.46	99.79	101.30	102.48	102.04	100.49	99.85	99.07
98.606	99.495	100.625	100.312									
99.462	99.794	101.302	102.482									
102.041	100.491	99.853	99.074									
1977	98.05	97.14	95.95	96.58	96.04	97.78	96.98	97.87	97.03	98.34	98.19	99.50
98.051	97.144	95.951	96.577									
96.042	97.776	96.979	97.871									
97.032	98.339	98.193	99.496									
1978	99.71	100.60	101.20	101.93	103.02	103.69	104.04	105.12	105.44	105.86	105.75	106.20
99.714	100.603	101.201	101.932									
103.018	103.688	104.040	105.120									
105.440	105.863	105.747	106.198									
1979	106.61	106.69	106.21	105.19	104.72	104.06	103.41	102.07	102.47	102.04	102.12	100.60
106.613	106.690	106.207	105.186									
104.719	104.060	103.405	102.066									
102.470	102.036	102.122	100.603									
1980	100.58	100.48	100.66	100.19	99.14	97.92	97.96	97.65	96.99	96.76	97.16	98.59
100.580	100.484	100.659	100.189									
99.141	97.923	97.965	97.645									
96.993	96.763	97.155	98.595									
1981	98.92	99.15	99.61	100.71	101.80	102.80	102.32	102.54	102.07	102.43	101.68	100.77
98.920	99.150	99.614	100.709									
101.796	102.796	102.323	102.535									
102.068	102.431	101.684	100.771									
1982	99.65	99.30	98.38	98.13	97.40	97.35	97.13	96.53	96.63	96.76	97.61	98.10
99.652	99.302	98.382	98.129									
97.403	97.355	97.127	96.535									
96.625	96.758	97.609	98.099									
1983	98.74	98.72	98.71	98.54	99.16	100.16	100.89	101.73	102.01	102.00	101.96	101.70
98.742	98.716	98.708	98.540									
99.157	100.158	100.889	101.734									
102.006	102.002	101.964	101.698									
1984	102.25	103.45	104.00	104.14	103.06	103.02	102.51	103.07	102.25	102.04	100.90	101.03
102.252	103.447	104.001	104.136									
103.060	103.019	102.514	103.068									
102.250	102.035	100.901	101.033									
1985	99.86	98.99	98.06	98.08	97.90	97.37	97.25	97.10	96.54	96.65	96.48	97.39
99.859	98.989	98.058	98.078									
97.898	97.372	97.251	97.096									
96.535	96.653	96.482	97.393									
1986	97.61	98.49	98.98	99.66	100.13	100.96	101.20	101.06	101.19	101.32	101.21	101.19
97.611	98.491	98.980	99.660									
100.133	100.959	101.205	101.059									
101.190	101.319	101.213	101.188									
1987	101.23	102.32	103.12	104.27	104.74	105.82	105.84	101.59	100.48	99.79	103.81	104.03
101.225	102.319	103.122	104.273									
104.745	105.816	105.840	101.585									
100.478	99.787	103.807	104.026									
1988	105.26	106.25	106.12	103.68	100.82	99.90	100.88	102.61	102.69	102.62	101.72	100.99
105.260	106.250	106.116	103.685									
100.824	99.898	100.879	102.611									
102.686	102.622	101.722	100.993									
1989	99.83	98.44	97.64	95.73	95.48	95.32	96.60	97.84	97.92	97.60	96.58	96.15
99.826	98.443	97.640	95.729									
95.484	95.323	96.595	97.842									
97.915	97.604	96.585	96.150									
1990	96.03	96.97	97.74	98.16	96.01	95.27						
96.027	96.971	97.739	98.165									
96.010	95.272											

⑩ 최종 경기전환점(T/P)을 구한 것이다.

FINAL TURNING POINTS OF THE RATIO TO FINAL TREND

TROUGHS			PEAKS		
YEAR	M	VALUE	YEAR	M	VALUE
			1971	5	102.44
1972	2	95.21	1974	3	105.88
1975	7	96.45	1976	8	102.48
1977	3	95.95	1979	2	106.69

1980	10	96.76	1981	6	102.80
1982	8	96.53	1984	4	104.14
1985	11	96.48	1988	2	106.25
1989	6	95.32			

⑪ 최종 순환변동치(⑨)를 F6.1로 재프린트한 결과이다.

COMPOSITE INDEX OF ROUGHLY COINCIDENT INDICATORS

8.0.A CYCLE IF 6.1 CI (ADDED)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	97.6	98.3	98.8	99.7	99.7	99.4	99.8	100.2	100.6	100.3	100.2	100.6	99.6
1971	100.7	101.3	101.7	102.3	102.4	102.0	101.4	100.4	99.3	97.4	98.6	97.4	100.4
1972	97.7	95.2	95.3	95.5	96.3	97.5	98.1	98.4	98.7	99.1	100.3	101.4	97.8
1973	101.9	101.6	100.6	100.4	100.3	100.1	100.2	101.4	103.1	104.6	104.9	104.6	102.0
1974	105.0	105.3	105.9	105.3	105.2	105.0	105.3	103.1	100.4	97.8	97.3	98.7	102.9
1975	99.3	100.0	99.3	98.5	97.5	96.5	96.4	96.6	97.7	98.4	98.6	98.0	98.1
1976	98.6	99.5	100.6	100.3	99.5	99.8	101.3	102.5	102.0	100.5	99.9	99.1	100.3
1977	98.1	97.1	96.0	96.6	96.0	97.8	97.0	97.9	97.0	98.3	98.2	99.5	97.5
1978	99.7	100.6	101.2	101.9	103.0	103.7	104.0	105.1	105.4	105.9	105.7	106.2	103.5
1979	106.6	106.7	106.2	105.2	104.7	104.1	103.4	102.1	102.5	102.0	102.1	100.6	103.8
1980	100.6	100.5	100.7	100.2	99.1	97.9	98.0	97.6	97.0	96.8	97.2	98.6	98.7
1981	98.9	99.2	99.6	100.7	101.8	102.8	102.3	102.5	102.1	102.4	101.7	100.8	101.2
1982	99.7	99.3	98.4	98.1	97.4	97.4	97.1	96.5	96.6	96.8	97.6	98.1	97.7
1983	98.7	98.7	98.7	98.5	99.2	100.2	100.9	101.7	102.0	102.0	102.0	101.7	100.4
1984	102.3	103.4	104.0	104.1	103.1	103.0	102.5	103.1	102.3	102.0	100.9	101.0	102.6
1985	99.9	99.0	98.1	98.1	97.9	97.4	97.3	97.1	96.5	96.7	96.5	97.4	97.6
1986	97.6	98.5	99.0	99.7	100.1	101.0	101.2	101.1	101.2	101.3	101.2	101.2	100.3
1987	101.2	102.3	103.1	104.3	104.7	105.8	105.8	101.6	100.5	99.8	103.8	104.0	103.1
1988	105.3	106.2	106.1	103.7	100.8	99.9	100.9	102.6	102.7	102.6	101.7	101.0	102.8
1989	99.8	98.4	97.6	95.7	95.5	95.3	96.6	97.8	97.9	97.6	96.6	96.1	97.1
1990	96.0	97.0	97.7	98.2	96.0	95.3	********	********	********	********	********	********	96.7

(2) 강제 입력 계산방법

①~⑤는 original PAT와 동일함

⑥ 국면 평균값과 3국면 중간점 그리고 추세치 산출과정을 나타낸다.

PHASE:	FROM YEAR	M	TO YEAR	M	AVG. ANTILOG	TRIPLETS AVG.	MIDPOINTS : YEAR	M
1	1970	1	1971	5	28.58			-
2	1971	5	1972	3	31.73	32.47	1971	10
3	1972	3	1974	3	37.76	37.77	1973	3
4	1974	3	1975	6	44.95	44.33	1974	10
5	1975	6	1976	8	51.34	51.29	1976	1
6	1976	8	1977	3	58.45	58.72	1976	11
7	1977	3	1979	2	67.47	65.80	1978	2
8	1979	2	1980	10	72.22	70.84	1979	12
9	1980	10	1981	6	72.95	74.07	1981	2
10	1981	6	1982	8	77.12	78.73	1982	1
11	1982	8	1984	4	86.72	87.10	1983	6
12	1984	4	1985	11	98.79	99.97	1985	1
13	1985	11	1988	2	116.63	114.74	1986	12
14	1988	2	1989	6	131.10			

1ST PHASE	LAST PHASE	MIDPOINT	SLOPE	WTD. SLOPE	LEVEL ADJMT.
70 1	71 5	72 3	74 3	71 10	0.00933	0.00936	
					0.00915		

3.253664 3.262812 3.271959 3.281107 3.290255 3.299402 3.308550 3.317698 3.326845 3.335993 3.345140 3.354288
3.363436 3.372583 3.381731 3.390879 3.400026 3.409174 3.418322 3.427469 3.436617 3.445765 3.454912 3.464060
3.473207 3.482355 3.491503 3.500650 3.509798 3.518946 3.528093 3.537241 3.546389 3.555536 3.564684 3.573832
3.582979 3.592127 3.601274

0.01761

3.271276 3.280424 3.289572 3.298719 3.307867 3.317015 3.326162 3.335310 3.344458 3.353605 3.362753 3.371901
3.381048 3.390196 3.399343 3.408491 3.417639 3.426786 3.435934 3.445082 3.454229 3.463377 3.472525 3.481672
3.490820 3.499968 3.509115 3.518263 3.527411 3.536558 3.545706 3.554853 3.564001 3.573149 3.582296 3.591444
3.600592 3.609739 3.618887

71 5	72 3	74 3	75 6	73 3	0.00952	0.00946
					0.00943	

3.271276 3.280424 3.289572 3.298719 3.307867 3.317015 3.326162 3.335310 3.344458 3.353605 3.362753 3.371901
3.381048 3.390196 3.399343 3.408491 3.417639 3.426786 3.435934 3.445082 3.454229 3.463377 3.472525 3.481672
3.490820 3.499968 3.509115 3.518263 3.527411 3.536558 3.545706 3.554853 3.564001 3.573149 3.582296 3.591444
3.600592 3.609739 3.618887 3.628320 3.637753 3.647185 3.656618 3.666051 3.675484 3.684916 3.694349 3.703782
3.713215 3.722648 3.732080 3.741513 3.750946 3.760379 3.769812 3.779244

0.01054

3.281815 3.290962 3.300110 3.309258 3.318405 3.327553 3.336700 3.345848 3.354996 3.364143 3.373291 3.382439
3.391586 3.400734 3.409882 3.419029 3.428177 3.437325 3.446472 3.455620 3.464767 3.473915 3.483063 3.492210
3.501358 3.510506 3.519653 3.528801 3.537949 3.547096 3.556244 3.565392 3.574539 3.583687 3.592834 3.601982
3.611130 3.620277 3.629425 3.638858 3.648291 3.657723 3.667156 3.676589 3.686022 3.695455 3.704887 3.714320
3.723753 3.733186 3.742619 3.752051 3.761484 3.770917 3.780350 3.789783

72 3 74 3 75 6 76 8 74 10 0.00903 0.00902
0.00982

3.638858 3.648291 3.657723 3.667156 3.676589 3.686022 3.695455 3.704887 3.714320 3.723753 3.733186 3.742619
3.752051 3.761484 3.770917 3.780350 3.789783 3.799601 3.809419 3.819237 3.829055 3.838873 3.848691 3.858509
3.868327 3.878145 3.887963 3.897781 3.907599 3.917418 3.927236 3.937054

-0.00484

3.634016 3.643449 3.652882 3.662314 3.671747 3.681180 3.690613 3.700046 3.709478 3.718911 3.728344 3.737777
3.747210 3.756642 3.766075 3.775508 3.784941 3.794759 3.804577 3.814395 3.824213 3.834031 3.843849 3.853667
3.863485 3.873303 3.883121 3.892940 3.902758 3.912576 3.922394 3.932212

74 3 75 6 76 8 77 3 76 1 0.01043 0.01019
0.01015

3.794759 3.804577 3.814395 3.824213 3.834031 3.843849 3.853667 3.863485 3.873303 3.883121 3.892940 3.902758
3.912576 3.922394 3.932212 3.942366 3.952519 3.962673 3.972827 3.982981 3.993134 4.003288 4.013442 4.023596
4.033750 4.043903 4.054057 4.064211 4.074365

-0.01381

3.780952 3.790771 3.800589 3.810407 3.820225 3.830043 3.839861 3.849679 3.859497 3.869315 3.879133 3.888951
3.898769 3.908587 3.918406 3.928559 3.938713 3.948867 3.959021 3.969174 3.979328 3.989482 3.999636 4.009789
4.019943 4.030097 4.040251 4.050405 4.060558

75 6 76 8 77 3 79 2 76 11 0.01064 0.01062
0.00726

3.928559 3.938713 3.948867 3.959021 3.969174 3.979328 3.989482 3.999636 4.009789 4.019943 4.030097 4.040251
4.050405 4.060558 4.067819 4.075079 4.082339 4.089600 4.096860 4.104120 4.111381 4.118641 4.125901 4.133162
4.140422 4.147682 4.154943 4.162203 4.169463

0.02687

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4.077272 4.087426 4.094687 4.101947 4.109207 4.116467 4.123728 4.130988 4.138248 4.145509 4.152769 4.160029
4.167290 4.174550 4.181810 4.189071 4.196331

76 8 77 3 79 2 80 10 78 2 0.00561 0.00486
0.00439

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4.181810 4.189071 4.196331 4.200719 4.205107 4.209495 4.213882 4.218270 4.222658 4.227046 4.231434 4.235822
4.240210 4.244597 4.248985 4.253373 4.257761 4.262149 4.266537 4.270925

0.03330

4.127986 4.135246 4.142507 4.149767 4.157027 4.164288 4.171548 4.178808 4.186069 4.193329 4.200589 4.207850
4.215110 4.222370 4.229630 4.234018 4.238406 4.242794 4.247182 4.251570 4.255958 4.260345 4.264733 4.269121
4.273509 4.277897 4.282285 4.286673 4.291060 4.295448 4.299836 4.304224

77 3 79 2 80 10 81 6 79 12 0.00228 0.00252
0.00288

4.234018 4.238406 4.242794 4.247182 4.251570 4.255958 4.260345 4.264733 4.269121 4.273509 4.277897 4.282285
4.286673 4.291060 4.295448 4.299836 4.304224 4.307099 4.309975 4.312850 4.315725 4.318601 4.321476 4.324351
4.327227 4.330102 4.332977 4.335853 4.338728 4.341603 4.344479 4.347354 4.350229

-0.01801

4.216008 4.220396 4.224784 4.229172 4.233560 4.237947 4.242335 4.246723 4.251111 4.255499 4.259887 4.264275
4.268662 4.273050 4.277438 4.281826 4.286214 4.289089 4.291965 4.294840 4.297715 4.300591 4.303466 4.306341
4.309216 4.312092 4.314967 4.317842 4.320718 4.323593 4.326468 4.329344 4.332219

79 2 80 10 81 6 82 8 81 2 0.00255 0.00251
0.00436

4.289089 4.291965 4.294840 4.297715 4.300591 4.303466 4.306341 4.309216 4.312092 4.314967 4.317842 4.320718
4.323593 4.326468 4.329344 4.332219 4.336576 4.340934 4.345291 4.349648 4.354006 4.358363 4.362720 4.367078
4.371435 4.375793 4.380150 4.384507 4.388865 4.393222

-0.03938

4.249708 4.252584 4.255459 4.258334 4.261209 4.264085 4.266960 4.269835 4.272711 4.275586 4.278461 4.281337
4.284212 4.287087 4.289963 4.292838 4.297195 4.301553 4.305910 4.310267 4.314625 4.318982 4.323339 4.327697
4.332054 4.336411 4.340769 4.345126 4.349483 4.353841

80 10 81 6 82 8 84 4 82 1 0.00624 0.00637
0.00638

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4.349483 4.353841 4.360223 4.366605 4.372987 4.379369 4.385751 4.392133 4.398515 4.404897 4.411279 4.417661
4.424043 4.430425 4.436807 4.443189 4.449571

-0.00345

4.293742 4.298100 4.302457 4.306814 4.311172 4.315529 4.319886 4.324244 4.328601 4.332958 4.337316 4.341673
4.346030 4.350388 4.356770 4.363152 4.369534 4.375916 4.382298 4.388680 4.395061 4.401443 4.407825 4.414207
4.420589 4.426971 4.433353 4.439735 4.446117

81 6 82 8 84 4 85 11 83 6 0.00678 0.00678
0.00695

4.356770 4.363152 4.369534 4.375916 4.382298 4.388680 4.395061 4.401443 4.407825 4.414207 4.420589 4.426971
4.433353 4.439735 4.446117 4.453068 4.460018 4.466969 4.473919 4.480869 4.487820 4.494770 4.501720 4.508671
4.515621 4.522572 4.529522 4.536472 4.543423 4.550373 4.557323 4.564274 4.571224 4.578175 4.585125

0.01608

4.372844 4.379226 4.385608 4.391990 4.398372 4.404754 4.411136 4.417518 4.423900 4.430282 4.436664 4.443046
4.449428 4.455810 4.462192 4.469142 4.476092 4.483043 4.489993 4.496943 4.503894 4.510844 4.517795 4.524745
4.531695 4.538646 4.545596 4.552547 4.559497 4.566447 4.573398 4.580348 4.587298 4.594249 4.601199

82 8 84 4 85 11 88 2 85 1 0.00698 0.00699
0.00646

4.469142 4.476092 4.483043 4.489993 4.496943 4.503894 4.510844 4.517795 4.524745 4.531695 4.538646 4.545596

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4.552547 4.559497 4.566447 4.573398 4.580348 4.587298 4.594249 4.601199 4.607656 4.614112 4.620568 4.627025
4.633481 4.639937 4.646394 4.652850 4.659307 4.665763 4.672219 4.678676 4.685132 4.691588 4.698045 4.704501
4.710958 4.717414 4.723870 4.730327 4.736783 4.743239
                                                                                                    0.00247
4.471614 4.478564 4.485515 4.492465 4.499415 4.506366 4.513316 4.520267 4.527217 4.534167 4.541118 4.548068
4.555018 4.561969 4.568919 4.575870 4.582820 4.589770 4.596721 4.603671 4.610127 4.616584 4.623040 4.629497
4.635953 4.642409 4.648866 4.655322 4.661778 4.668235 4.674691 4.681148 4.687604 4.694060 4.700517 4.706973
4.713429 4.719886 4.726342 4.732799 4.739255 4.745711
                          84  4 85 11   88  2 89  6  86  12       0.00637       0.00640

LAST SLOPE(JIST BEFOR SLOPE):0.00619553

LAST SLOPE(FORCED INPUT):0.00619553
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4.826247 4.832442 4.838637 4.844832 4.851027 4.857223 4.863418 4.869613 4.875808 4.882003 4.888198 4.894393
4.900588 4.906783 4.912978 4.919173 4.925368 4.931563 4.937758 4.943954 4.950149 4.956344 4.962539 4.968734
4.974929 4.981124 4.987319 4.993514 4.999709 5.005904
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⑦ 최종추세치를 나타낸다.

COMPUTED FINAL TREND

YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1970	26.52	26.76	27.00	27.25	27.49	27.74	28.00	28.26	28.51	28.78	29.04	29.31
	26.519	26.758	27.000	27.245								
	27.493	27.744	27.998	28.255								
	28.515	28.777	29.041	29.308								
1971	29.58	29.85	30.12	30.40	30.68	30.96	31.25	31.53	31.82	32.12	32.41	32.71
	29.577	29.849	30.123	30.400								
	30.679	30.961	31.246	31.533								
	31.823	32.115	32.410	32.708								
1972	33.01	33.31	33.62	33.93	34.24	34.55	34.87	35.19	35.51	35.84	36.16	36.48
	33.009	33.312	33.618	33.927								
	34.239	34.553	34.871	35.191								
	35.515	35.841	36.157	36.476								
1973	36.80	37.13	37.46	37.79	38.13	38.47	38.82	39.17	39.52	39.88	40.26	40.64
	36.799	37.126	37.456	37.790								
	38.128	38.471	38.817	39.167								
	39.521	39.880	40.258	40.639								
1974	41.02	41.41	41.81	42.15	42.51	42.87	43.23	43.59	43.96	44.34	44.72	45.11
	41.024	41.413	41.805	42.154								
	42.508	42.865	43.227	43.594								
	43.965	44.340	44.720	45.105								
1975	45.49	45.89	46.29	46.75	47.21	47.67	48.25	48.84	49.44	50.04	50.66	51.28
	45.495	45.889	46.289	46.745								
	47.207	47.672	48.252	48.840								
	49.436	50.042	50.656	51.279								
1976	51.91	52.55	53.20	53.86	54.53	55.21	55.78	56.35	57.07	57.78	58.49	59.19
	51.911	52.552	53.203	53.863								
	54.533	55.213	55.777	56.346								
	57.065	57.780	58.489	59.193								
1977	59.89	60.58	61.27	61.95	62.62	63.28	63.93	64.58	65.05	65.52	66.00	66.36
	59.891	60.583	61.268	61.945								
	62.615	63.277	63.931	64.575								
	65.046	65.520	65.997	66.362								
1978	66.71	67.05	67.37	67.68	67.97	68.25	68.52	68.76	68.99	69.21	69.41	69.72
	66.713	67.051	67.373	67.681								
	67.974	68.253	68.515	68.763								
	68.995	69.210	69.410	69.716								
1979	70.02	70.33	70.64	70.95	71.02	71.08	71.13	71.17	71.21	71.23	71.25	71.26
	70.022	70.330	70.639	70.950								
	71.019	71.080	71.131	71.174								
	71.208	71.233	71.249	71.255								
1980	71.25	71.24	71.22	71.19	71.40	71.60	71.81	72.02	72.21	72.42	72.63	72.86
	71.253	71.242	71.222	71.193								
	71.398	71.604	71.810	72.016								
	72.212	72.417	72.631	72.855								
1981	73.09	73.33	73.59	73.85	74.12	74.41	74.70	75.01	75.33	75.66	76.11	76.57
	73.089	73.333	73.586	73.850								
	74.123	74.407	74.701	75.006								
	75.333	75.662	76.107	76.568								
1982	77.04	77.54	78.04	78.57	79.11	79.67	80.25	80.84	81.46	82.09	82.61	83.14
	77.044	77.536	78.045	78.570								
	79.112	79.672	80.248	80.843								
	81.456	82.087	82.613	83.142								
1983	83.67	84.23	84.80	85.37	85.95	86.54	87.13	87.74	88.35	88.97	89.60	90.24
	83.674	84.231	84.795	85.368								
	85.948	86.537	87.134	87.738								
	88.352	88.973	89.604	90.243								
1984	90.89	91.52	92.16	92.81	93.45	94.10	94.76	95.42	96.09	96.75	97.42	98.09
	90.891	91.525	92.163	92.806								
	93.453	94.105	94.761	95.422								
	96.087	96.753	97.420	98.087								

1985	98.75	99.42	100.09	100.76	101.43	102.10	102.77	103.44	104.11	104.78	105.46	106.14
98.755	99.423	100.091	100.760									
101.430	102.099	102.769	103.439									
104.108	104.783	105.461	106.144									
1986	106.83	107.52	108.22	108.92	109.63	110.34	111.05	111.77	112.49	113.21	113.93	114.66
106.832	107.523	108.220	108.921									
109.626	110.336	111.050	111.767									
112.486	113.207	113.930	114.655									
1987	115.38	116.11	116.84	117.58	118.31	119.05	119.79	120.53	121.28	122.04	122.79	123.56
115.383	116.112	116.843	117.577									
118.313	119.050	119.790	120.534									
121.283	122.037	122.795	123.558									
1988	124.33	125.10	125.88	126.66	127.44	128.24	129.03	129.83	130.64	131.45	132.27	133.09
124.325	125.098	125.875	126.657									
127.444	128.236	129.033	129.834									
130.641	131.453	132.269	133.091									
1989	133.92	134.75	135.59	136.43	137.28	138.13	138.99	139.85	140.72	141.60	142.47	143.36
133.918	134.750	135.587	136.430									
137.277	138.130	138.988	139.852									
140.721	141.595	142.475	143.360									
1990	144.25	145.15	146.05	146.96	147.88	148.81						
144.251	145.148	146.052	146.963									
147.881	148.805											

⑧ 추세치 평균변화율 값이다.

PERCENT CHANGE IN FINAL TREND, ANNUAL RATE

YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1970	11.4	11.4	11.4	11.4	11.5	11.5	11.5	11.6	11.6	11.6	11.6	11.6
1971	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6
1972	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.1	11.1
1973	11.2	11.2	11.2	11.3	11.3	11.3	11.3	11.4	11.4	11.4	12.0	12.0
1974	12.0	12.0	12.0	10.5	10.5	10.6	10.6	10.7	10.7	10.7	10.8	10.8
1975	10.9	10.9	11.0	12.5	12.5	12.5	15.6	15.6	15.7	15.7	15.8	15.8
1976	15.8	15.9	15.9	16.0	16.0	16.0	13.0	13.0	16.4	16.1	15.8	15.4
1977	15.1	14.8	14.4	14.1	13.8	13.5	13.1	12.8	9.1	9.1	9.1	6.8
1978	6.5	6.2	5.9	5.6	5.3	5.0	4.7	4.4	4.1	3.8	3.5	5.4
1979	5.4	5.4	5.4	5.4	1.2	1.0	0.9	0.7	0.6	0.4	0.3	0.1
1980	0.0	-0.2	-0.3	-0.5	3.5	3.5	3.5	3.5	3.3	3.5	3.6	3.8
1981	3.9	4.1	4.2	4.4	4.5	4.7	4.8	5.0	5.4	5.4	7.3	7.5
1982	7.7	7.9	8.2	8.4	8.6	8.8	9.0	9.3	9.5	9.7	8.0	8.0
1983	8.0	8.3	8.3	8.4	8.5	8.5	8.6	8.7	8.7	8.8	8.8	8.9
1984	9.0	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.6	8.6	8.5
1985	8.5	8.4	8.4	8.3	8.3	8.2	8.2	8.1	8.1	8.1	8.1	8.1
1986	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.0	8.0	8.0	7.9	7.9
1987	7.9	7.9	7.8	7.8	7.8	7.7	7.7	7.7	7.7	7.7	7.7	7.7
1988	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7
1989	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7
1990	7.7	7.7	7.7	7.7	7.8	7.8						

⑨ 최종 순환변동치 (cycle)의 값이다.

TIME SERIES DATA OF THE RATIO TO FINAL TREND

YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1970	97.61	98.30	98.76	99.70	99.67	99.41	99.82	100.22	100.60	100.30	100.22	100.57
97.611	98.304	98.759	99.698									
99.673	99.407	99.824	100.221									
100.602	100.304	100.224	100.572									
1971	100.69	101.32	101.73	102.26	102.44	102.04	101.39	100.36	99.31	97.42	98.63	97.42
100.690	101.324	101.730	102.263									
102.437	102.036	101.388	100.358									
99.307	97.416	98.627	97.424									
1972	97.72	95.21	95.27	95.54	96.34	97.49	98.14	98.40	98.74	99.14	100.27	101.36
97.718	95.211	95.269	95.537									
96.345	97.493	98.142	98.399									
98.737	99.135	100.269	101.362									
1973	101.93	101.59	100.60	100.41	100.32	100.05	100.18	101.37	103.11	104.56	104.90	104.55
101.929	101.585	100.602	100.409									
100.325	100.052	100.178	101.373									
103.115	104.557	104.898	104.553									
1974	105.02	105.28	105.88	105.28	105.20	104.96	105.31	103.06	100.35	97.82	97.35	98.71
105.018	105.280	105.881	105.281									
105.202	104.958	105.311	103.060									
100.354	97.815	97.349	98.709									
1975	99.33	99.98	99.35	98.49	97.55	96.52	96.45	96.58	97.73	98.37	98.62	98.03
99.329	99.977	99.346	98.493									
97.547	96.517	96.445	96.583									
97.732	98.371	98.623	98.027									
1976	98.61	99.49	100.62	100.31	99.46	99.79	101.30	102.48	102.04	100.49	99.85	99.07
98.606	99.495	100.625	100.312									
99.462	99.794	101.302	102.482									
102.041	100.491	99.853	99.074									

1977	98.05	97.14	95.95	96.58	96.04	97.78	96.98	97.87	97.03	98.34	98.19	99.50
98.051	97.144	95.951	96.577									
96.042	97.776	96.979	97.871									
97.032	98.339	98.193	99.496									
1978	99.71	100.60	101.20	101.93	103.02	103.69	104.04	105.12	105.44	105.86	105.75	106.20
99.714	100.603	101.201	101.932									
103.018	103.688	104.040	105.120									
105.440	105.863	105.747	106.198									
1979	106.61	106.69	106.21	105.19	104.72	104.06	103.41	102.07	102.47	102.04	102.12	100.60
106.613	106.690	106.207	105.186									
104.719	104.060	103.405	102.066									
102.470	102.036	102.122	100.603									
1980	100.58	100.48	100.66	100.19	99.14	97.92	97.96	97.65	96.99	96.76	97.16	98.59
100.580	100.484	100.659	100.189									
99.141	97.923	97.965	97.645									
96.993	96.763	97.155	98.595									
1981	98.92	99.15	99.61	100.71	101.80	102.80	102.32	102.54	102.07	102.43	101.68	100.77
98.920	99.150	99.614	100.709									
101.796	102.796	102.323	102.535									
102.068	102.431	101.684	100.771									
1982	99.65	99.30	98.38	98.13	97.40	97.35	97.13	96.53	96.63	96.76	97.61	98.10
99.652	99.302	98.382	98.129									
97.403	97.355	97.127	96.535									
96.625	96.758	97.609	98.099									
1983	98.74	98.72	98.71	98.54	99.16	100.16	100.89	101.73	102.01	102.00	101.96	101.70
98.742	98.716	98.708	98.540									
99.157	100.158	100.889	101.734									
102.006	102.002	101.964	101.698									
1984	102.25	103.45	104.00	104.14	103.06	103.02	102.51	103.07	102.25	102.04	100.90	101.03
102.252	103.447	104.001	104.136									
103.060	103.019	102.514	103.068									
102.250	102.035	100.901	101.033									
1985	99.86	98.99	98.06	98.08	97.90	97.37	97.25	97.10	96.54	96.65	96.48	97.39
99.859	98.989	98.058	98.078									
97.898	97.372	97.251	97.096									
96.535	96.653	96.482	97.393									
1986	97.61	98.49	98.98	99.66	100.13	100.96	101.20	101.06	101.18	101.30	101.18	101.14
97.611	98.491	98.980	99.660									
100.133	100.959	101.205	101.056									
101.180	101.299	101.180	101.138									
1987	101.16	102.23	103.00	104.12	104.56	105.59	105.57	101.29	100.14	99.42	103.38	103.56
101.156	102.226	103.001	104.120									
104.557	105.589	105.570	101.287									
100.143	99.416	103.380	103.557									
1988	104.74	105.69	105.51	103.06	100.17	99.21	100.15	101.83	101.86	101.76	100.83	100.07
104.745	105.688	105.513	103.056									
100.173	99.214	100.149	101.829									
101.862	101.759	100.828	100.066									
1989	98.87	97.46	96.63	94.70	94.42	94.23	95.45	96.64	96.67	96.33	95.28	94.82
98.870	97.462	96.629	94.700									
94.422	94.225	95.445	96.639									
96.673	96.328	95.285	94.818									
1990	94.66	95.55	96.27	96.65	94.49	93.73						
94.660	95.553	96.271	96.652									
94.493	93.729											

⑩ 최종경기전환점 (T / P)을 나타낸다.

FINAL TURNING POINTS OF THE RATIO TO FINAL TREND

TROUGHS			PEAKS		
YEAR	M	VALUE	YEAR	M	VALUE
			1971	5	102.44
1972	2	95.21	1974	3	105.88
1975	7	96.45	1976	8	102.48
1977	3	95.95	1979	2	106.69
1980	10	96.76	1981	6	102.80
1982	8	96.53	1984	4	104.14
1985	11	96.48	1988	2	105.69

⑪ 최종 순환변동치(⑨)를 F6.1로 재 프린트한 결과이다.

COMPOSITE INDEX OF ROUGHLY COINCIDENT INDICATORS

8.0.A CYCLE IF 6.1 CI (ADDED)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	97.6	98.3	98.8	99.7	99.7	99.4	99.8	100.2	100.6	100.3	100.2	100.6	99.6
1971	100.7	101.3	101.7	102.3	102.4	102.0	101.4	100.4	99.3	97.4	98.6	97.4	100.4
1972	97.7	95.2	95.3	95.5	96.3	97.5	98.1	98.4	98.7	99.1	100.3	101.4	97.8
1973	101.9	101.6	100.6	100.4	100.3	100.1	100.2	101.4	103.1	104.6	104.9	104.6	102.0
1974	105.0	105.3	105.9	105.3	105.2	105.0	105.3	103.1	100.4	97.8	97.3	98.7	102.9
1975	99.3	100.0	99.3	98.5	97.5	96.5	96.4	96.6	97.7	98.4	98.6	98.0	98.1
1976	98.6	99.5	100.6	100.3	99.5	99.8	101.3	102.5	102.0	100.5	99.9	99.1	100.3
1977	98.1	97.1	96.0	96.6	96.0	97.8	97.0	97.9	97.0	98.3	98.2	99.5	97.5
1978	99.7	100.6	101.2	101.9	103.0	103.7	104.0	105.1	105.4	105.9	105.7	106.2	103.5
1979	106.6	106.7	106.2	105.2	104.7	104.1	103.4	102.1	102.5	102.0	102.1	100.6	103.8
1980	100.6	100.5	100.7	100.2	99.1	97.9	98.0	97.6	97.0	96.8	97.2	98.6	98.7
1981	98.9	99.2	99.6	100.7	101.8	102.8	102.3	102.5	102.1	102.4	101.7	100.8	101.2
1982	99.7	99.3	98.4	98.1	97.4	97.4	97.1	96.5	96.6	96.8	97.6	98.1	97.7
1983	98.7	98.7	98.7	98.5	99.2	100.2	100.9	101.7	102.0	102.0	102.0	101.7	100.4
1984	102.3	103.4	104.0	104.1	103.1	103.0	102.5	103.1	102.3	102.0	100.9	101.0	102.6
1985	99.9	99.0	98.1	98.1	97.9	97.4	97.3	97.1	96.5	96.7	96.5	97.4	97.6
1986	97.6	98.5	99.0	99.7	100.1	101.0	101.2	101.1	101.2	101.3	101.2	101.1	100.2
1987	101.2	102.2	103.0	104.1	104.6	105.6	105.6	101.3	100.1	99.4	103.4	103.6	102.8
1988	104.7	105.7	105.5	103.1	100.2	99.2	100.1	101.8	101.9	101.8	100.8	100.1	102.1
1989	98.9	97.5	96.6	94.7	94.4	94.2	95.4	96.6	96.7	96.3	95.3	94.8	96.0
1990	94.7	95.6	96.3	96.7	94.5	93.7	********	********	********	********	********	********	95.2

(3) 내부계산법(입력 시점…고정)

①~⑤는 original PAT와 동일함

⑥ 국면 평균값과 3국면 중간점 그리고 추세치 산출과정을 나타낸다.

PHASE:	FROM YEAR	M	TO YEAR	M	AVG. ANTILOG	TRIPLETS AVG.	MIDPOINTS : YEAR	M
1	1970	1	1971	5	28.58			
2	1971	5	1972	3	31.73	32.47	1971	10
3	1972	3	1974	3	37.76	37.77	1973	3
4	1974	3	1975	6	44.95	44.33	1974	10
5	1975	6	1976	8	51.34	51.29	1976	1
6	1976	8	1977	3	58.45	58.72	1976	11
7	1977	3	1979	2	67.47	65.80	1978	2
8	1979	2	1980	10	72.22	70.84	1979	12
9	1980	10	1981	6	72.95	74.07	1981	2
10	1981	6	1982	8	77.12	78.73	1982	1
11	1982	8	1984	4	86.72	87.10	1983	6
12	1984	4	1985	11	98.79	99.97	1985	1
13	1985	11	1988	2	116.63	114.74	1986	12
14	1988	2	1989	6	131.10			

1ST PHASE	LAST PHASE	MIDPOINT	SLOPE	WTD. SLOPE	LEVEL ADJMT.
70 1	71 5	72 3 74 3	71 10	0.00933	0.00936
				0.00915	

3.253664 3.262812 3.271959 3.281107 3.290255 3.299402 3.308550 3.317698 3.326845 3.335993 3.345140 3.354288
3.363436 3.372583 3.381731 3.390879 3.400026 3.409174 3.418322 3.427469 3.436617 3.445765 3.454912 3.464060
3.473207 3.482355 3.491503 3.500650 3.509798 3.518946 3.528093 3.537241 3.546389 3.555536 3.564684 3.573832
3.582979 3.592127 3.601274

0.01761

3.271276 3.280424 3.289572 3.298719 3.307867 3.317015 3.326162 3.335310 3.344458 3.353605 3.362753 3.371901
3.381048 3.390196 3.399343 3.408491 3.417639 3.426786 3.435934 3.445082 3.454229 3.463377 3.472525 3.481672
3.490820 3.499968 3.509115 3.518263 3.527411 3.536558 3.545706 3.554853 3.564001 3.573149 3.582296 3.591444
3.600592 3.609739 3.618887

71 5	72 3	74 3	75 6	73 3	0.00952	0.00946
					0.00943	

3.271276 3.280424 3.289572 3.298719 3.307867 3.317015 3.326162 3.335310 3.344458 3.353605 3.362753 3.371901
3.381048 3.390196 3.399343 3.408491 3.417639 3.426786 3.435934 3.445082 3.454229 3.463377 3.472525 3.481672
3.490820 3.499968 3.509115 3.518263 3.527411 3.536558 3.545706 3.554853 3.564001 3.573149 3.582296 3.591444
3.600592 3.609739 3.618887 3.628320 3.637753 3.647185 3.656618 3.666051 3.675484 3.684916 3.694349 3.703782
3.713215 3.722648 3.732080 3.741513 3.750946 3.760379 3.769812 3.779244

0.01054

3.281815 3.290962 3.300110 3.309258 3.318405 3.327553 3.336700 3.345848 3.354996 3.364143 3.373291 3.382439
3.391586 3.400734 3.409882 3.419029 3.428177 3.437325 3.446472 3.455620 3.464767 3.473915 3.483063 3.492210
3.501358 3.510506 3.519653 3.528801 3.537949 3.547096 3.556244 3.565392 3.574539 3.583687 3.592834 3.601982
3.611130 3.620277 3.629425 3.638858 3.648291 3.657723 3.667156 3.676589 3.686022 3.695455 3.704887 3.714320
3.723753 3.733186 3.742619 3.752051 3.761484 3.770917 3.780350 3.789783

72 3	74 3	75 6	76 8	74 10	0.00903	0.00902
					0.00982	

3.638858 3.648291 3.657723 3.667156 3.676589 3.686022 3.695455 3.704887 3.714320 3.723753 3.733186 3.742619

```
3.752051 3.761484 3.770917 3.780350 3.789783 3.799601 3.809419 3.819237 3.829055 3.838873 3.848691 3.858509
3.868327 3.878145 3.887963 3.897781 3.907599 3.917418 3.927236 3.937054
                                                                    -0.00484
3.634016 3.643449 3.652882 3.662314 3.671747 3.681180 3.690613 3.700046 3.709478 3.718911 3.728344 3.737777
3.747210 3.756642 3.766075 3.775508 3.784941 3.794759 3.804577 3.814395 3.824213 3.834031 3.843849 3.853667
3.863485 3.873303 3.883121 3.892940 3.902758 3.912576 3.922394 3.932212
                          74  3 75  6   76  8 77  3  76   1       0.01043       0.01019
                                                                  0.01015
3.794759 3.804577 3.814395 3.824213 3.834031 3.843849 3.853667 3.863485 3.873303 3.883121 3.892940 3.902758
3.912576 3.922394 3.932212 3.942366 3.952519 3.962673 3.972827 3.982981 3.993134 4.003288 4.013442 4.023596
4.033750 4.043903 4.054057 4.064211 4.074365
                                                                    -0.01381
3.780952 3.790771 3.800589 3.810407 3.820225 3.830043 3.839861 3.849679 3.859497 3.869315 3.879133 3.888951
3.898769 3.908587 3.918406 3.928559 3.938713 3.948867 3.959021 3.969174 3.979328 3.989482 3.999636 4.009789
4.019943 4.030097 4.040251 4.050405 4.060558
                          75  6 76  8   77  3 79  2  76  11       0.01064       0.01062
                                                                  0.00726
3.928559 3.938713 3.948867 3.959021 3.969174 3.979328 3.989482 3.999636 4.009789 4.019943 4.030097 4.040251
4.050405 4.060558 4.067819 4.075079 4.082339 4.089600 4.096860 4.104120 4.111381 4.118641 4.125901 4.133162
4.140422 4.147682 4.154943 4.162203 4.169463
                                                                     0.02687
3.955427 3.965581 3.975735 3.985888 3.996042 4.006196 4.016350 4.026504 4.036657 4.046811 4.056965 4.067119
4.077272 4.087426 4.094687 4.101947 4.109207 4.116467 4.123728 4.130988 4.138248 4.145509 4.152769 4.160029
4.167290 4.174550 4.181810 4.189071 4.196331
                          76  8 77  3   79  2 80 10  78   2       0.00561       0.00486
                                                                  0.00439
4.094687 4.101947 4.109207 4.116467 4.123728 4.130988 4.138248 4.145509 4.152769 4.160029 4.167290 4.174550
4.181810 4.189071 4.196331 4.200719 4.205107 4.209495 4.213882 4.218270 4.222658 4.227046 4.231434 4.235822
4.240210 4.244597 4.248985 4.253373 4.257761 4.262149 4.266537 4.270925
                                                                     0.03330
4.127986 4.135246 4.142507 4.149767 4.157027 4.164288 4.171548 4.178808 4.186069 4.193329 4.200589 4.207850
4.215110 4.222370 4.229630 4.234018 4.238406 4.242794 4.247182 4.251570 4.255958 4.260345 4.264733 4.269121
4.273509 4.277897 4.282285 4.286673 4.291060 4.295448 4.299836 4.304224
                          77  3 79  2   80 10 81  6  79  12       0.00228       0.00252
                                                                  0.00288
4.234018 4.238406 4.242794 4.247182 4.251570 4.255958 4.260345 4.264733 4.269121 4.273509 4.277897 4.282285
4.286673 4.291060 4.295448 4.299836 4.304224 4.307099 4.309975 4.312850 4.315725 4.318601 4.321476 4.324351
4.327227 4.330102 4.332977 4.335853 4.338728 4.341603 4.344479 4.347354 4.350229
                                                                    -0.01801
4.216008 4.220396 4.224784 4.229172 4.233560 4.237947 4.242335 4.246723 4.251111 4.255499 4.259887 4.264275
4.268662 4.273050 4.277438 4.281826 4.286214 4.289089 4.291965 4.294840 4.297715 4.300591 4.303466 4.306341
4.309216 4.312092 4.314967 4.317842 4.320718 4.323593 4.326468 4.329344 4.332219
                          79  2 80 10   81  6 82  8  81   2       0.00255       0.00251
                                                                  0.00436
4.280089 4.291965 4.294840 4.297715 4.300591 4.303466 4.306341 4.309216 4.312092 4.314967 4.317842 4.320718
4.323593 4.326468 4.329344 4.332219 4.336576 4.340934 4.345291 4.349648 4.354006 4.358363 4.362720 4.367078
4.371435 4.375793 4.380150 4.384507 4.388865 4.393222
                                                                    -0.03938
4.249708 4.252584 4.255459 4.258334 4.261209 4.264085 4.266960 4.269835 4.272711 4.275586 4.278461 4.281337
4.284212 4.287087 4.289963 4.292838 4.297195 4.301553 4.305910 4.310267 4.314625 4.318982 4.323339 4.327697
4.332054 4.336411 4.340769 4.345126 4.349483 4.353841
                          80 10 81  6   82  8 84  4  82   1       0.00624       0.00637
                                                                  0.00638
4.297195 4.301553 4.305910 4.310267 4.314625 4.318982 4.323339 4.327697 4.332054 4.336411 4.340769 4.345126
4.349483 4.353841 4.360223 4.366605 4.372987 4.379369 4.385751 4.392133 4.398515 4.404897 4.411279 4.417661
4.424043 4.430425 4.436807 4.443189 4.449571
                                                                    -0.00345
4.293742 4.298100 4.302457 4.306814 4.311172 4.315529 4.319886 4.324244 4.328601 4.332958 4.337316 4.341673
4.346030 4.350388 4.356770 4.363152 4.369534 4.375916 4.382298 4.388680 4.395061 4.401443 4.407825 4.414207
4.420589 4.426971 4.433353 4.439735 4.446117
                          81  6 82  8   84  4 85 11  83   6       0.00678       0.00678
                                                                  0.00695
4.356770 4.363152 4.369534 4.375916 4.382298 4.388680 4.395061 4.401443 4.407825 4.414207 4.420589 4.426971
4.433353 4.439735 4.446117 4.453068 4.460018 4.466969 4.473919 4.480869 4.487820 4.494770 4.501720 4.508671
4.515621 4.522572 4.529522 4.536472 4.543423 4.550373 4.557323 4.564274 4.571224 4.578175 4.585125
                                                                     0.01608
4.372844 4.379226 4.385608 4.391990 4.398372 4.404754 4.411136 4.417518 4.423900 4.430282 4.436664 4.443046
4.449428 4.455810 4.462192 4.469142 4.476092 4.483043 4.489993 4.496943 4.503894 4.510844 4.517795 4.524745
4.531695 4.538646 4.545596 4.552547 4.559497 4.566447 4.573398 4.580348 4.587298 4.594249 4.601199
                          82  8 84  4   85 11 88  2  85   1       0.00698       0.00699
                                                                  0.00646
4.469142 4.476092 4.483043 4.489993 4.496943 4.503894 4.510844 4.517795 4.524745 4.531695 4.538646 4.545596
4.552547 4.559497 4.566447 4.573398 4.580348 4.587298 4.594249 4.601199 4.607656 4.614112 4.620568 4.627025
4.633481 4.639937 4.646394 4.652850 4.659307 4.665763 4.672219 4.678676 4.685132 4.691588 4.698045 4.704501
4.710958 4.717414 4.723870 4.730327 4.736783 4.743239
                                                                     0.00247
4.471614 4.478564 4.485515 4.492465 4.499415 4.506366 4.513316 4.520267 4.527217 4.534167 4.541118 4.548068
4.555018 4.561969 4.568919 4.575870 4.582820 4.589770 4.596721 4.603671 4.610127 4.616584 4.623040 4.629497
4.635953 4.642409 4.648866 4.655322 4.661778 4.668235 4.674691 4.681148 4.687604 4.694060 4.700517 4.706973
4.713429 4.719886 4.726342 4.732799 4.739255 4.745711
                          84  4 85 11   88  2 89  6  86   12       0.00637       0.00640
4.751314 4.756917 4.762520 4.768123 4.773726 4.779328 4.784931 4.790534 4.796137 4.801740 4.807343 4.812945
4.818548 4.824151 4.829754 4.835357 4.840960 4.846562 4.852165 4.857768 4.863371 4.868974 4.874577 4.880179
4.885782 4.891385 4.896988 4.902591 4.908194 4.913796 4.919399 4.925002 4.930605 4.936208 4.941811 4.947413
4.953016 4.958619 4.964222 4.969825 4.975428 4.981030
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⑦ 최종추세치를 나타낸다.

COMPUTED FINAL TREND

YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1970	26.52	26.76	27.00	27.25	27.49	27.74	28.00	28.26	28.51	28.78	29.04	29.31
	26.519	26.758	27.000	27.245								
	27.493	27.744	27.998	28.255								
	28.515	28.777	29.041	29.308								
1971	29.58	29.85	30.12	30.40	30.68	30.96	31.25	31.53	31.82	32.12	32.41	32.71
	29.577	29.849	30.123	30.400								
	30.679	30.961	31.246	31.533								
	31.823	32.115	32.410	32.708								
1972	33.01	33.31	33.62	33.93	34.24	34.55	34.87	35.19	35.51	35.84	36.16	36.48
	33.009	33.312	33.618	33.927								
	34.239	34.553	34.871	35.191								
	35.515	35.841	36.157	36.476								
1973	36.80	37.13	37.46	37.79	38.13	38.47	38.82	39.17	39.52	39.88	40.26	40.64
	36.799	37.126	37.456	37.790								
	38.128	38.471	38.817	39.167								
	39.521	39.880	40.258	40.639								
1974	41.02	41.41	41.81	42.15	42.51	42.87	43.23	43.59	43.96	44.34	44.72	45.11
	41.024	41.413	41.805	42.154								
	42.508	42.865	43.227	43.594								
	43.965	44.340	44.720	45.105								
1975	45.49	45.89	46.29	46.75	47.21	47.67	48.25	48.84	49.44	50.04	50.66	51.28
	45.495	45.889	46.289	46.745								
	47.207	47.672	48.252	48.840								
	49.436	50.042	50.656	51.279								
1976	51.91	52.55	53.20	53.86	54.53	55.21	55.78	56.35	57.07	57.78	58.49	59.19
	51.911	52.552	53.203	53.863								
	54.533	55.213	55.777	56.346								
	57.065	57.780	58.489	59.193								
1977	59.89	60.58	61.27	61.95	62.62	63.28	63.93	64.58	65.05	65.52	66.00	66.36
	59.891	60.583	61.268	61.945								
	62.615	63.277	63.931	64.575								
	65.046	65.520	65.997	66.362								
1978	66.71	67.05	67.37	67.68	67.97	68.25	68.52	68.76	68.99	69.21	69.41	69.72
	66.713	67.051	67.373	67.681								
	67.974	68.253	68.515	68.763								
	68.995	69.210	69.410	69.716								
1979	70.02	70.33	70.64	70.95	71.02	71.08	71.13	71.17	71.21	71.23	71.25	71.26
	70.022	70.330	70.639	70.950								
	71.019	71.080	71.131	71.174								
	71.208	71.233	71.249	71.255								
1980	71.25	71.24	71.22	71.19	71.40	71.60	71.81	72.02	72.21	72.42	72.63	72.86
	71.253	71.242	71.222	71.193								
	71.398	71.604	71.810	72.016								
	72.212	72.417	72.631	72.855								
1981	73.09	73.33	73.59	73.85	74.12	74.41	74.70	75.01	75.33	75.66	76.11	76.57
	73.089	73.333	73.586	73.850								
	74.123	74.407	74.701	75.006								
	75.333	75.662	76.107	76.568								
1982	77.04	77.54	78.04	78.57	79.11	79.67	80.25	80.84	81.46	82.09	82.61	83.14
	77.044	77.536	78.045	78.570								
	79.112	79.672	80.248	80.843								
	81.456	82.087	82.613	83.142								
1983	83.67	84.23	84.80	85.37	85.95	86.54	87.13	87.74	88.35	88.97	89.60	90.24
	83.674	84.231	84.795	85.368								
	85.948	86.537	87.134	87.738								
	88.352	88.973	89.604	90.243								
1984	90.89	91.52	92.16	92.81	93.45	94.10	94.76	95.42	96.09	96.75	97.42	98.09
	90.891	91.525	92.163	92.806								
	93.453	94.105	94.761	95.422								
	96.087	96.753	97.420	98.087								
1985	98.75	99.42	100.09	100.76	101.43	102.10	102.77	103.44	104.11	104.78	105.46	106.14
	98.755	99.423	100.091	100.760								
	101.430	102.099	102.769	103.439								
	104.108	104.783	105.461	106.144								
1986	106.83	107.52	108.22	108.92	109.63	110.34	111.05	111.76	112.47	113.17	113.87	114.57
	106.832	107.523	108.220	108.921								
	109.626	110.336	111.050	111.761								
	112.469	113.173	113.874	114.571								
1987	115.26	115.95	116.64	117.32	117.99	118.66	119.33	120.00	120.67	121.35	122.03	122.72
	115.263	115.952	116.637	117.317								
	117.993	118.664	119.331	120.001								
	120.675	121.353	122.034	122.720								
1988	123.41	124.10	124.80	125.50	126.21	126.91	127.63	128.34	129.07	129.79	130.52	131.25
	123.409	124.103	124.800	125.501								
	126.206	126.915	127.628	128.345								
	129.065	129.791	130.520	131.253								
1989	131.99	132.73	133.48	134.23	134.98	135.74	136.50	137.27	138.04	138.81	139.59	140.38
	131.990	132.732	133.477	134.227								
	134.981	135.739	136.502	137.268								
	138.039	138.815	139.595	140.379								

1990 141.17 141.96 142.76 143.56 144.37 145.19
141.167 141.961 142.760 143.565
144.375 145.191

⑧ 추세치 연평균 변화율 값이다.

PERCENT CHANGE IN FINAL TREND, ANNUAL RATE

YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1970	11.4	11.4	11.4	11.4	11.5	11.5	11.5	11.6	11.6	11.6	11.6	11.6
1971	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6
1972	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.1	11.1
1973	11.2	11.2	11.2	11.3	11.3	11.3	11.3	11.4	11.4	11.4	12.0	12.0
1974	12.0	12.0	12.0	10.5	10.5	10.6	10.6	10.7	10.7	10.7	10.8	10.8
1975	10.9	10.9	11.0	12.5	12.5	12.5	15.6	15.6	15.7	15.7	15.8	15.8
1976	15.8	15.9	15.9	16.0	16.0	16.0	13.0	13.0	16.4	16.1	15.8	15.4
1977	15.1	14.8	14.4	14.1	13.8	13.5	13.1	12.8	9.1	9.1	9.1	6.8
1978	6.5	6.2	5.9	5.6	5.3	5.0	4.7	4.4	4.1	3.8	3.5	5.4
1979	5.4	5.4	5.4	5.4	1.2	1.0	0.9	0.7	0.6	0.4	0.3	0.1
1980	0.0	-0.2	-0.3	-0.5	3.5	3.5	3.5	3.5	3.3	3.5	3.6	3.8
1981	3.9	4.1	4.2	4.4	4.5	4.7	4.8	5.0	5.4	5.4	7.3	7.5
1982	7.7	7.9	8.2	8.4	8.6	8.8	9.0	9.3	9.5	9.7	8.0	8.0
1983	8.0	8.3	8.3	8.4	8.5	8.5	8.6	8.7	8.7	8.8	8.8	8.9
1984	9.0	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.6	8.6	8.5
1985	8.5	8.4	8.4	8.3	8.3	8.2	8.2	8.1	8.1	8.1	8.1	8.1
1986	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.0	7.9	7.8	7.7	7.6
1987	7.5	7.4	7.3	7.2	7.1	7.0	7.0	7.0	7.0	7.0	7.0	7.0
1988	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
1989	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
1990	7.0	7.0	7.0	7.0	7.0	7.0						

⑨ 최종 순환변동치 (cycle)의 값이다.

TIME SERIES DATA OF THE RATIO TO FINAL TREND

YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1970	97.61	98.30	98.76	99.70	99.67	99.41	99.82	100.22	100.60	100.30	100.22	100.57
97.611	98.304	98.759	99.698									
99.673	99.407	99.824	100.221									
100.602	100.304	100.224	100.572									
1971	100.69	101.32	101.73	102.26	102.44	102.04	101.39	100.36	99.31	97.42	98.63	97.42
100.690	101.324	101.730	102.263									
102.437	102.036	101.388	100.358									
99.307	97.416	98.627	97.424									
1972	97.72	95.21	95.27	95.54	96.34	97.49	98.14	98.40	98.74	99.14	100.27	101.36
97.718	95.211	95.269	95.537									
96.345	97.493	98.142	98.399									
98.737	99.135	100.269	101.362									
1973	101.93	101.59	100.60	100.41	100.32	100.05	100.18	101.37	103.11	104.56	104.90	104.55
101.929	101.585	100.602	100.409									
100.325	100.052	100.178	101.373									
103.115	104.557	104.898	104.553									
1974	105.02	105.28	105.88	105.28	105.20	104.96	105.31	103.06	100.35	97.82	97.35	98.71
105.018	105.280	105.881	105.281									
105.202	104.958	105.311	103.060									
100.354	97.815	97.349	98.709									
1975	99.33	99.98	99.35	98.49	97.55	96.52	96.45	96.58	97.73	98.37	98.62	98.03
99.329	99.977	99.346	98.493									
97.547	96.517	96.445	96.583									
97.732	98.371	98.623	98.027									
1976	98.61	99.49	100.62	100.31	99.46	99.79	101.30	102.48	102.04	100.49	99.85	99.07
98.606	99.495	100.625	100.312									
99.462	99.794	101.302	102.482									
102.041	100.491	99.853	99.074									
1977	98.05	97.14	95.95	96.58	96.04	97.78	96.98	97.87	97.03	98.34	98.19	99.50
98.051	97.144	95.951	96.577									
96.042	97.776	96.979	97.871									
97.032	98.339	98.193	99.496									
1978	99.71	100.60	101.20	101.93	103.02	103.69	104.04	105.12	105.44	105.86	105.75	106.20
99.714	100.603	101.201	101.932									
103.018	103.688	104.040	105.120									
105.440	105.863	105.747	106.198									
1979	106.61	106.69	106.21	105.19	104.72	104.06	103.41	102.07	102.47	102.04	102.12	100.60
106.613	106.690	106.207	105.186									
104.719	104.060	103.405	102.066									
102.470	102.036	102.122	100.603									
1980	100.58	100.48	100.66	100.19	99.14	97.92	97.96	97.65	96.99	96.76	97.16	98.59
100.580	100.484	100.659	100.189									
99.141	97.923	97.965	97.645									
96.993	96.763	97.155	98.595									
1981	98.92	99.15	99.61	100.71	101.80	102.80	102.32	102.54	102.07	102.43	101.68	100.77
98.920	99.150	99.614	100.709									

```
101.796  102.796  102.323  102.535
102.068  102.431  101.684  100.771
1982       99.65    99.30    98.38   98.13   97.40   97.35   97.13   96.53   96.63   96.76   97.61   98.10
 99.652   99.302   98.382   98.129
 97.403   97.355   97.127   96.535
 96.625   96.758   97.609   98.099
1983       98.74    98.72    98.71   98.54   99.16  100.16  100.89  101.73  102.01  102.00  101.96  101.70
 98.742   98.716   98.708   98.540
 99.157  100.158  100.889  101.734
102.006  102.002  101.964  101.698
1984      102.25   103.45   104.00  104.14  103.06  103.02  102.51  103.07  102.25  102.04  100.90  101.03
102.252  103.447  104.001  104.136
103.060  103.019  102.514  103.068
102.250  102.035  100.901  101.033
1985       99.86    98.99    98.06   98.08   97.90   97.37   97.25   97.10   96.54   96.65   96.48   97.39
 99.859   98.989   98.058   98.078
 97.898   97.372   97.251   97.096
 96.535   96.653   96.482   97.393
1986       97.61    98.49    98.98   99.66  100.13  100.96  101.20  101.06  101.19  101.33  101.23  101.21
 97.611   98.491   98.980   99.660
100.133  100.959  101.205  101.061
101.195  101.329  101.229  101.213
1987      101.26   102.37   103.18  104.35  104.84  105.93  105.98  101.74  100.65   99.98  104.02  104.26
101.260  102.367  103.183  104.351
104.840  105.932  105.977  101.737
100.648   99.976  104.024  104.264
1988      105.52   106.54   106.42  104.01  101.16  100.25  101.25  103.01  103.11  103.06  102.18  101.47
105.522  106.536  106.423  104.005
101.156  100.247  101.252  103.011
103.106  103.062  102.179  101.467
1989      100.31    98.94    98.16   96.25   96.03   95.89   97.18   98.46   98.55   98.26   97.25   96.83
100.314   98.944   98.156   96.254
 96.028   95.885   97.184   98.458
 98.551   98.257   97.251   96.832
1990       96.73    97.70    98.49   98.94   96.79   96.06
 96.728   97.698   98.491   98.940
 96.788   96.062
```

⑩ 최종 경기전환점(T / P)을 나타낸다.

FINAL TURNING POINTS OF THE RATIO TO FINAL TREND

TROUGHS			PEAKS		
YEAR	M	VALUE	YEAR	M	VALUE
			1971	5	102.44
1972	2	95.21	1974	3	105.88
1975	7	96.45	1976	8	102.48
1977	3	95.95	1979	2	106.69
1980	10	96.76	1981	6	102.80
1982	8	96.53	1984	4	104.14
1985	11	96.48	1988	2	106.54
1989	6	95.89			

⑪ 최종 순환변동치(⑨)를 F6.1로 재프린트한 결과이다.

COMPOSITE INDEX OF ROUGHLY COINCIDENT INDICATORS

8.0.A CYCLE IF 6.1 CI (ADDED)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1970	97.6	98.3	98.8	99.7	99.7	99.4	99.8	100.2	100.6	100.3	100.2	100.6	99.6
1971	100.7	101.3	101.7	102.3	102.4	102.0	101.4	100.4	99.3	97.4	98.6	97.4	100.4
1972	97.7	95.2	95.3	95.5	96.3	97.5	98.1	98.4	98.7	99.1	100.3	101.4	97.8
1973	101.9	101.6	100.6	100.4	100.3	100.1	100.2	101.4	103.1	104.6	104.9	104.6	102.0
1974	105.0	105.3	105.9	105.3	105.2	105.0	105.3	103.1	100.4	97.8	97.3	98.7	102.9
1975	99.3	100.0	99.3	98.5	97.5	96.5	96.4	96.6	97.7	98.4	98.6	98.0	98.1
1976	98.6	99.5	100.6	100.3	99.5	99.8	101.3	102.5	102.0	100.5	99.9	99.1	100.3
1977	98.1	97.1	96.0	96.6	96.0	97.8	97.0	97.9	97.0	98.3	98.2	99.5	97.5
1978	99.7	100.6	101.2	101.9	103.0	103.7	104.0	105.1	105.4	105.9	105.7	106.2	103.5
1979	106.6	106.7	106.2	105.2	104.7	104.1	103.4	102.1	102.5	102.0	102.1	100.6	103.8
1980	100.6	100.5	100.7	100.2	99.1	97.9	98.0	97.6	97.0	96.8	97.2	98.6	98.7
1981	98.9	99.2	99.6	100.7	101.8	102.8	102.3	102.5	102.1	102.4	101.7	100.8	101.2
1982	99.7	99.3	98.4	98.1	97.4	97.4	97.1	96.5	96.6	96.8	97.6	98.1	97.7
1983	98.7	98.7	98.7	98.5	99.2	100.2	100.9	101.7	102.0	102.0	102.0	101.7	100.4
1984	102.3	103.4	104.0	104.1	103.1	103.0	102.5	103.1	102.3	102.0	100.9	101.0	102.6
1985	99.9	99.0	98.1	98.1	97.9	97.4	97.3	97.1	96.5	96.7	96.5	97.4	97.6
1986	97.6	98.5	99.0	99.7	100.1	101.0	101.2	101.1	101.2	101.3	101.2	101.2	100.3
1987	101.3	102.4	103.2	104.4	104.8	105.9	106.0	101.7	100.6	100.0	104.0	104.3	103.2
1988	105.5	106.5	106.4	104.0	101.2	100.2	101.3	103.0	103.1	103.1	102.2	101.5	103.2
1989	100.3	98.9	98.2	96.3	96.0	95.9	97.2	98.5	98.6	98.3	97.3	96.8	97.7
1990	96.7	97.7	98.5	98.9	96.8	96.1	********	********	********	********	********	********	97.5

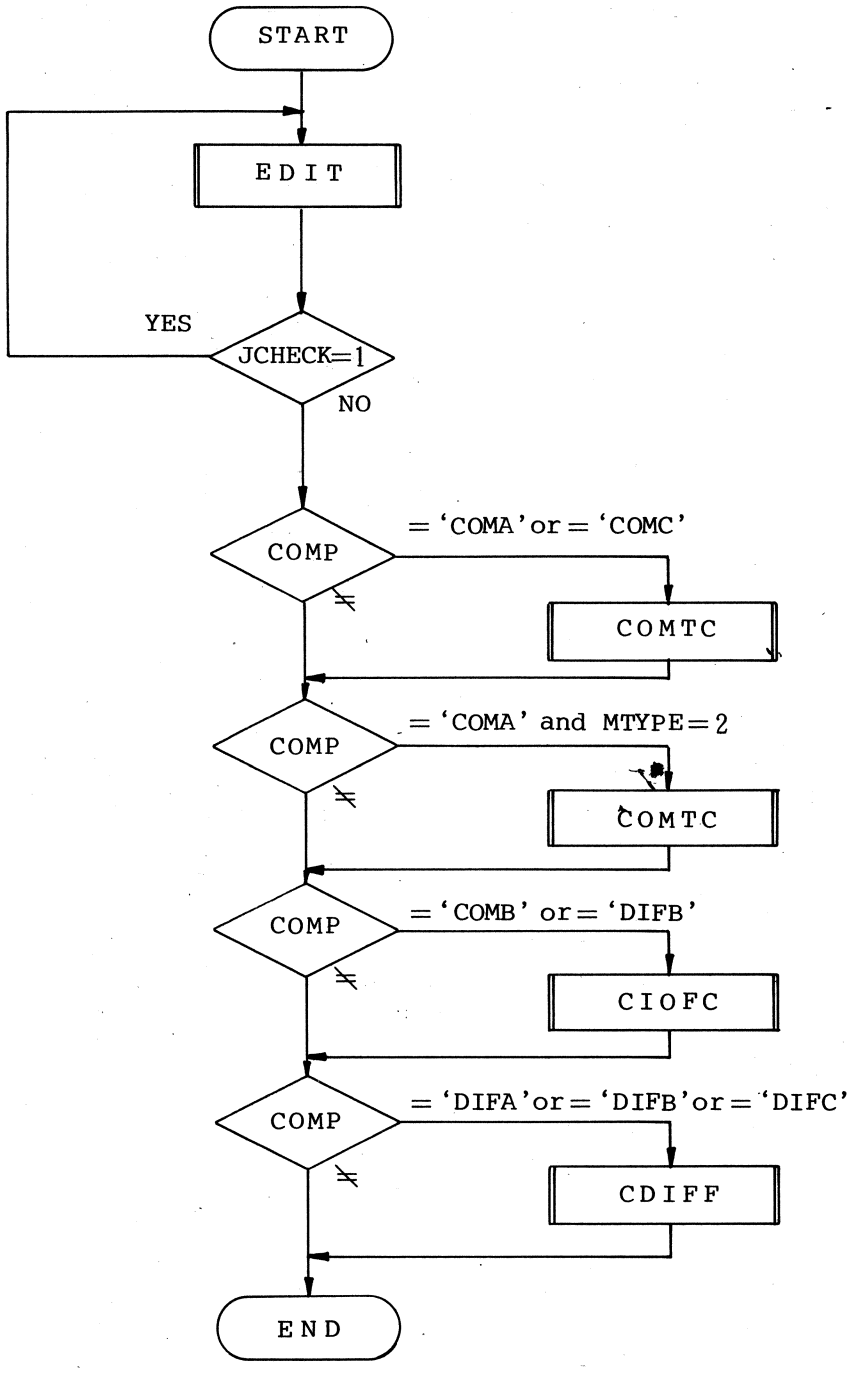
(4) 내부계산법(입력시점…변경, 여기서는 90년 4월까지로 입력)

이 결과의 output은 (3)의 결과와 비슷하며 최종 순환변동치도 값이 같아 이 방법에 대하여서는 프린트를 생략하기로 한다.

제 3 장 프로그램 해설

제 1 절 전체구성도

입력되는 전체 옵션정보와 표지를 프린트하며 입력자료를 읽어들여 각 계산 루우틴을 조정한다.



제 2절 부프로그램 (Subprogram) 설명

1. EDIT(JCHECK)

(1) 기 능 : 입력되는 자료들을 읽어들여 option에 따라 조정한다.

(2) 주요 변수명 해설

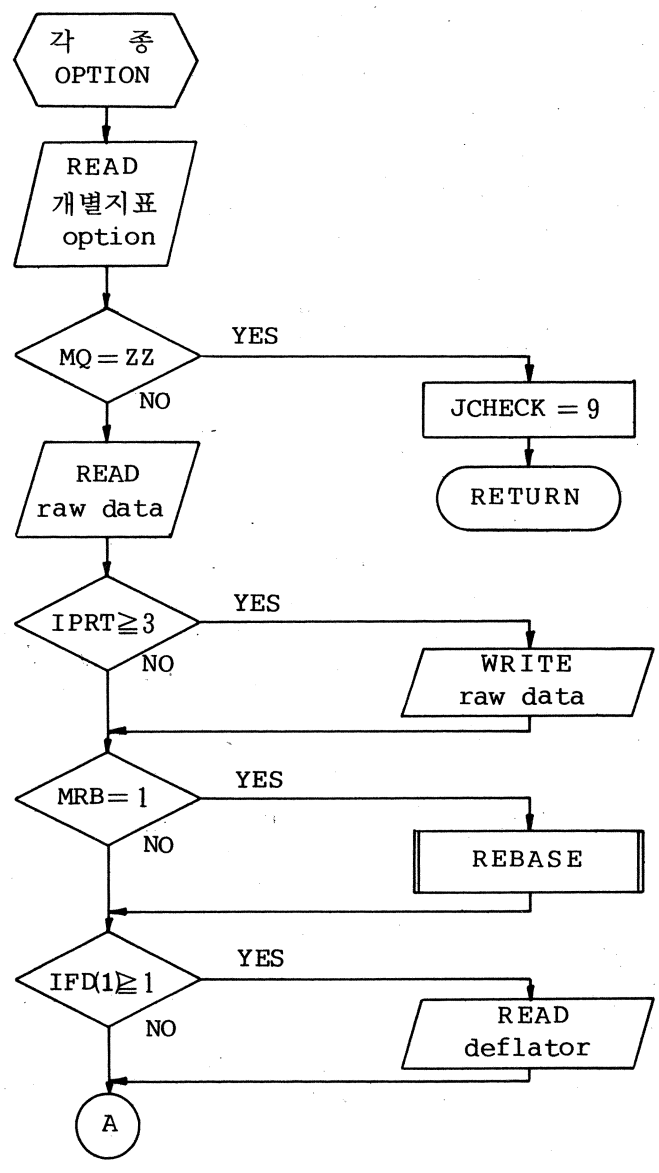
① JCHECK : JCHECK의 값이 1이면 계속 EDIT routine을 수행, 아니면 종료

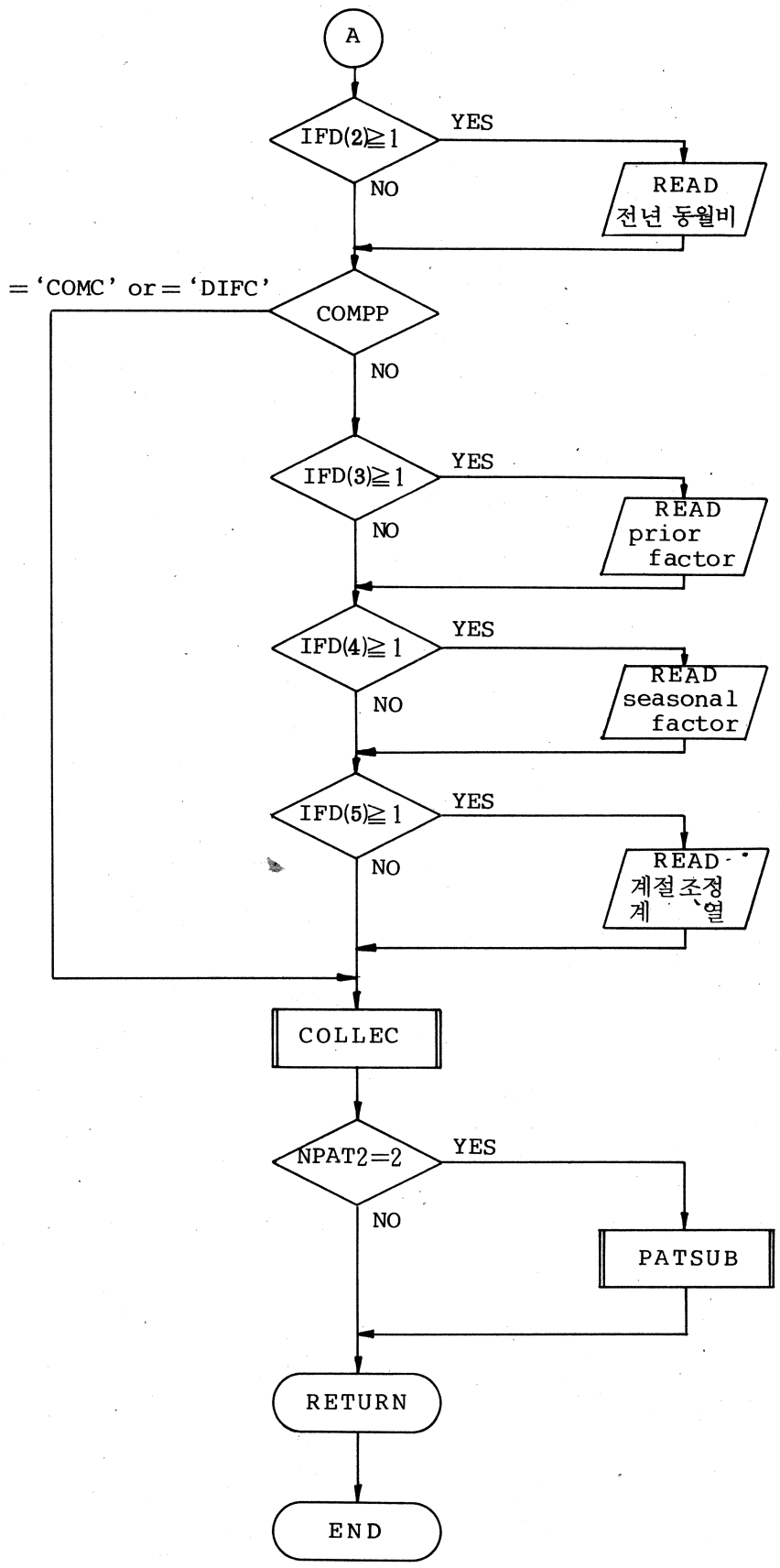
② XODAT(400) : 최종 조정 data

(3) CALL BY : main program

CALLS : CONVYM, RITE 01, RITE 04, REBASE, COLLEC, PATSUB

(4) 개략도




A
IFD(2)≧1
YES
NO
READ
전년 동월비
= 'COMC' or = 'DIFC'
COMPP
NO
IFD(3)≧1
YES
NO
READ
prior
factor
IFD(4)≧1
YES
NO
READ
seasonal
factor
IFD(5)≧1
YES
NO
READ
계절조정
계열
COLLEC
NPAT2=2
YES
NO
PATSUB
RETURN
END

2. COLLEC (KCOM, L1, L2)

(1) 기 능 : 입력된 자료의 조정 data들을 한 곳에 집적한다.

(2) 주요 변수명 해설 : ① KCOM : data 입력순서

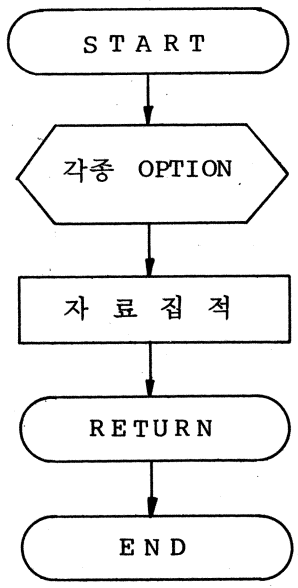
② L1,L2 : 입력자료 시작점 및 종료점 (1970.1 = 1)

③ XXODAT(KCOM,J):KCOM번째 입력된 j번째 data 값

(3) CALL BY : EDIT

CALLS : *****

(4) 개략도



3. INVOK (KCOM, LFDA, LEDA)

(1) 기 능 : 집적된 data를 순서대로 불러냄

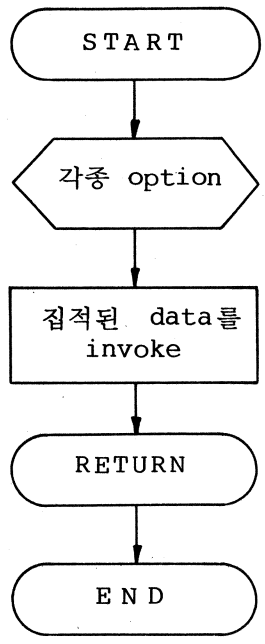
(2) 주요 변수명 해설 : ① KCOM : data 추출순서

② XDAT : 조정된 data

(3) CALL BY : COMTC, CDIFF, CIOFC

CALLS : CONVYM

(4) 개략도



4. COMTC

(1) 기 능 : 입력된 자료들로부터 TC의 CI를 산출함

(2) 주요 변수명 해설 : ① XDAT (400) : 개별 자료

② PCHG (400) : 개별 자료의 대칭변화율

③ TOTAL(400) : 종합된 대칭변화율

④ STAND(400) : 조정된 평균 변화율

⑤ CI (400) : RAW CI

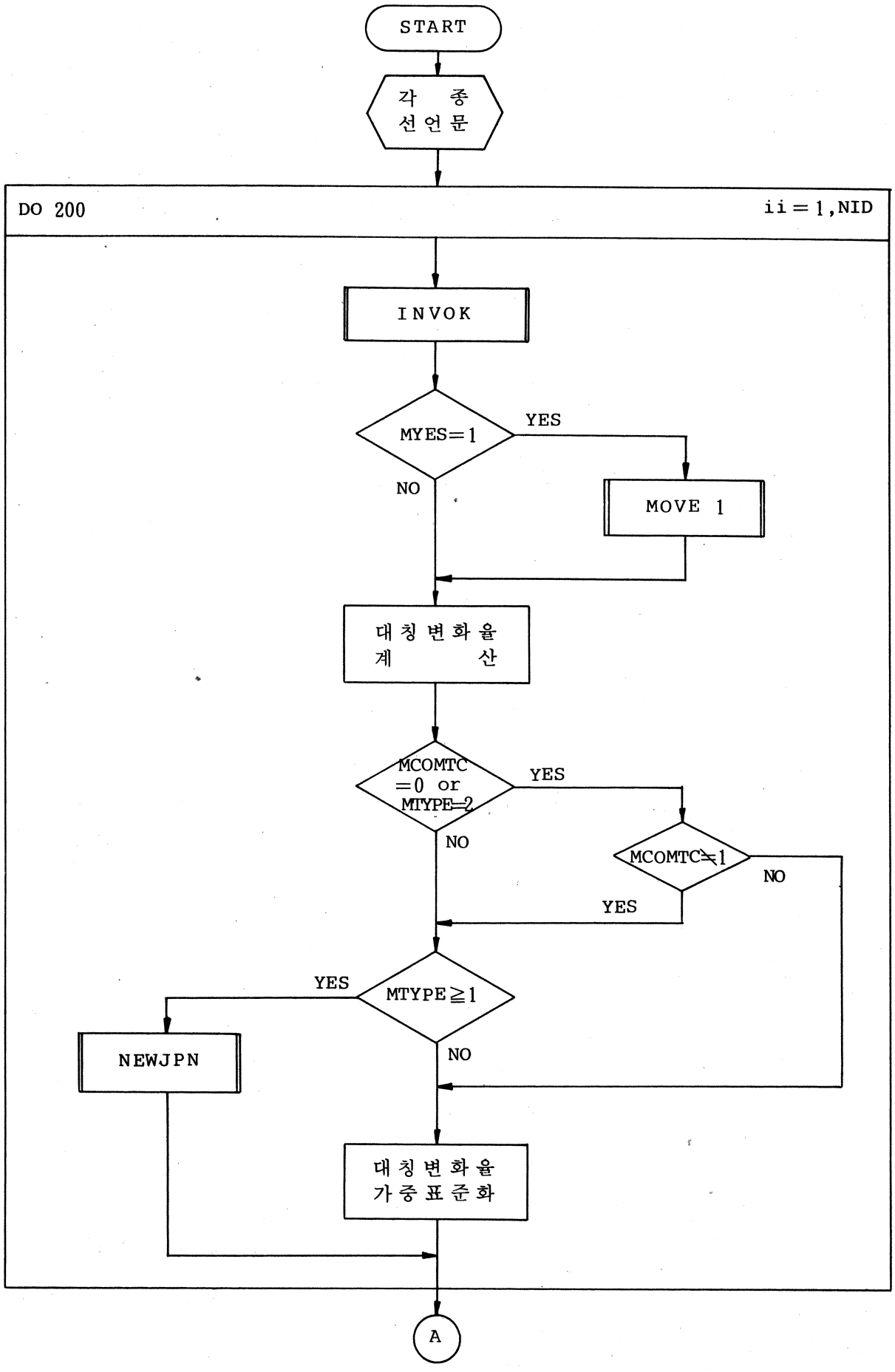
⑥ JCOUNT : 개별지표와 전체 지표의 PAT 계산시 count

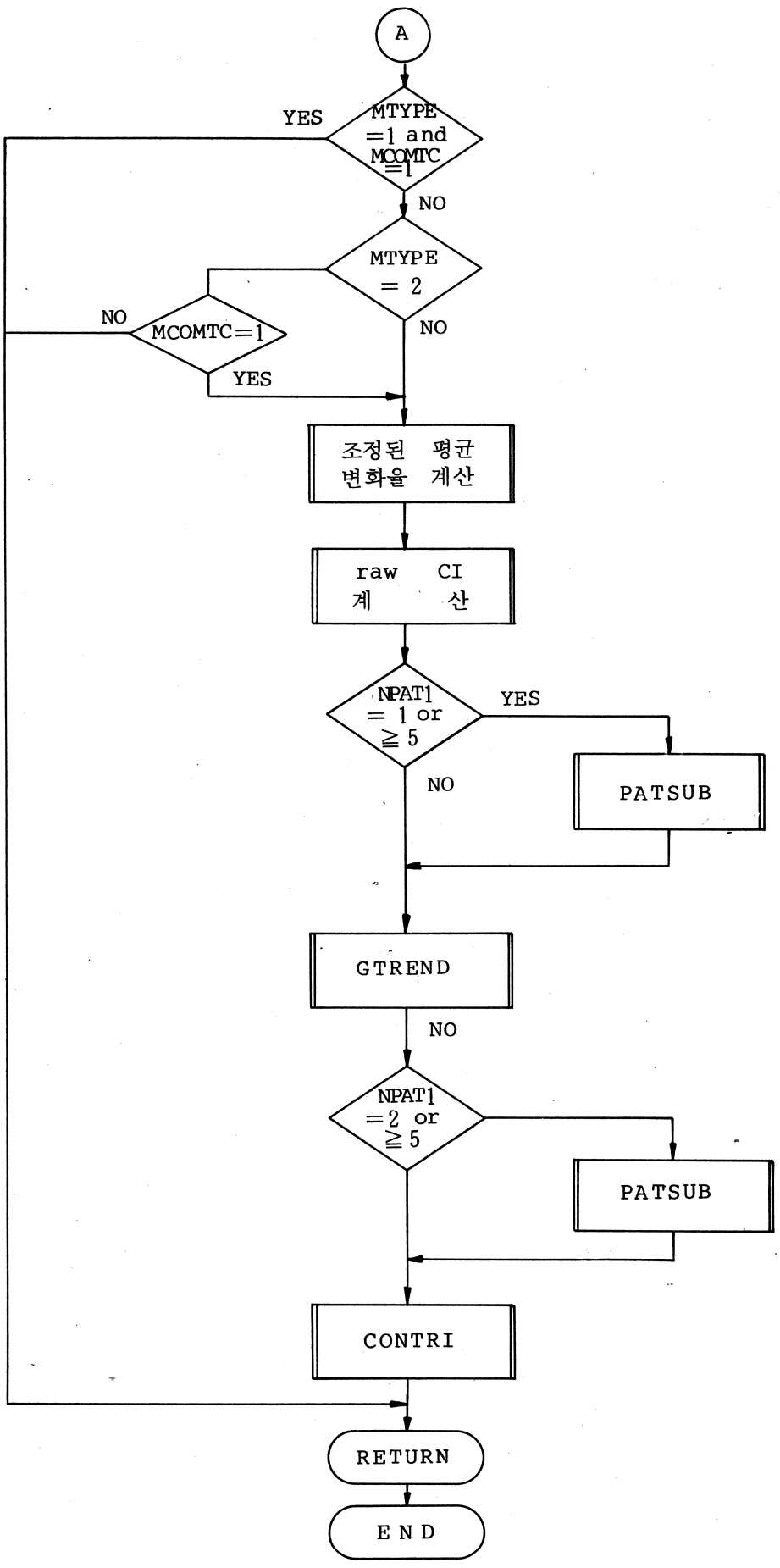
⑦ MCOMTC : TC의 CI 및 일본식 CI 계산시 count

(3) CALL BY : main program

CALLS : INVOK, RITE01, MOVE1, REBASE, GTREND, GTRENM, PATSUB, NEWJPN, CONTRI

(4) 개략도


START
각 종
선언문
DO 200
ii=1,NID
INVOK
MYES=1
YES
NO
MOVE 1
대칭변화율
계 산
MCOMTC
=0 or
MTYPE=2
YES
NO
MCOMTC≒1
NO
YES
MTYPE≧1
YES
NO
NEWJPN
대칭변화율
가중표준화
A


A
MTYPE
=1 and
MCOMTC
=1
YES
NO
MTYPE
= 2
NO
MCOMTC=1
NO
YES
조정된 평균
변화율 계산
raw CI
계 산
NPAT1
= 1 or
≧ 5
YES
NO
PATSUB
GTREND
NO
NPAT1
=2 or
≧5
PATSUB
CONTRI
RETURN
E N D

5. NEWJPN (XDATA, MS, LEDAC, KFDAN, KEDAN, KC, NY1)

(1) 기 능 : 대칭변화율 값을 이용하여 이동식 표준편차 표준화 방법으로 CI를 작성한다.

(2) 주요 변수명 해설 : ① Z(400) : 편차 기준화 변화율

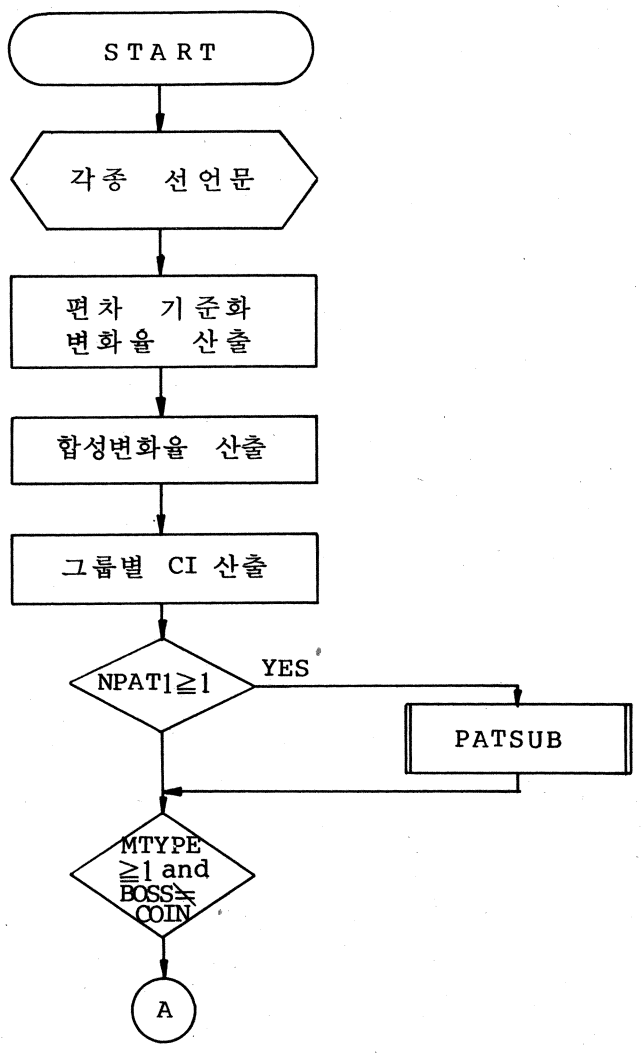
② V(400) : 각 그룹별로, 평균된 변화율을 합하여 산출된 합성변화율

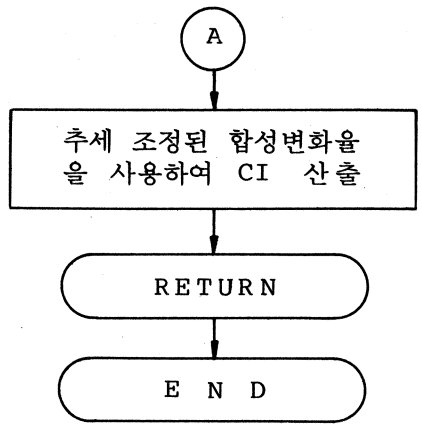
② RV(400): 동행의 $\overline{U(t)}$로 추세 조정된 선·후행의 추세조정계열

(3) CALL BY : COMTC

CALLS : RITE 01, RITE 04, REBASE, PATSUB

(4) 개략도





6. CONTRI (STDFT)

(1) 기 능 : 종합지수에 대한 각 개별지표의 기여도를 계산한다.

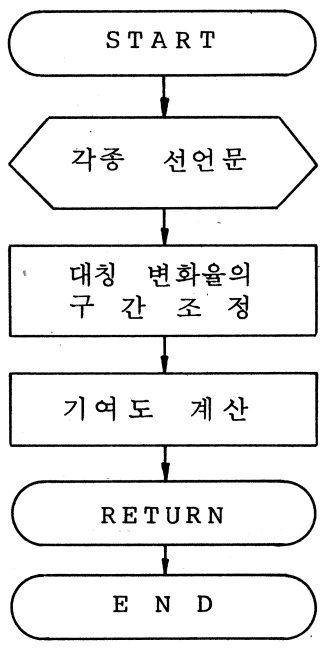
(2) 주요 변수명 해설 : ① STDSUM(20,400) : 각 개별지표의 대칭변화율

② TRIB(20,5) : 각 기여도

(3) CALL BY : COMTC

CALLS : *****

(4) 개략도



7. CIOFC

(1) 기능 : C value에 의한 CI 산출 및 C에 의한 DI 작성시 이용할 Input data 작성

(2) 주요변수명 해설 : ① CDAT(660) : PAT에서 얻은 C value

② STAND(400) : 종합평균편차

③ CI(400) : 종합된 C value

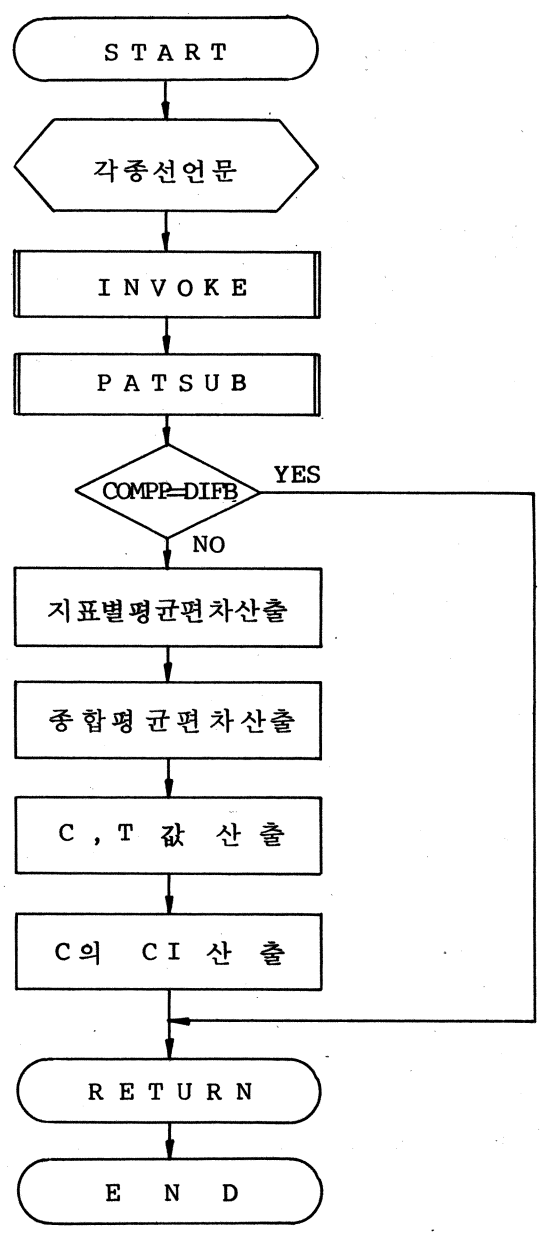
④ STAND1(400) : GNP로 계산된 Trend

⑤ TOCI(400) : C의 CI

(3) CALL BY : MAIN Program

CALLS : INVOK, PATSUB, RITE01, CONVYM, REBASE

(4) 개략도



8. GTREND(STAND, ARRAY, XCI)

(1) 기능 : 입력된 자료로부터 GNP trend를 적용하여 GNP 조정계열을 생성한다.

(2) 주요변수명 해설 : ① STAND(400) : 평균변화율 (raw CI)

② ARRAY(400) : Raw CI

③ XCI(400) : GNP trend로 조정된 CI

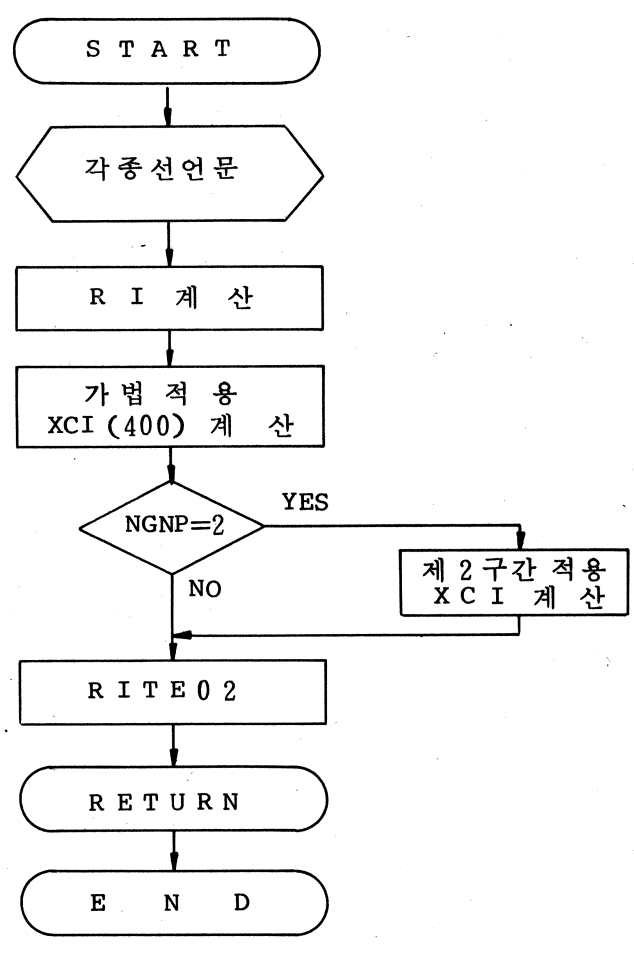
④ GOOT1, GOOT2 : 입력되는 GNP 조정치

⑤ R1, R2 : 내부적으로 계산되는 raw CI의 trend 조정치

(3) CALL BY : COMTC

CALLS : RITE01, RITE02, REBASE, RITE04

(4) 개략도



9. CDIFF

(1) 기 능 : 입력되는 자료들로부터 각종 DI를 산출한다.

(2) 주요 변수명 해설 : ① CH (400) : MCD 증감율

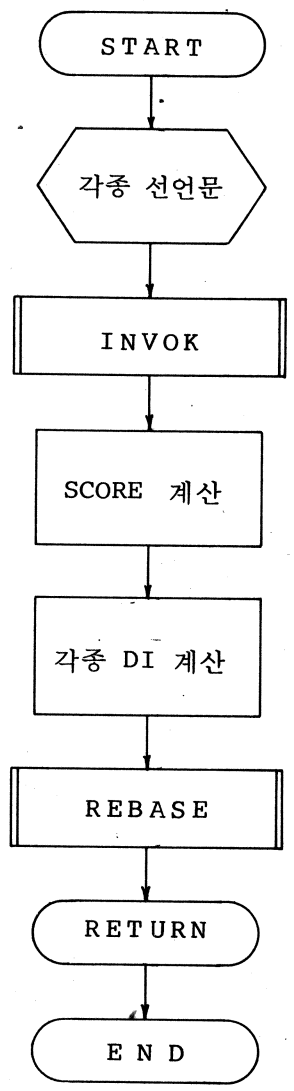
② TOTAL(400): 월별 Score

③ CDI (400) : 각종 DI 계열

(3) CALL BY : main program

CALLS : INVOK, RITE 01, REBASE

(4) 개략도



10. REBASE (BDATA, NF, NE, NY)

(1) 기 능 : 입력되는 자료를 "기준년도 = 100.0"으로 조정한다.

(2) 주요 변수명 해설 : ① BDATA(400) : 입력 및 출력자료

② NF,NE : 자료 시작 및 끝점

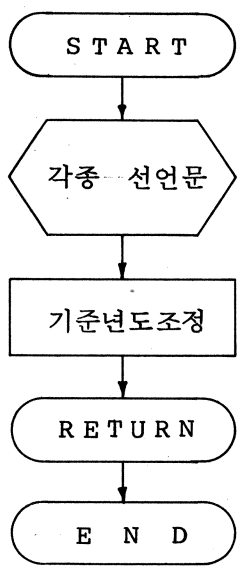
③ NY : 월별이면 = 12, 분기별 = 4

④ LBASE : 기준년도

(3) CALL BY : 여러 군데

CALLS : * * * * *

(4) 개략도



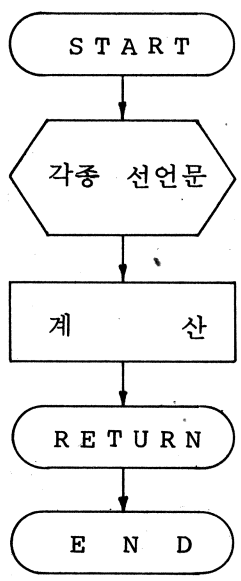
11. CONVYM (IFYR, IFMO, IEYR, IEYR, IEMO, NA, LA)

(1) 기능 : 연월로 된 기간을 1970.1 = 1 로 하여 바꾼다.

(2) 주요 변수명 해설 : ① IFYR, IFMO, IEYR, IEMO : 입력자료 년월기간

② NA, LA : 시작 및 종료점 (조정된 값)

(3) 개략도



12. MOVE 1 (S,K,L,KMA,MASW)

(1) 기능 : 입력된 자료를 option에 따라 이동평균을 하고 결항치를 보충한다.

(2) 주요변수명 해설 : ① S : 입력자료

② K,L : 자료 시작 및 끝점

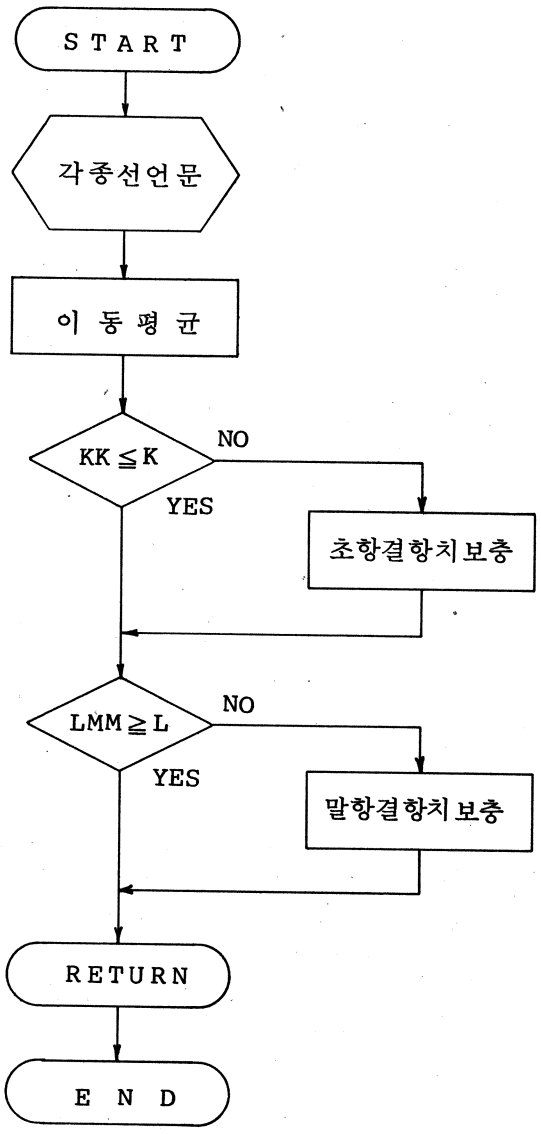
③ KMA : 이동 평균기간

④ MASW : 이동 평균치 위치 (1 = 초항, 2 = 중심항, 3 = 말항)

(3) CALL BY : 여러군데

CALLS : *****

(4) 개략도



13. RITE01 (X, IFDA, IEDA ,NY, IIOR)

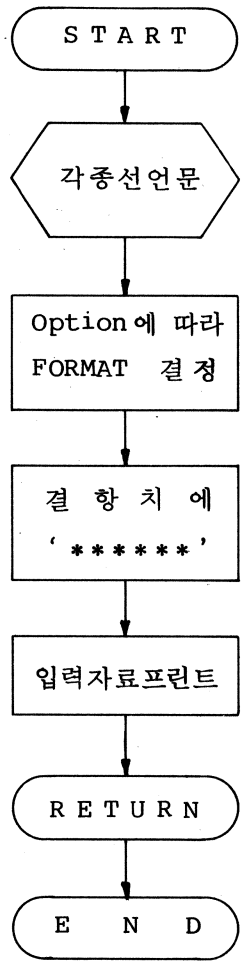
(1) 기능 : 입력된 자료를 프린트 한다.

(2) 주요변수명 해설 : ① X(400) : 입력자료

② IFDA, IEDA : 입력자료의 시작 및 끝점

③ IIOR : 소숫점 자리수

(3) 개략도



14. RITE02 (ARRAY, KFDA, KEDA)

(1) 기능 : 6.1.A의 입력 자료로부터 6.2 ,6.3 , 6.4 를 계산하고 프린트 한다.

(2) 주요변수명 해설 : ① ARRAY(400) : 입력자료

② TA 6 (400) : 6.2 값

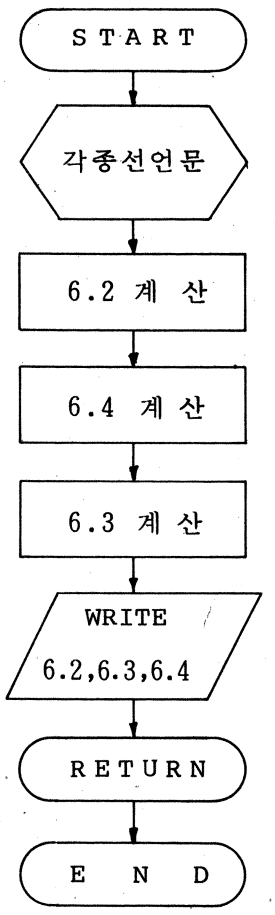
③ TA 12S (400) : 6.3 값

④ TA 12C (400) : 6.4 값

(3) CALL BY : COMTC, EDIT

CALL S : RITE01

(4) 개략도



15. RITE04 (XXI , LF1 , LF2 , MSPAN, KRATT)

(1) 기능 : 입력자료로부터 전월비 및 전년 동월비를 구한다. (각종 SPAN 비를 구할 수 있다)

(2) 주요변수명 해설 : ① XXI : 입력자료

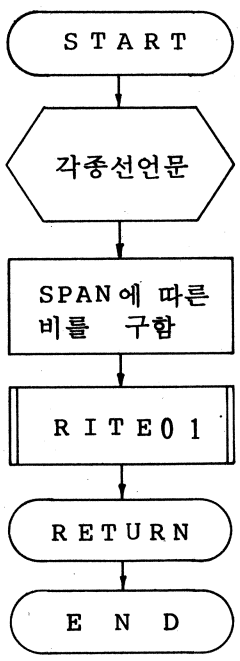
② LF1, LF2 : 입력자료의 시작 및 종료점

③ MSPAN : 만약 1 = 전월비, 12 = 전년동월비

(3) CALL BY : 여러군데

CALLS : RITE01

(4) 개략도



16. PATSUB(NNPP, KYRP, XMONP)

(1) 기능 : 입력된 자료에서 T/P와 PAT를 구한다. (PAT subprogram의 main임)

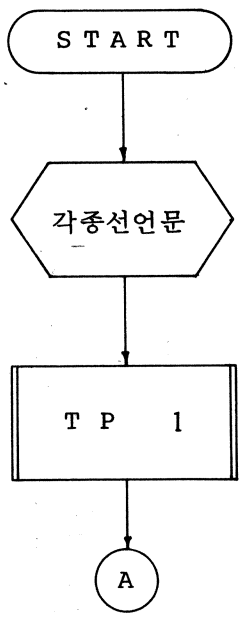
(2) 주요 변수명해설 : ① NNPP : 입력자료 갯수

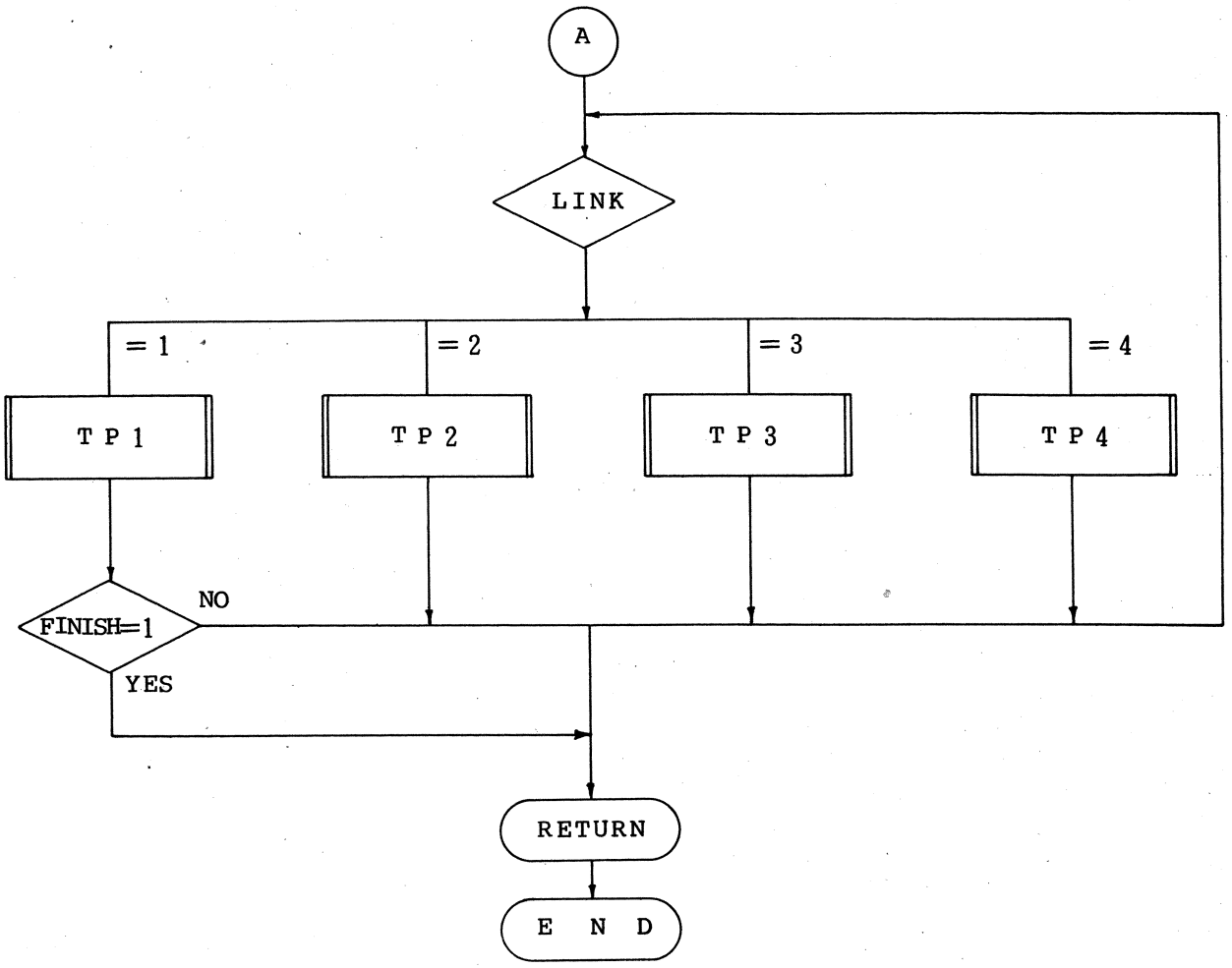
② KYRP : 입력자료 초기년도

③ XMONP(660) : 입력자료 (CI → COUNT → XMONP)

(3) CALL BY : EDIT, COMTC

CALLS : TP1, TP2, TP3, TP4





17. TP1 (LINK , FINISH)

(1) 기능 : Spencer 이동평균으로 구한 불규칙 요인을 통해 원계열에서 그 불규칙 요인을 제거하며 MCD value를 구함

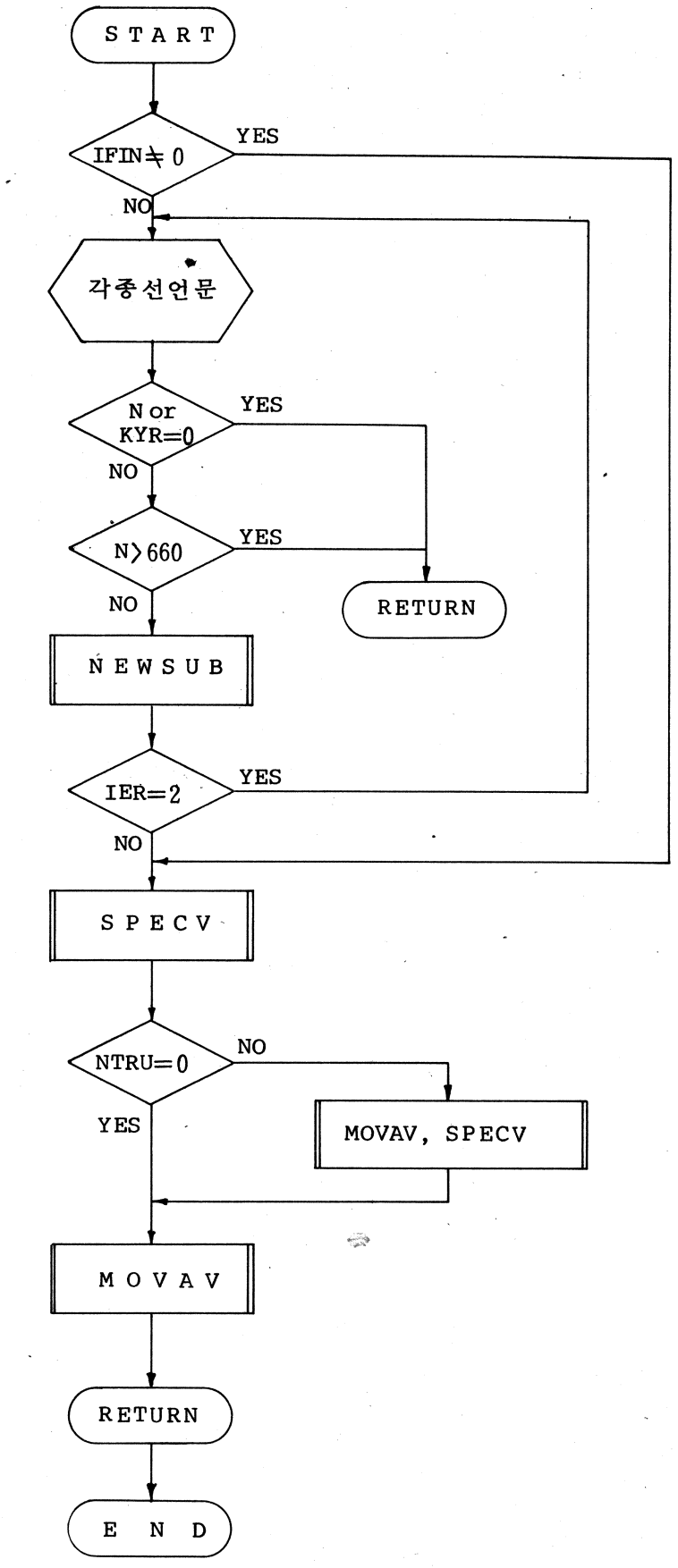
(2) 주요 변수명 해설 : ① OBS : 입력자료

② MCD : MCD value

(3) CALL BY : PASTUB

CALLS: NEWSUB, SPECV, QTR, TABWR, MOVAV, CONVR, EXIT

(4) 개략도


START
IFIN≒0
YES
NO
각종선언문
N or KYR=0
YES
NO
N>660
YES
NO
RETURN
NEWSUB
IER=2
YES
NO
SPECV
NTRU=0
NO
YES
MOVAV, SPECV
MOVAV
RETURN
END

18. TP2(LINK, FINISH)

(1) 기능 : 입력자료를 MCD 이동평균한 뒤 부프로그램 WTP를 사용하여 T/P를 구한다.

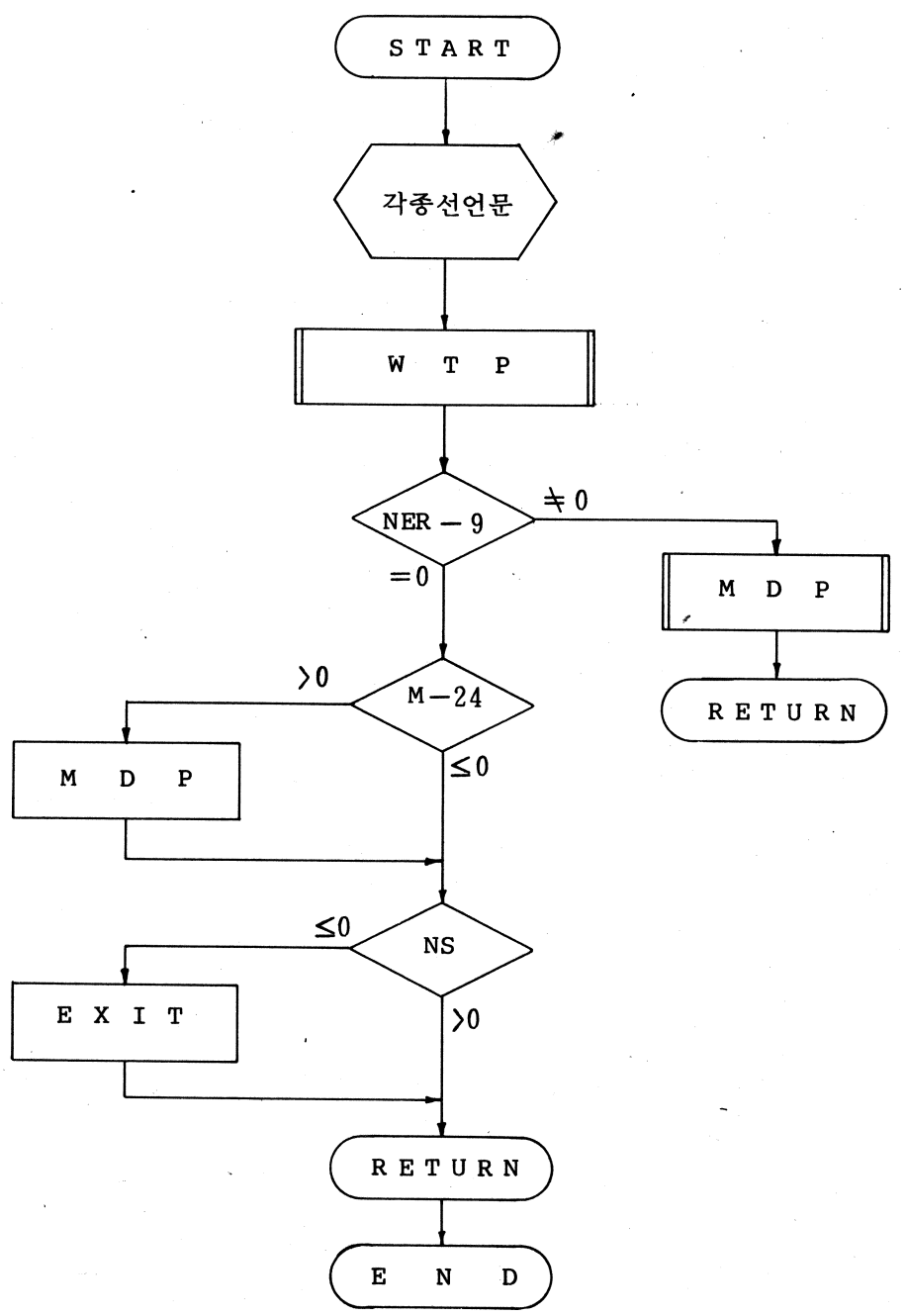
(2) 주요변수명 해설 : ① WMD(674) : MCD 이동평균 계열

② NNP : T/P 값

(3) CALL BY : PATSUB

CALLS : QTR, TABWR, WTP, MDP, CONVR, EXIT

(4) 개략도



19. TP3(LINK, FINISH)

(1) 기능 : 구한 T/P 점들이 T/P 로서 타당한가 검토하고 마지막 국면의 길이를 통해 검사

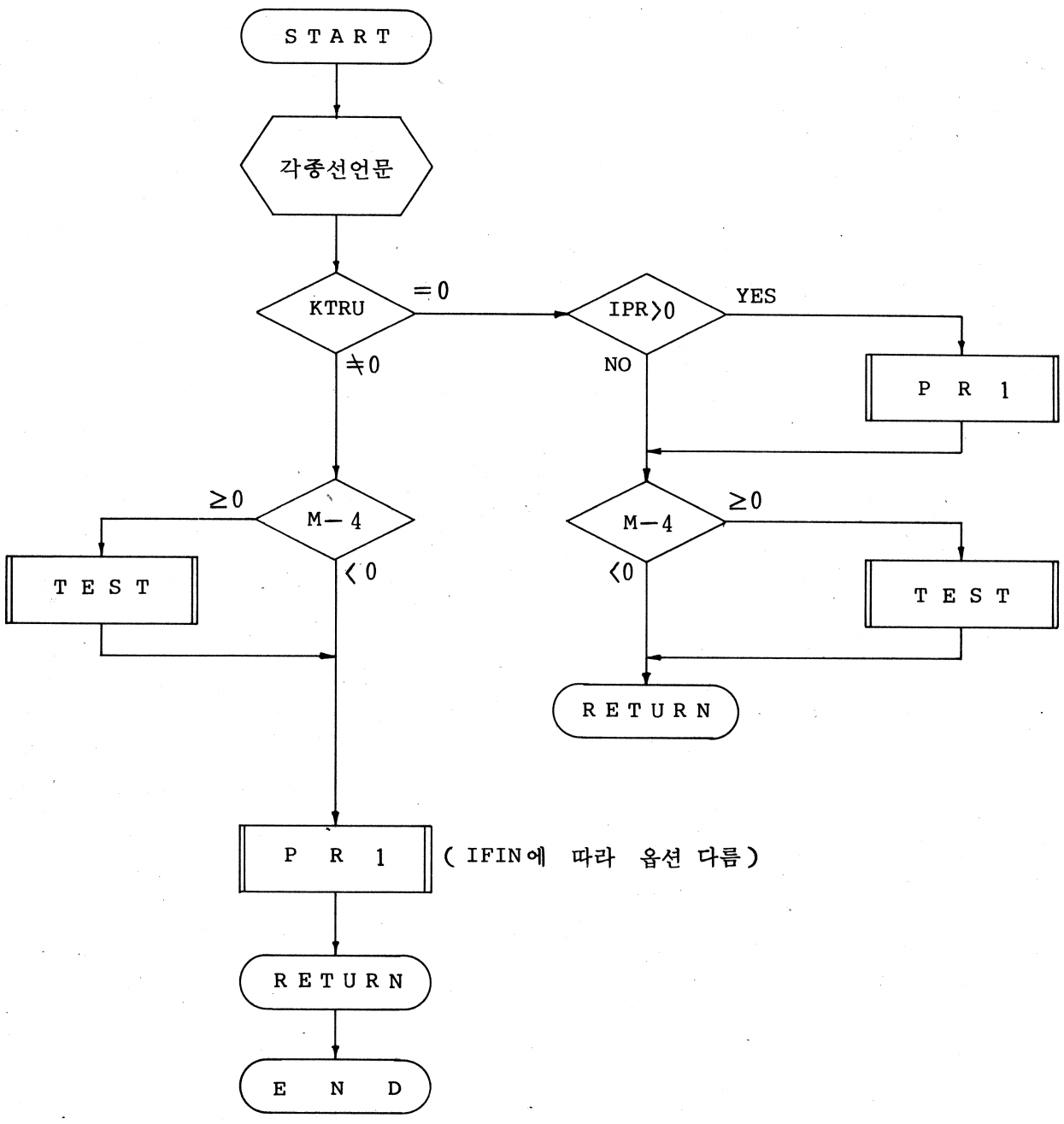
(2) 주요변수명 해설 : ① OBS(660) : 입력자료

② NNP : T/P 점들

(3) CALL BY : PATSUB

CALL S : TEST, PR1, EXIT

(4) 개략도



20. TP4(LINK, FINISH)

(1) 기능 : T/P 점들을 원계열 값의 대비로 checking하는 프로그램

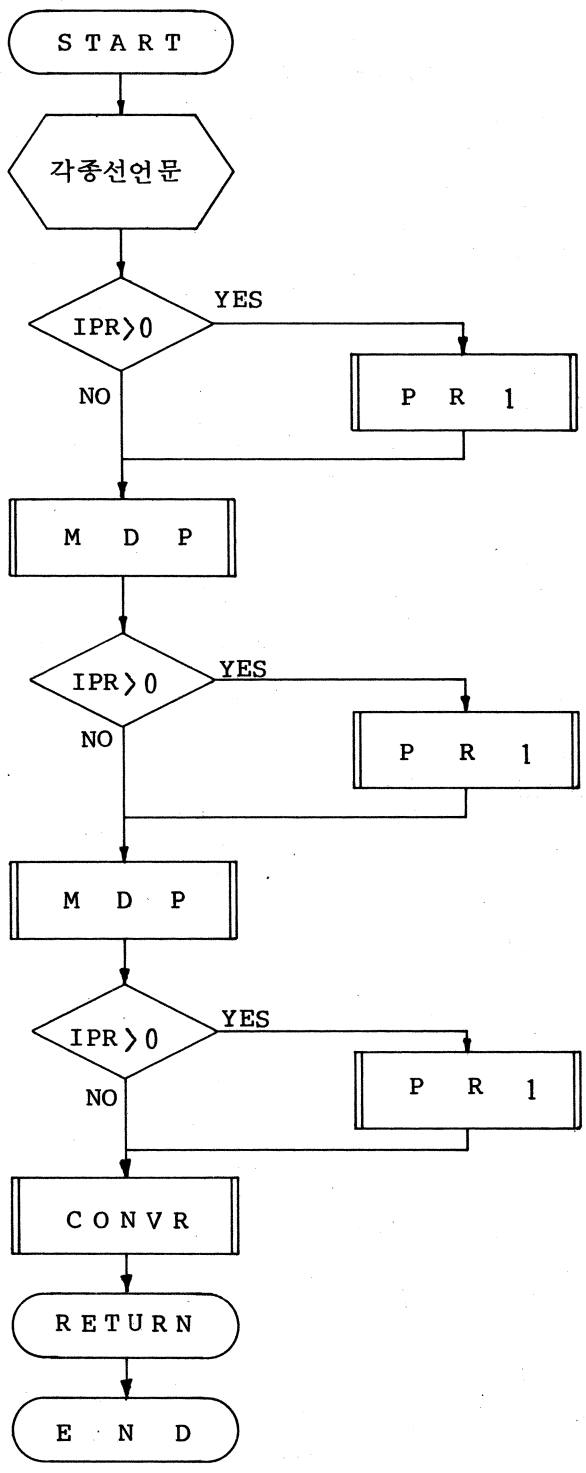
(2) 주요변수명 해설 : ① OBS(660) : 입력자료

② NP : T/P 점들

(3) CALL BY : PATSUB

CALLS : PR1, MDP, CONVR

(4) 개략도



21. NEWSUB(IER)

(1) 기능 : 입력된 자료에서 추세를 추출하는 부프로그램

(2) 주요변수명 해설 : ① XMON(660) : 입력자료

② RXMON(660) : 추세 조정계열

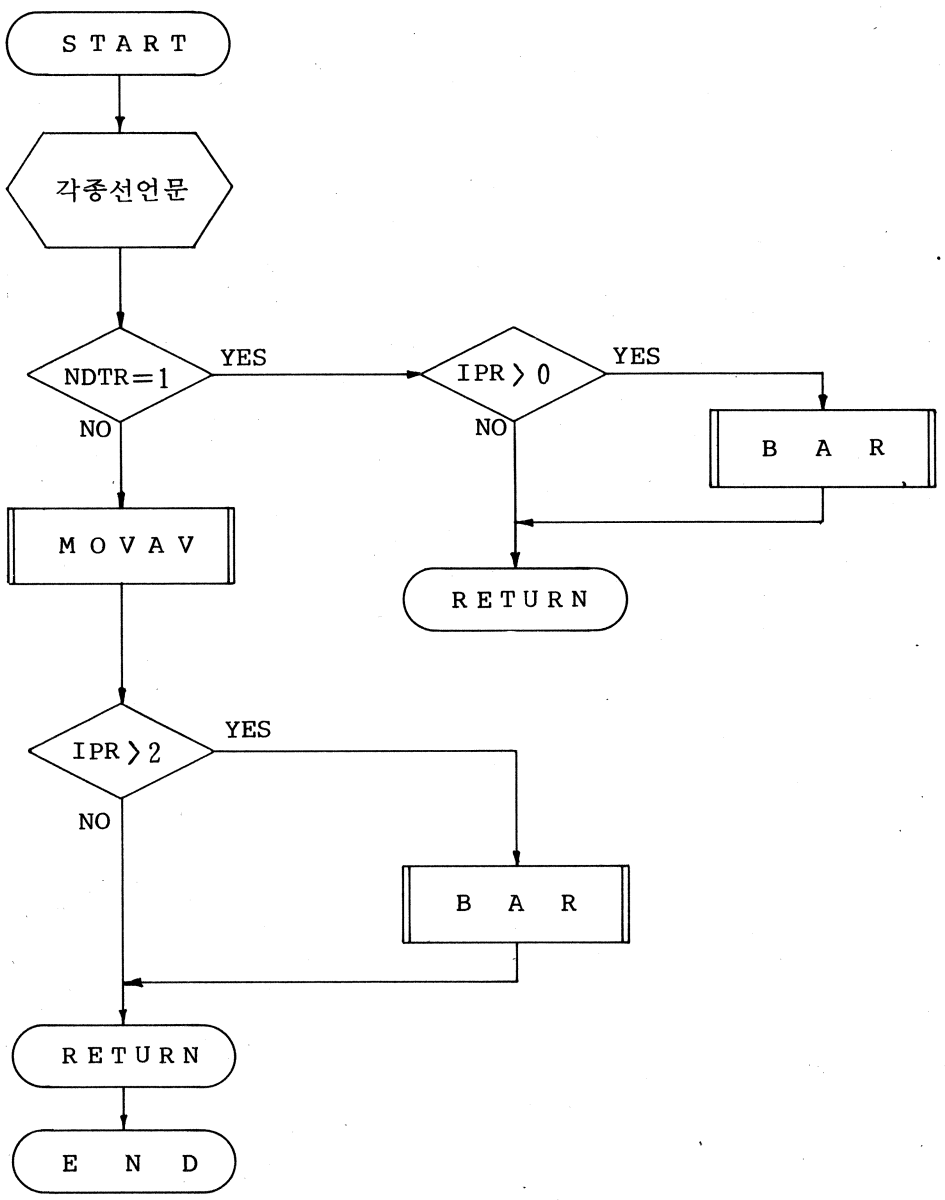
③ XXMON(660) : 추세치

④ OBS(660) : 최종 추세 조정계열

(3) CALL BY : TP1

CALL S : TITPR , QTR , TABWR , BAR , EXIT , MOVAV

(4) 개략도



22. TRIPLE(NYR,NMO,NTP)

(1) 기능 : 3국면법을 이용한 기울기 값 산출 프로그램

(2) 주요변수명 해설 : ① NYR(50) : T/P 년

② NMO(50) : T/P 월

③ SLN(50) : 기울기 값(각 국면의)

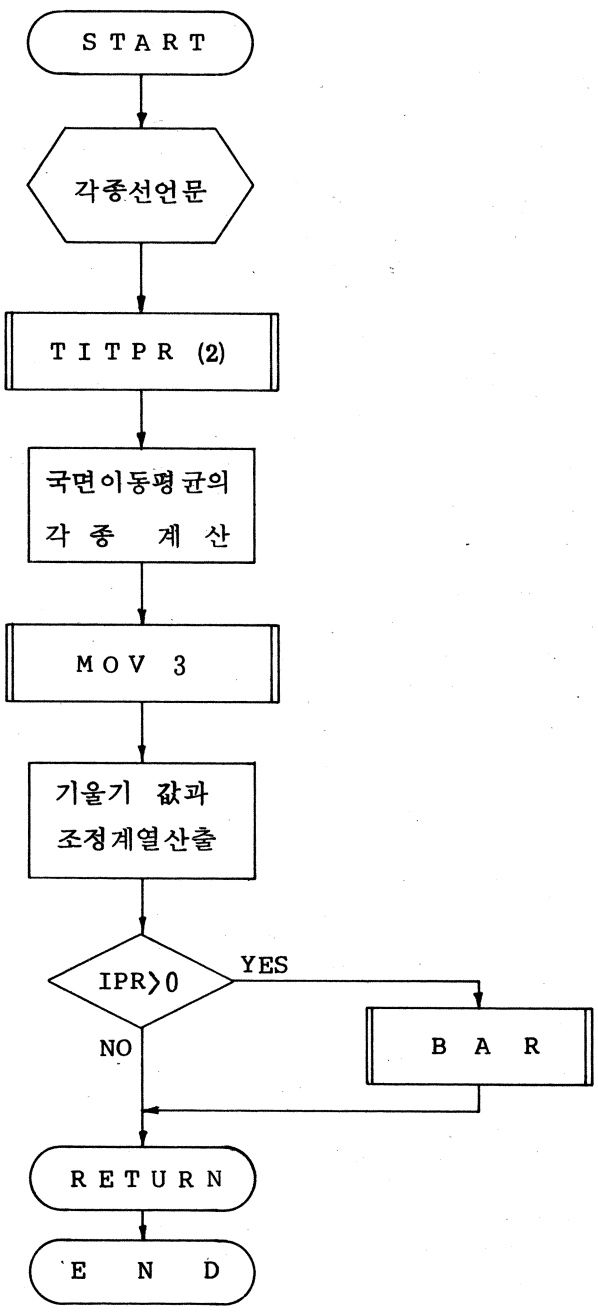
④ OBST(660) : 기울기 조정계열

⑤ OBS1(660) : 이동평균후 기울기 조정계열

(3) CALL BY : PR1

CALLS : QTR , TABWR, MOV3, EXIT

(4) 개략도



※ DOUBLE은 위의 내용과 거의 비슷하므로 생략함.

23. TABWR(X, IDIK)

(1) 기능 : 입력된 자료를 title과 함께 프린트함

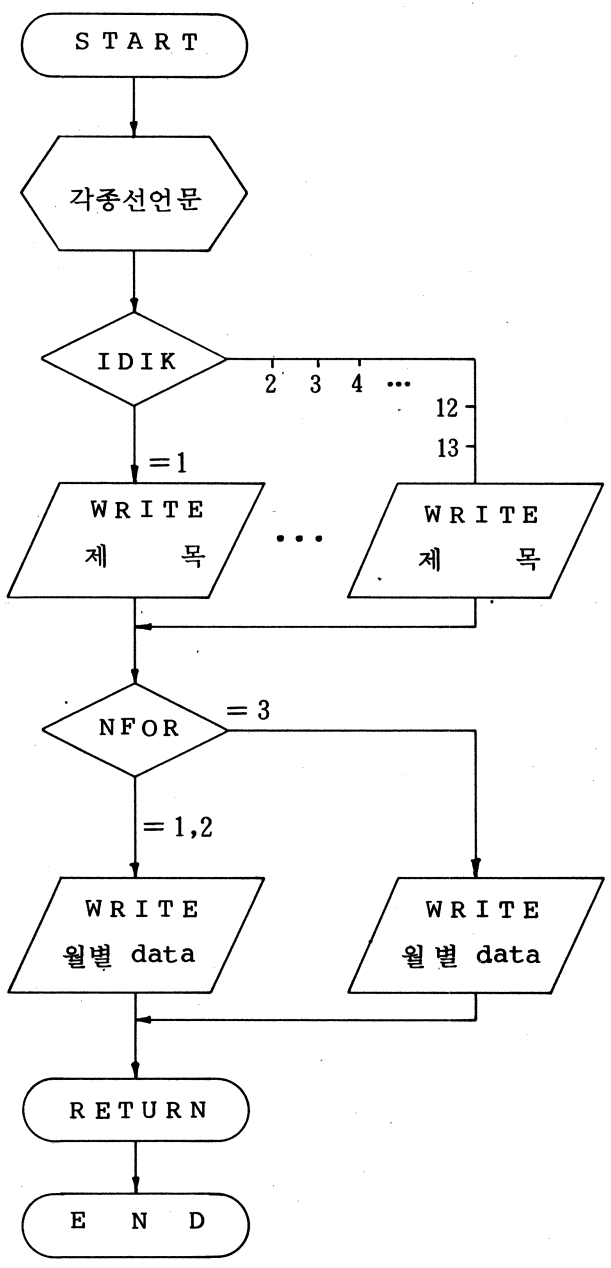
(2) 주요변수명 해설 : ① X(660) : 입력자료

② IDIK : 구분되는 번호

(3) CALL BY : 여러군데

CALLS : * * * * *

(4) 개략도



24. PR1 (X, NNP, MM, NTRIP)

(1) 기능 : option에 따라 제목을 프린트하고 3국면 PAT를 함

(2) 주요 변수명 해설 : ① X : 입력자료

② MM : T/P 갯수 option

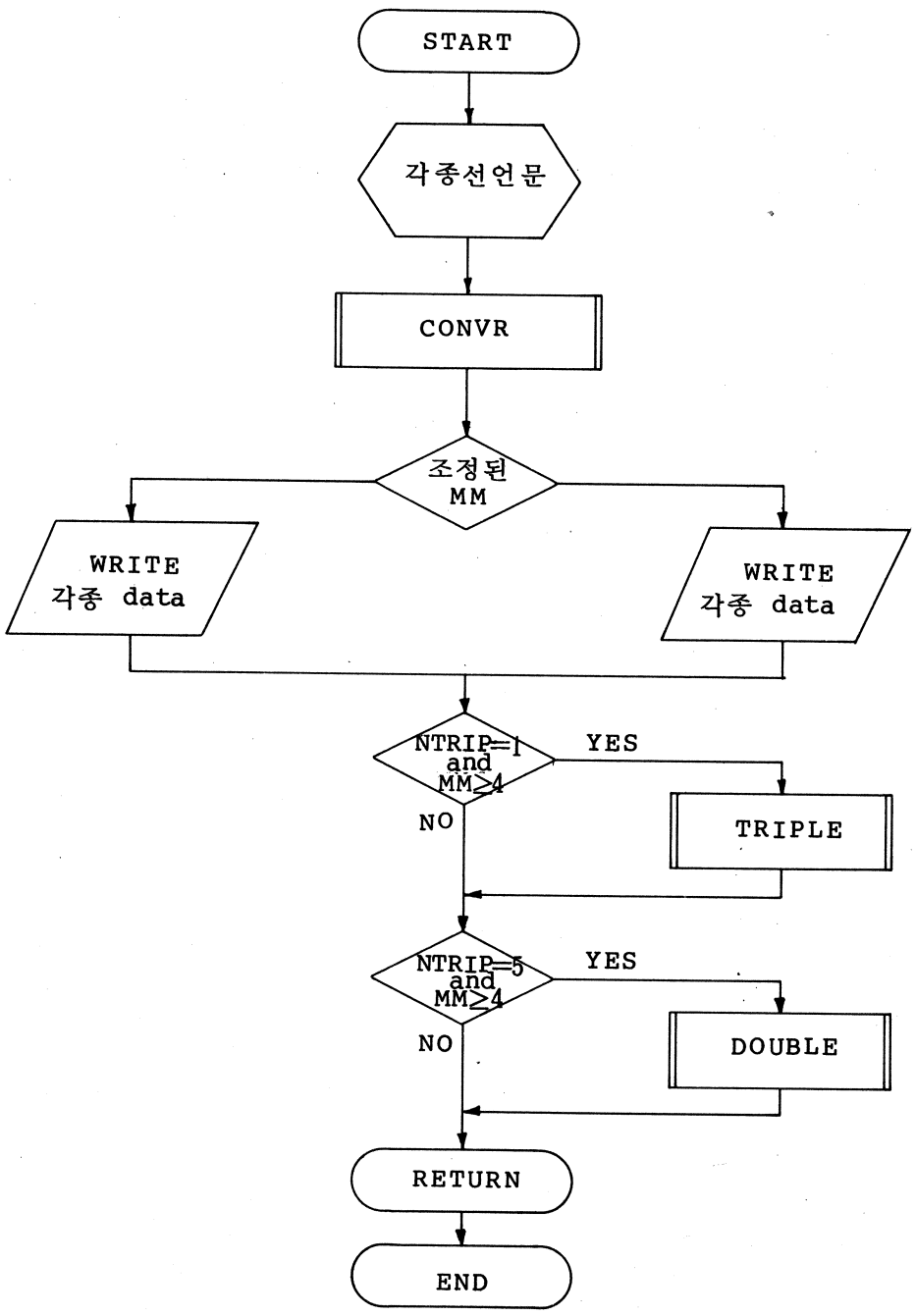
③ NNP : T/P

④ NTRIP : 3국면 PAT option

(3) CALL BY : TP3, TP4

CALLS : CONVR, TRIPLE

(4) 개략도



25. MOV3 (MMM, OBS, WMA, KMO, N)

(1) 기능 : 입력된 자료를 이동평균한 뒤 결항치를 보충한다.

(2) 주요 변수명 해설 : ① MMM : 이동평균기간

② OBS : 입력자료

③ WMA : 이동평균계열

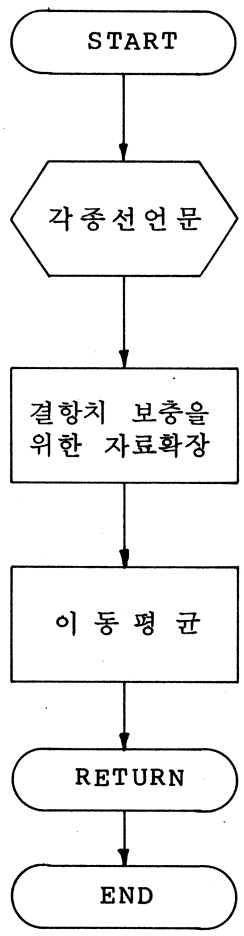
④ KMO : 초기항 위치

⑤ N : 입력자료수

(3) CALL BY : 여러군데

CALLS : *****

(4) 개략도



26. MOVAV (MMM , OBS , WMA , KMO , N)

(1) 기능 : 입력된 자료를 중심항 이동평균을 한다.

(2) 주요 변수명 해설 : ① MMM : 이동평균기간

② OBS : 입력자료

③ WMA : 이동평균계열

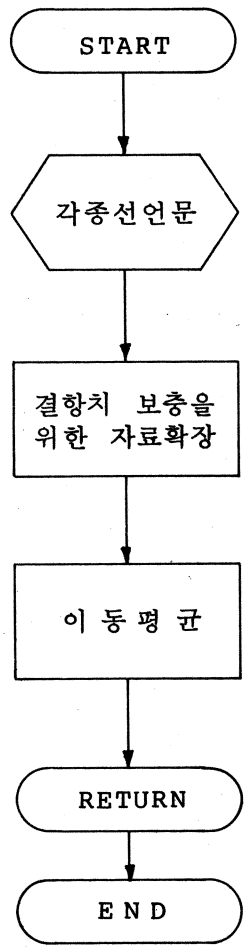
④ KMO : 초기항 위치

⑤ N : 입력자료수

(3) CALL BY : TP1 , NEWSUB

CALLS : *****

(4) 개략도



27. QTR (X)

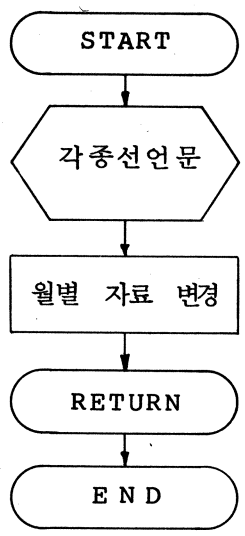
(1) 기능 : 입력되는 분기자료를 월별자료로 바꾼다.

(2) 주요 변수명 해설 : X : 입·출력자료

(3) CALL BY : 여러군데

CALLS : *****

(4) 개략도



28. CONVR (KK, JYR, JMO, KFYR)

(1) 기능 : serial number를 년·월로 바꾸는 프로그램

(2) 주요 변수명 해설 : ① KK : serial number

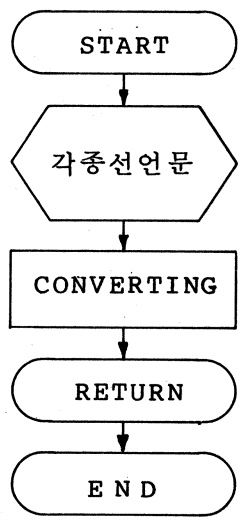
② JYR, JMO : 계산된 년·월

③ KFYR : 초기년도

(3) CALL BY : 여러군데

CALLS : *****

(4) 개략도



29. SPECV (X, RES, D)

(1) 기능 : Spencer 이동평균을 한다.

(2) 주요 변수명 해설 : ① X : 입력자료

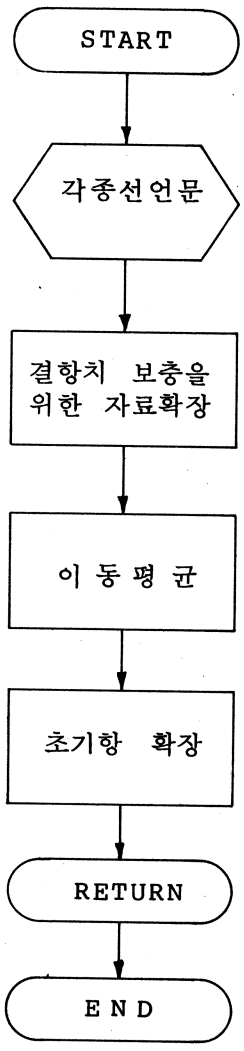
② RES : 이동평균계열

③ D : work 용

(3) CALL BY : TP1, BAR

CALLS : *****

(4) 개략도



30 . MDP(X,MC)

(1) 기능 : 구한 T/P 를 MCD에 의해서 check 하고 선정하는 프로그램

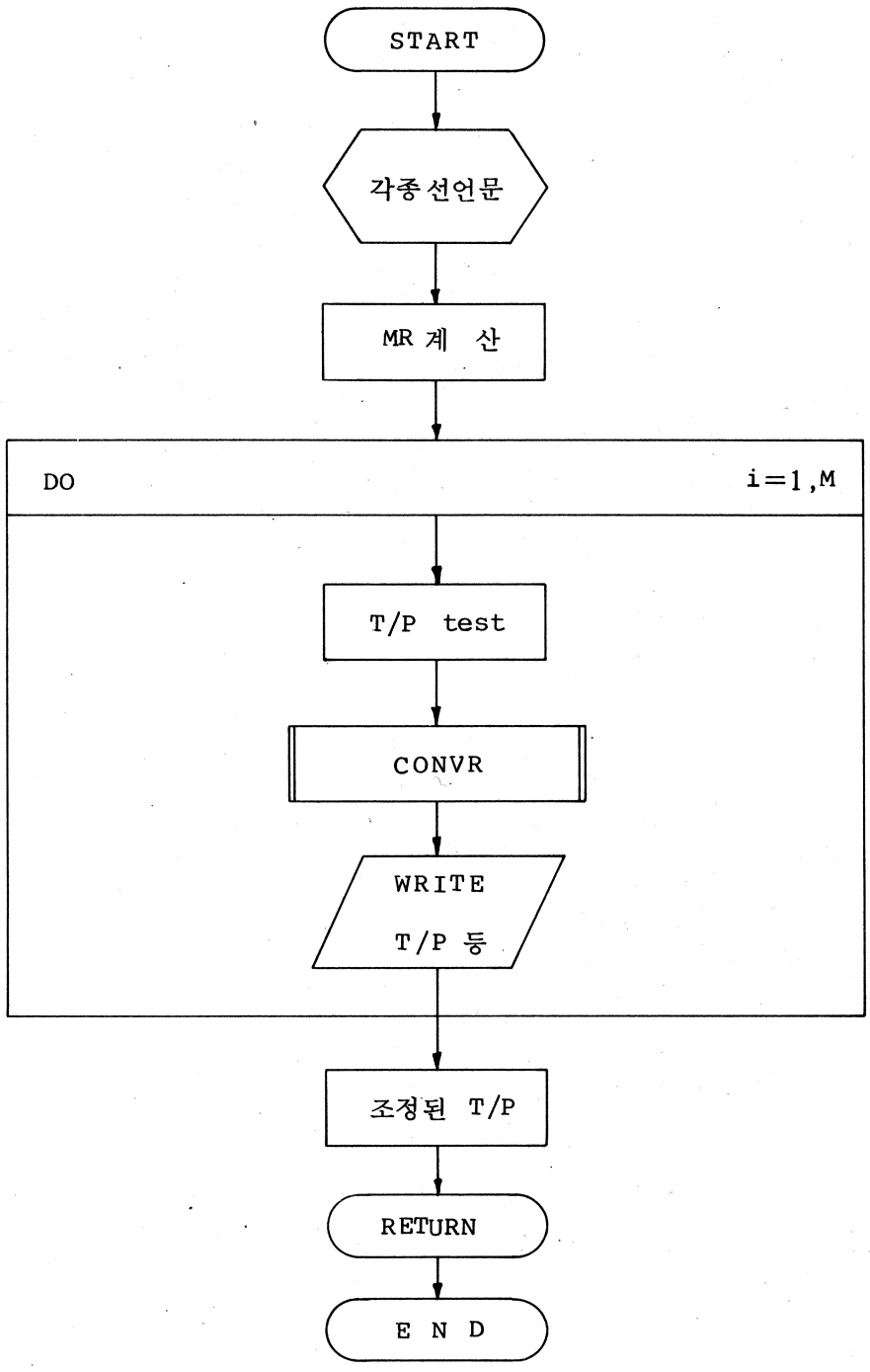
(2) 주요 변수명 해설 : ① X : 입력자료

② NP : T/P 값

(3) CALL BY : TP2, TP4

CALLS : CONVR

(4) 개략도



31 . WTP(XXX, NTRU)

(1) 기능 : SPECV에서 나온 값(XXX)을 갖고 T/P를 계산하고 Testing

(2) 주요 변수명 해설 : ① XXX : 입력자료

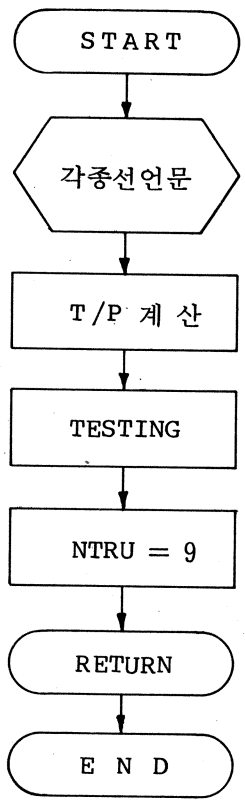
② IL(50, 2) : T/P

③ NTRU : 계산 option

(3) CALL BY : TP2

CALLS : *****

(4) 개략도



32 . TEST(ARAY, NOE)

(1) 기능 : 구한 T/P를 option에 따라 test하여 산정함

(2) 주요 변수명 해설 : ① ARAY : 입력자료

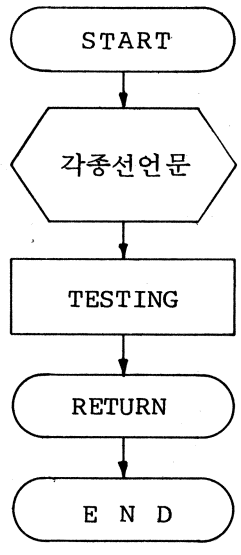
② NP(52) : 초기 T/P 점

③ NNP(52) : 조정 T/P점

(3) CALL BY : TP3

CALLS : CONVR

(4) 개략도



33. BAR (T, ICH)

(1) 기능 : 입력된 자료에서 Spencer 이동평균을 통해 C와 I값을 산출함

(2) 주요 변수명 해설 : ① OBS : 입력자료

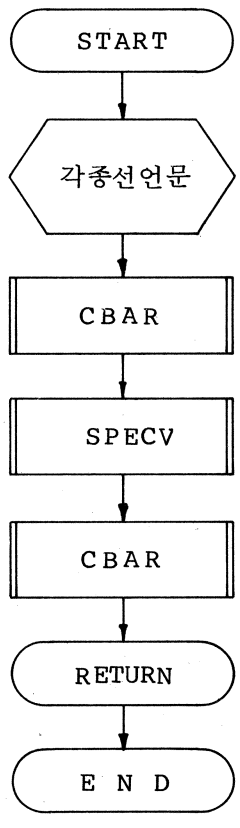
② W : C value

③ WMD : I value

(3) CALL BY : NEWSUB, DOUBLE, TRIPLE

CALLS : CBAR, SPECV, QTR

(4) 개략도



34. TITPR(ICH)

(1) 기 능 : Option에 따라 제목을 한변수(JTSE)에 입력시킨다.

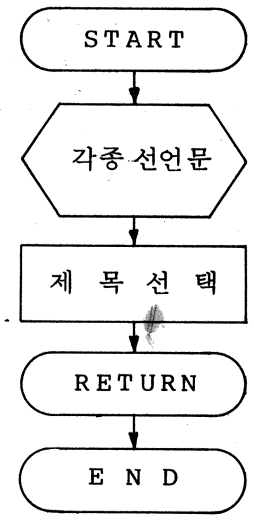
(2) 주요 변수명 해설 : ① JTSE(10) : 제목

② ICH : 제목 선택 option

(3) CALL BY : 여러군데

CALLS : *****

(4) 개략도



35. CBAR(X, ID, IPS)

(1) 기 능 : 입력 자료로부터 연평균 전월 증감율을 구한다.

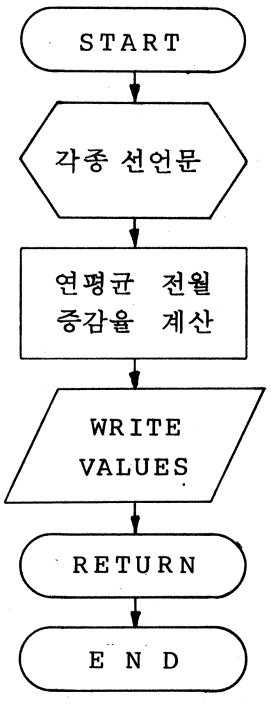
(2) 주요 변수명 해설 : ① X : 입력자료

② AV(11) : 연평균 전월 증감율

(3) CALL BY : BAR

CALLS : *****

(4) 개략도



제 3 절 프로그램 리스트(List)

```
//C07GISOT JOB CLASS=A,MSGCLASS=X
//STEP  EXEC  FORTVCLG,PARM='LANGLVL(77)',REGION=5000K
//FORT.SYSPRINT DD SYSOUT=Z
//*************************************************
//**                                             **
//**            CI  ALL  PROGRAM                 **
//**                 (BY  K.H.W)                 **
//*************************************************
//FORT.SYSTERM  DD SYSOUT=Z
//FORT.SYSIN DD *
C----THIS PROGRAM IS EBIP(ECONOMIC BUSINESS INDEXES PACKAGE)
      DIMENSION FOMCI(20)
      INTEGER*2 ZM,ZQ,ZZ
      REAL*8 GOOT1,GOOT2,FORCS
      COMMON /IDCIDI/ BOSS
      COMMON /TCOUNT/ NID,JCOUNT
      COMMON /DEVICE/ MT5,MT6
      COMMON /POWER1/ WEIGH,LBASE,KFYR,KFMO,KEYR,KEMO,KFDA,KEDA
      COMMON /POWER2/ NKBLK,KAFYR(5),KAFMO(5),KAEYR(5),KAEMO(5)
      COMMON /POWER3/ MJPN,JKFYR
      COMMON /POWER5/ KPEYR,KPEMO
      COMMON /TITS/ TITLE(20,20),TNAME(20)
      COMMON /GNPOP1/ NGNP,I1FGYR,I1EGYR,I2FGYR,I2EGYR
      COMMON /GNPOP2/ GOOT1,GOOT2
      COMMON /GNPOP3/ TRADJ1,TRADJ2
      COMMON /INDAT/ XIDAT(400),XODAT(400)
      COMMON /RUNDAT/ XDAT(400)
      COMMON /FORTND/ COINCI(400),NFA,NLA,MOVNUM
      COMMON /OT1/ IPRT,ICHRT,MTYPE,NPAT1,LRATIO,LRIOR,KSGR
      COMMON /OT3/ INV,NPCD,IOR,MPOS,MOVE,MCD,SWGT,MYES
      COMMON /OT4/ KRATE,KRY
      COMMON /OT5/ COMPP
      COMMON /IT2/ LFYR,LFMO,LEYR,LEMO
      COMMON /ST1/KBLK,KSFYR(5),KSFMO(5),KSEYR(5),KSEMO(5)
      COMMON /PATOPT/ PATP,NFORP,INVP,IPRP,NCHRTP,IRDP,NDTRP,LOGP,MCDP
     1           ,AMULP,ITERMP,NDIFFP,LTPP
      COMMON /PATPA1/ NPSEL
      COMMON /PATPA2/ FORCS
      COMMON /PATPA3/ NPSELC
      COMMON /PATPA4/ FORCSC
      COMMON /PATPA5/ NPAT2
      COMMON /COM1/ XXODAT(20,400),MNY(20),MID1(20),MINV(20),MNPCD(20)
     1       ,MIOR(20),MMYES(20),MMPOS(20),MMOVE(20),MMCD(20),XSWGT(20)
     2       ,MLFYR(20),MLFMO(20),MLEYR(20),MLEMO(20)
     3       ,MKBLK(20),MSFYR(20,5),MSFMO(20,5),MSEYR(20,5),MSEMO(20,5)
     4       ,MKRATE(20),MRYTY(20)
      DATA COMP /4H    /
      DATA COMA,COMB,COMC /4HCOMA,4HCOMB,4HCOMC/
      DATA DIFA,DIFB,DIFC /4HDIFA,4HDIFB,4HDIFC/
    9 FORMAT(1H1///5X,'******  OPTIONS INFORMATION  ******')
```

```
11 FORMAT(//5X,'THE PROPERTY OF COMPOSITE INDEX(BOSS) = ',A4,' INDEX'
  1/5X,'THE NUMBER OF COMPONENT SERIES(NID) = ',I2,' INPUT SERIES'
  2/5X,'THE PERIOD OF COMPOSITE INDEX(KFYR,KFMO,KEYR,KEMO) = ',I2,'.'
  3,I2,' - ',I2,'.',I2/5X,'THE BASE YEAR = ',I2,' YEAR'
  4/5X,'THE OPTION OF CALCULATING MONTH TO MONTH AND YEAR TO YEAR (LR
  5ATIO)', I2,'(0:NO 1:YES)'
  6/5X,'THE NUMBER OF FLOATING POINT ABOVE SERIES(LRATIO)  = ',I2
  7/5X,'THE OPTION OF THE SMOOTHED GROWTH RATE FOR A.0,E.0,3MA SERIES
  8(KSGR) = ',I2,'(0:NO 1:YES)')
21 FORMAT(/5X,'THE TYPE OF CALCULATING THE COMPOSITE INDEX = ',A4,'
  1(IF COMA=THE CI OF TC, COMB=THE CI OF C, COMC=THE CI OF 12MS'
  2/60X,' DIFA=THE DI OF TCI, DIFB=THE DI OF C, DIFC=THE DI OF 12MS)'
  3/5X,'THE OPTION OF NEW METHOD OF CALCULATING THE CI(MTYPE)=  ',I1,
  4'(0: THE METHOD OF KOREA 1: THE METHOD OF JAPAN 2: THE METHOD OF
  5 ALL)'
  6/5X,'THE OPTION OF CALCULATING THE PAT IN CI(NPAT1) = ',I2,'(IF 0
  7: NO  X>=1 : YES)'/5X,'THE OPTION OF CALCULATING THE PAT IN COMPON
  8ENT SERIES(NPAT2) = ',I1,' (0 OR 1:NO  2:YES )'
  9/5X,'THE STANDARDIZATION FACTOR OF CI = ',F5.3/)
25 FORMAT(8X,I2,8I2)
31 FORMAT(/5X,'THE PERIODICITY OF THE DATA(NFORP) = ',I1,' (0 OR 1:MO
  1NTHLY  2:QUARTERLY)'/5X,'THE INVERSION OPTION(INVP) = ',I1,' (0:NO
  2  1:YES)'/5X,'THE DEVIATION FR. TREND OPTION(IRDP) = ',I1,' (0:RAT
  3IO  1:DIFFERENCE)'/5X,'DETRENDING OPTION = ',I1,' (0:YES  1:NO)'
  4/5X,'LOG. OPTION = ',I1,' (0:YES  1:NO)'/5X,'MCD VALUE = ',I1,'( I
  5F 0 THEN MCD IS COMPUTED BY THE PROGRAM)'/5X,'THE NB. OF TERMS FOR
  6 THE MOV.AVG. COMPUTING THE FIRST TREND(ITERMP) = ',I2/5X,'THE NUM
  7BER OF PHASE AVERAGE(LTPP) = ',I1,' (2:DOUBLE  3:TRIPLET)'/5X,'MIN
  8MAL NB. OF MONTHS BETWEEN TWO SAME TURING POINT(NDIFFP) = ',I2/)
41 FORMAT(/5X,'THE PERIOD NUMBER OF GNP ADJUST.(NGNP) = ',I1
  1/5X,'THE PERIOD OF GNP ADJUST.(I1FGYR - I2EGYR) = ',I2,' - ',I2,I3
  2,' - ',I2/5X,'THE 1ST VALUE OF GNP(GOOT1) = ',F10.8
  3/5X,'THE 2ND VALUE OF GNP(GOOT2) = ',F10.8/)
92 FORMAT(/5X,'THE PERIOD OF COIN. ADJUSTED TREND(IGFYR - IGEMO) = ',
  1I2,'.',I2,' - ',I2,'.',I2/5X,'THE PERIOD OF MOV. AVG.(MOVNUM) = ',
  2I3/)
   KCOM=0
   JCHECK=1
   JCOUNT=0
   MT5=5
   MT6=6
   READ(MT5,10) BOSS,NID,KFYR,KFMO,KEYR,KEMO,LBASE,IPRT
10 FORMAT(A4,7X,6I2,I1)
   CALL CONVYM(KFYR,KFMO,KEYR,KEMO,KFDA,KEDA)
   READ(MT5,20) COMP,MTYPE,NPAT1,WEIGH,LRATIO,LRIOR,KSGR
20 FORMAT(A4,6X,2I1,F5.3,1X,I2,2I1)
   READ(MT5,25) NKBLK,(KAFYR(I),KAFMO(I),KAEYR(I),KAEMO(I),I=1,2)
   READ(MT5,30) PATP,NFORP,INVP,IPRP,NCHRTP,IRDP,NDTRP,LOGP,MCDP
  1            ,AMULP,ITERMP,NDIFFP,LTPP,NPSEL,FORCS,KPEYR,KPEMO
30 FORMAT(A4,6X,7I1,I2,F3.1,2I2,I1,1X,I1,1X,F10.8,1X,2I2)
   READ(MT5,40)GNP1,NGNP,I1FGYR,I1EGYR,I2FGYR,I2EGYR,GOOT1,GOOT2
40 FORMAT(A4,5X,I1,4I2,2F10.8)
C-----------------------------------------< TREND ADJ. SERIES #1>-
   READ(MT5,91) GNP2,IGFYR,IGFMO,IGEYR,IGEMO,MJPN,JKFYR
91 FORMAT(A4,6X,4I2,I3,1X,I2,I2)
```

```
      CALL CONVYM(IGFYR,IGFMO,IGEYR,IGEMO,NFA,NLA)
      READ(MT5,60) FOMCI
   60 FORMAT(20A4)
      READ(MT5,FOMCI)(COINCI(I),I=NFA,NLA)
C-----------------------------------------------< OPTION INFORMATION>-
      READ(MT5,60) TNAME
      IF(IPRT.GE.4) THEN
       WRITE(MT6,9)
       WRITE(MT6,11) BOSS,NID,KFYR,KFMO,KEYR,KEMO,LBASE,LATIO,LRIOR
     1,KSGR
       WRITE(MT6,21) COMP,MTYPE,NPAT1,NPAT2,WEIGH
       WRITE(MT6,31) NFORP,INVP,IRDP,NDTRP,LOGP,MCDP,ITERMP,LTPP,NDIFFP
       WRITE(MT6,41)NGNP,I1FGYR,I1EGYR,I2FGYR,I2EGYR,GOOT1,GOOT2
       WRITE(MT6,92) IGFYR,IGFMO,IGEYR,IGEMO,MOVNUM
       WRITE(MT6,120)
      END IF
  120 FORMAT(1H1)
      COMPP=COMP
C-------------------------------------------------< INPUT SERIES >-
  110 CALL EDIT(JCHECK)
      IF(JCHECK.EQ.1) GO TO 110
C-------------------------------------------------< MAIN CALCULATING >-
      WRITE(MT6,130) NID
  130 FORMAT(1H1//' ### THE END OF THE DATA INPUT !!!! '//
     1       ' INPUT DATA NUMBER : ',I3)
      IF((COMP.EQ.COMA).OR.(COMP.EQ.COMC))  CALL COMTC
      IF((COMP.EQ.COMA).AND.(MTYPE.EQ.2)) THEN
          WRITE(MT6,130) NID
          CALL COMTC
      END IF
      IF((COMP.EQ.COMB).OR.(COMP.EQ.DIFB)) CALL CIOFC
      IF((COMP.EQ.DIFA).OR.(COMP.EQ.DIFB).OR.(COMP.EQ.DIFC)) CALL CDIFF
      STOP
      END
C-----THIS ROUTINE CREATES THE TCI SERIES FROM THE INPUT SERIES .
      SUBROUTINE EDIT(JCHECK)
      DIMENSION IFD(5),XODAT1(400)
      INTEGER*2 MQ,ZZ,IDD,AA,BB
      COMMON /IDCIDI/ BOSS
      COMMON /TCOUNT/ NID,JCOUNT
      COMMON /FORMT/ FMAT(20)
      COMMON /DEVICE/ MT5,MT6
      COMMON /POWER1/ WEIGH,LBASE,KFYR,KFMO,KEYR,KEMO,KFDA,KEDA
      COMMON /POWER6/ LPEYR,LPEMO
      COMMON /TITS/ TITLE(20,20),TNAME(20)
      COMMON /INDAT/ XIDAT(400),XODAT(400)
      COMMON /RUNDAT/ XDAT(400)
      COMMON /OT1/ IPRT,ICHRT,MTYPE,NPAT1,LRATIO,LRIOR,KSGR
      COMMON /OT3/ INV,NPCD,IOR,MPOS,MOVE,MCD,SWGT,MYES
      COMMON /OT4/ KRATE,KRY
      COMMON /OT5/ COMPP
      COMMON /IT2/ LFYR,LFMO,LEYR,LEMO
      COMMON /ST1/KBLK,KSFYR(5),KSFMO(5),KSEYR(5),KSEMO(5)
      COMMON /PATOPT/ PATP,NFORP,INVP,IPRP,NCHRTP,IRDP,NDTRP,LOGP,MCDP
     1           ,AMULP,ITERMP,NDIFFP,LTPP
```

```
      COMMON /COM1/ XXODAT(20,400),MNY(20),MID1(20),MINV(20),MNPCD(20)
     1        ,MIOR(20),MMYES(20),MMPOS(20),MMOVE(20),MMCD(20),XSWGT(20)
     2        ,MLFYR(20),MLFMO(20),MLEYR(20),MLEMO(20)
     3        ,MKBLK(20),MSFYR(20,5),MSFMO(20,5),MSEYR(20,5),MSEMO(20,5)
     4        ,MKRATE(20),MRYTY(20)
      COMMON /COMCI1/ CDAT(660),TDAT(660)                                    JUP06580
      COMMON /PATPA3/ NPSELC
      COMMON /PATPA4/ FORCSC
      COMMON /PATPA5/ NPAT2
      DATA ZZ/1HZ/
      DATA AA,BB /1HA,1HB/
      DATA COMA,COMB,COMC /4HCOMA,4HCOMB,4HCOMC/
      DATA DIFA,DIFB,DIFC /4HDIFA,4HDIFB,4HDIFC/
      JCOUNT=JCOUNT+1
      MRB=0
      READ(MT5,10) MQ,IDD,MRB,LFYR,LFMO,LEYR,LEMO,IFD(1),IFD(2),IFD(3)
     1,IFD(4),IFD(5),KRATE,INV,NPCD,IOR,NPAT2,MYES,MPOS,MOVE,MCD,SWGT
     2,ISEAN,NPSELC,FORCSC,LPEYR,LPEMO
   10 FORMAT(2A1,I1,3X,4I2,1X,5I1,1X,7I1,1X,2I2,1X,F5.3,1X,I1,I1,F10.8
     1,2I2)
      IF (MQ.EQ.ZZ) THEN
       JCHECK=9
       RETURN
      END IF
      KRY=IFD(2)
      NY=12
      IF (MQ.EQ.ZQ)  NY=4
      READ(MT5,20) KBLK,(KSFYR(I),KSFMO(I),KSEYR(I),KSEMO(I),I=1,5)
   20 FORMAT(8X,I2,20I2)
      CALL CONVYM(LFYR,LFMO,LEYR,LEMO,LFDA,LEDA)
      READ(MT5,30) (TITLE(JCOUNT,I),I=1,20)
   30 FORMAT(20A4)
C-----------------------------------------------<READ AND WRITE RAW DATA >-
      READ(MT5,30) FMAT
      READ(MT5,FMAT)(XIDAT(I),I=LFDA,LEDA)
      DO 40 I=LFDA,LEDA
      XODAT1(I) = XIDAT(I)
   40 XODAT(I) = XIDAT(I)
      IF(IPRT.GE.3) THEN
       WRITE(MT6,50) (TITLE(JCOUNT,I),I=1,20)
   50  FORMAT(1H1///2X,20A4)
       IF(IDD.EQ.AA)  WRITE(MT6,60)
       IF(IDD.EQ.BB)  WRITE(MT6,65)
   60  FORMAT(/2X,'A.0 : ORIGINAL SERIES ( NOT REAL )'//)
   65  FORMAT(/2X,'A.0 : ORIGINAL SERIES ( REAL )'//)
       CALL RITE01(XIDAT,LFDA,LEDA,NY,IOR)
      END IF
      IF(IPRT.GE.4) THEN
       IF(LRATIO.GE.1) CALL RITE04(XIDAT,LFDA,LEDA,LRATIO,KRY)               DIA0691
       IF(KSGR.EQ.1)   CALL RITE03(XIDAT,LFDA,LEDA)                          DIA0691
      END IF
C-------------------------------------------------<RAW DATA INDEXING>-
      IF(MRB.EQ.1) THEN
       CALL REBASE(XODAT,LFDA,LEDA,NY)
       CALL REBASE(XODAT1,LFDA,LEDA,NY)
```

```
      IF(IPRT.GE.3) THEN
       WRITE(MT6,50) (TITLE(JCOUNT,I),I=1,20)
       WRITE(MT6,70)  LBASE
 70    FORMAT(//2X,'A.1 : INDEXING SERIES (BASE YEAR=19',I2,')'//)
       CALL RITE01(XODAT,LFDA,LEDA,NY,IOR)
      END IF
      IF(IPRT.GE.4) THEN
       IF(LRATIO.GE.1) CALL RITE04(XODAT,LFDA,LEDA,LRATIO,KRY)          DIA0691
      END IF
     END IF
C-------------------------------<READ DEFLATOR AND WRITE ADJ. SERIES>-
     IF(IFD(1).GE.1) THEN
      READ(MT5,30) FMAT
      READ(MT5,FMAT)(XIDAT(J),J=LFDA,LEDA)
      DO 80 J=LFDA,LEDA
       IF(XIDAT(J).NE.0.0) THEN
        XODAT(J)=XODAT(J)/XIDAT(J)*100.0
        XODAT1(J)=XODAT(J)
       END IF
 80   CONTINUE
      IF(IPRT.GE.3) THEN
       WRITE(MT6,50) (TITLE(JCOUNT,I),I=1,20)
       WRITE(MT6,90)
 90    FORMAT(//2X,'A.1 : DEFLATOR SERIES'//)
       CALL RITE01(XIDAT,LFDA,LEDA,NY,IOR)
       WRITE(MT6,50) (TITLE(JCOUNT,I),I=1,20)
       IF(IFD(2).EQ.0) WRITE(MT6,100)
       IF(IFD(2).GE.1) WRITE(MT6,101)
 100   FORMAT(//2X,'F.0 : THE SERIES ADJUSTED BY DEFLATOR'//)
 101   FORMAT(//2X,'F.1 : THE SERIES ADJUSTED BY DEFLATOR'//)
       CALL RITE01(XODAT,LFDA,LEDA,NY,IOR)
      END IF
      IF((IPRT.GE.4).AND.(IFD(2).EQ.0)) THEN
       IF(LRATIO.GE.1) CALL RITE04(XODAT,LFDA,LEDA,LRATIO,KRY)          DIA0691
      END IF
     END IF
C---------------------------------------<DEFLATOR-ADJ. DATA INDEXING>-
     IF(IFD(1).EQ.2) THEN
      CALL REBASE(XODAT,LFDA,LEDA,NY)
      CALL REBASE(XODAT1,LFDA,LEDA,NY)
      IF(IPRT.GE.3) THEN
       WRITE(MT6,50) (TITLE(JCOUNT,I),I=1,20)
       WRITE(MT6,105) LBASE
 105   FORMAT(//2X,'F.2 : THE INDEXING SERIES (BASE YEAR=19',I2,')'//)
       CALL RITE01(XODAT,LFDA,LEDA,NY,IOR)
      END IF
     END IF
C-----------------------------------------<READ AND WRITE Y TO Y CHANGE>-
     IF(IFD(2).GE.1) THEN
      LFDA=LFDA+12
      LFYR=LFYR+1
      DO 110 J=LFDA,LEDA
       IF(XODAT(J-12).NE.0.0) XIDAT(J)=(XODAT(J)/XODAT(J-12))*100.0
 110  CONTINUE
      DO 115 J=LFDA,LEDA
```

```
       XODAT(J)=XIDAT(J)
       XODAT1(J)=XODAT(J)
  115  CONTINUE
       IF(IPRT.GE.3) THEN
        WRITE(MT6,50) (TITLE(JCOUNT,I),I=1,20)
        WRITE(MT6,130)
  130   FORMAT(//2X,'C.0 : THE ADJ. SERIES BY YEAR TO YEAR CHANGE'//)
        CALL RITE01(XODAT,LFDA,LEDA,NY,IOR)
       END IF
       IF(IPRT.GE.4) THEN
        IF(LRATIO.GE.1) CALL RITE04(XODAT,LFDA,LEDA,LRATIO,KRY)          DIA0691
       END IF
      END IF
      IF(IFD(2).EQ.2) THEN
        CALL REBASE(XODAT,LFDA,LEDA,NY)
        CALL REBASE(XODAT1,LFDA,LEDA,NY)
        IF(IPRT.GE.3) THEN
         WRITE(MT6,50) (TITLE(JCOUNT,I),I=1,20)
         WRITE(MT6,135) LBASE
  135    FORMAT(//2X,'C.1 : THE INDEXING SERIES (BASE YEAR=19',I2,')'/)
         CALL RITE01(XODAT,LFDA,LEDA,NY,IOR)
         IF(LRATIO.GE.1) CALL RITE04(XODAT,LFDA,LEDA,LRATIO,KRY)         DIA0691
        END IF
      END IF
C-----------------------------------------------------<COMC: 12MS CI >--
      IF((COMPP.EQ.COMC).OR.(COMPP.EQ.DIFC)) THEN
        IF(IFD(3).GE.1) THEN
          LFDA=LFDA-12
          READ(MT5,30) FMAT
          READ(MT5,FMAT) (XIDAT(J),J=LFDA,LEDA)
        END IF
        IF(IFD(4).GE.1) THEN
          IF(IFD(3).EQ.0) LFDA=LFDA-12
          READ(MT5,30) FMAT
          READ(MT5,FMAT) (XIDAT(J),J=LFDA,LEDA)
        END IF
        IF(IFD(5).GE.1) THEN
          IF((IFD(3).EQ.0).AND.(IFD(4).EQ.0)) LFDA=LFDA-12
          READ(MT5,30) FMAT
          READ(MT5,FMAT) (XIDAT(J),J=LFDA,LEDA)
        END IF
        GO TO 999
      END IF
C-----------------------------------------------------<READ PRIOR FACTOR>--
      IF(IFD(3).GE.1) THEN
        READ(MT5,30) FMAT
        READ(MT5,FMAT)(XIDAT(J),J=LFDA,LEDA)
        DO 140 J=LFDA,LEDA
        IF(XIDAT(J).NE.0.0) THEN
          XODAT(J)=XODAT(J)/XIDAT(J)*100.0
        END IF
  140   CONTINUE
        IF(IPRT.GE.3) THEN
          WRITE(MT6,50) (TITLE(JCOUNT,I),I=1,20)
          WRITE(MT6,150)
```

```
          CALL RITE01(XIDAT,LFDA,LEDA,NY,IOR)
          WRITE(MT6,50) (TITLE(JCOUNT,I),I=1,20)
          WRITE(MT6,160)
          CALL RITE01(XODAT,LFDA,LEDA,NY,IOR)
          IF(LRATIO.GE.1) CALL RITE04(XODAT,LFDA,LEDA,LRATIO,KRY)        DIA0691
        END IF
      END IF
  150 FORMAT(//2X,'A.3 : THE PRIOR FACTOR'//)
  160 FORMAT(//2X,'P.0 : THE SERIES ADJUSTED BY PRIOR FACTOR'//)
C-----------------------------------------<PRIOR-ADJ. DATA INDEXING>-
      IF(IFD(3).EQ.2) THEN
       CALL REBASE(XODAT,LFDA,LEDA,NY)
       IF(IPRT.GE.3) THEN
        WRITE(MT6,50) (TITLE(JCOUNT,I),I=1,20)
        WRITE(MT6,165) LBASE
  165   FORMAT(//2X,'P.1 : INDEXING SERIES (BASE YEAR=19',I2,')'//)
        CALL RITE01(XODAT,LFDA,LEDA,NY,IOR)
       END IF
       IF(IPRT.GE.4) THEN
        IF(LRATIO.GE.1) CALL RITE04(XODAT,LFDA,LEDA,LRATIO,KRY)          DIA0691
       END IF
      END IF
C-------------------------------------<READ AND WRITE SEASONAL SERIES>-
      IF(IFD(4).GE.1) THEN
       READ(MT5,30) FMAT
       READ(MT5,FMAT)(XIDAT(J),J=LFDA,LEDA)
       IF(ISEAN.EQ.1) THEN
        DO 170 J=LFDA,LEDA
  170   XODAT(J)=XODAT1(J)
       END IF
       DO 175 J=LFDA,LEDA
        IF(XIDAT(J).NE.0.0)  XODAT(J)=XODAT(J)/XIDAT(J)*100.0
  175  CONTINUE
       IF(IPRT.GE.3) THEN
        WRITE(MT6,50) (TITLE(JCOUNT,I),I=1,20)
        WRITE(MT6,180)
  180   FORMAT(//2X,'D.10 : SEASONAL FACTORS'//)
        CALL RITE01(XIDAT,LFDA,LEDA,NY,2)
        IF(LRATIO.GE.1) CALL RITE05(XIDAT,LFDA,LEDA,LRATIO,KRY)          DIA0691
        WRITE(MT6,50) (TITLE(JCOUNT,I),I=1,20)
        IF(ISEAN.EQ.0) WRITE(MT6,190)
        IF(ISEAN.EQ.1) WRITE(MT6,192)
  190 FORMAT(//2X,'D.11 : SEASONAL ADJUSTED SERIES( BY JUST BEFORE SERIE
     1S )'//)
  192 FORMAT(//2X,'D.11 : SEASONAL ADJUSTED SERIES( NOT BY PRIOR FACTOR
     1ADJ. SERIES )'//)
        CALL RITE01(XODAT,LFDA,LEDA,NY,IOR)
       END IF
       IF(IPRT.GE.4) THEN
        IF(LRATIO.GE.1) CALL RITE04(XODAT,LFDA,LEDA,LRATIO,KRY)          DIA0691
       END IF
      END IF
C-----------------------------------------<SEASONAL-ADJ. DATA INDEXING>-
      IF(IFD(4).EQ.2) THEN
       CALL REBASE(XODAT,LFDA,LEDA,NY)
```

```
       IF(IPRT.GE.3) THEN
        WRITE(MT6,50) (TITLE(JCOUNT,I),I=1,20)
        WRITE(MT6,195) LBASE
  195   FORMAT(//2X,'D.11.I : INDEXING SERIES (BASE YEAR=19',I2,')'//)
        CALL RITE01(XODAT,LFDA,LEDA,NY,IOR)
       END IF
       IF(IPRT.GE.4) THEN
        IF(LRATIO.GE.1) CALL RITE04(XODAT,LFDA,LEDA,LRATIO,KRY)          DIA0691
       END IF
      END IF
C-----------------------------<READ AND WRITE SEASONAL ADJUSTED SERIES>-
      IF(IFD(5).GE.1) THEN
       READ(MT5,30) FMAT
       READ(MT5,FMAT)(XODAT(J),J=LFDA,LEDA)
       IF(IPRT.GE.3) THEN
        WRITE(MT6,50) (TITLE(JCOUNT,I),I=1,20)
        WRITE(MT6,200)
  200   FORMAT(//2X,'D.11 : SEASONAL ADJUSTED SERIES'//)
        CALL RITE01(XODAT,LFDA,LEDA,NY,IOR)
       END IF
       IF(IPRT.GE.4) THEN
        IF(LRATIO.GE.1) CALL RITE04(XODAT,LFDA,LEDA,LRATIO,KRY)          DIA0691
       END IF
      END IF
C---------------------------------------<SEASONAL-ADJ. DATA INDEXING>-
      IF(IFD(5).EQ.2) THEN
       CALL REBASE(XODAT,LFDA,LEDA,NY)
       IF(IPRT.GE.3) THEN
        WRITE(MT6,195) LBASE
  205   FORMAT(1H1///2X,'D.11.I : INDEXING SERIES (BASE YEAR=19',')'//)
        CALL RITE01(XODAT,LFDA,LEDA,NY,IOR)
       END IF
       IF(IPRT.GE.4) THEN
        IF(LRATIO.GE.1) CALL RITE04(XODAT,LFDA,LEDA,LRATIO,KRY)          DIA0691
       END IF
      END IF
      IF(KSGR.EQ.1) CALL RITE03(XODAT,LFDA,LEDA)                         DIA0691
C-------------------------------------------------------<DATA COLLEC>-
  999 IF((COMPP.EQ.COMC).OR.(COMPP.EQ.DIFC)) THEN
       IF((IFD(3).EQ.1).OR.(IFD(4).EQ.1).OR.(IFD(5).EQ.1)) LFDA=LFDA+12
      END IF
      JCHECK=1
      KCOM=KCOM+1
      CALL COLLEC(KCOM,LFDA,LEDA)
      J=0
      DO 210 I=LFDA,LEDA
      J=J+1
  210 XIDAT(J)=XODAT(I)
      LLFYR=LFYR+1900
      IF(NPAT2.EQ.2) THEN
       CALL PATSUB(J,LLFYR,XIDAT)
       DO 240 J=1,LFDA-1
  240  TDAT(J)=999999999.9
       I=0
       DO 241 J=LFDA,LEDA
```

```
      I=I+1
  241 TDAT(J)=CDAT(I)
      WRITE(MT6,50) (TNAME(J),J=1,20)
      WRITE(MT6,230)
  230 FORMAT(//'  A.8 CYCLE  OF  COMPONENT SERIES'//)
      CALL RITE01(TDAT,LFDA,LEDA,NY,IOR)
      IF(LRATIO.GE.1) CALL RITE04(TDAT,LFDA,LEDA,LRATIO,1)                DIA0691
     END IF
  245 RETURN
      END
C-----THIS ROUTINE COLLECTS THE INPUT DATA(TCI)
      SUBROUTINE COLLEC(KCOM,L1,L2)
      INTEGER*2 MQ,ZZ
      COMMON /TCOUNT/ NID
      COMMON /DEVICE/ MT5,MT6
      COMMON /POWER1/ WEIGH,LBASE,KFYR,KFMO,KEYR,KEMO,KFDA,KEDA
      COMMON /TITS/ TITLE(20,20),TNAME(20)
      COMMON /INDAT/ XIDAT(400),XODAT(400)
      COMMON /RUNDAT/ XDAT(400)
      COMMON /OT1/ IPRT,ICHRT,MTYPE,NPAT1,LRATIO,LRIOR,KSGR
      COMMON /OT3/ INV,NPCD,IOR,MPOS,MOVE,MCD,SWGT,MYES
      COMMON /OT4/ KRATE,KRY
      COMMON /IT2/ LFYR,LFMO,LEYR,LEMO
      COMMON /ST1/KBLK,KSFYR(5),KSFMO(5),KSEYR(5),KSEMO(5)
      COMMON /PATOPT/ PATP,NFORP,INVP,IPRP,NCHRTP,IRDP,NDTRP,LOGP,MCDP
     1           ,AMULP,ITERMP,NDIFFP,LTPP
      COMMON /COM1/ XXODAT(20,400),MNY(20),MID1(20),MINV(20),MNPCD(20)
     1       ,MIOR(20),MMYES(20),MMPOS(20),MMOVE(20),MMCD(20),XSWGT(20)
     2       ,MLFYR(20),MLFMO(20),MLEYR(20),MLEMO(20)
     3       ,MKBLK(20),MSFYR(20,5),MSFMO(20,5),MSEYR(20,5),MSEMO(20,5)
     4       ,MKRATE(20),MRYTY(20)
      DATA COMP /4H    /
      DATA COMA,COMB,COMC /4HCOMA,4HCOMB,4HCOMC/
      DATA DIFA,DIFB,DIFC /4HDIFA,4HDIFB,4HDIFC/
      J=0
      DO 10 I=L1,L2
       J=J+1
   10  XXODAT(KCOM,J)=XODAT(I)
      MINV(KCOM)=INV
      MNPCD(KCOM)=NPCD
      MIOR(KCOM)=IOR
      MMYES(KCOM)=MYES
      MKRATE(KCOM)=KRATE
      MRYTY(KCOM)=KRY
      MMPOS(KCOM)=MPOS
      MMOVE(KCOM)=MOVE
      MMCD(KCOM)=MCD
      XSWGT(KCOM)=SWGT
      MLFYR(KCOM)=LFYR
      MLFMO(KCOM)=LFMO
      MLEYR(KCOM)=LEYR
      MLEMO(KCOM)=LEMO
      MKBLK(KCOM)=KBLK
      DO 20 I=1,5
       MSFYR(KCOM,I)=KSFYR(I)
```

```
      MSFMO(KCOM,I)=KSFMO(I)
      MSEYR(KCOM,I)=KSEYR(I)
   20 MSEMO(KCOM,I)=KSEMO(I)
      RETURN
      END
C-----THIS ROUTINE INVOKES THE INPUT DATA(TCI)
      SUBROUTINE INVOK(KCOM,LFDA,LEDA)
      INTEGER*2 MQ,ZZ
      COMMON /TCOUNT/ NID
      COMMON /DEVICE/ MT5,MT6
      COMMON /POWER1/ WEIGH,LBASE,KFYR,KFMO,KEYR,KEMO,KFDA,KEDA
      COMMON /TITS/ TITLE(20,20),TNAME(20)
      COMMON /INDAT/ XIDAT(400),XODAT(400)
      COMMON /RUNDAT/ XDAT(400)
      COMMON /OT1/ IPRT,ICHRT,MTYPE,NPAT1,LRATIO,LRIOR,KSGR
      COMMON /OT3/ INV,NPCD,IOR,MPOS,MOVE,MCD,SWGT,MYES
      COMMON /OT4/ KRATE,KRY
      COMMON /IT2/ LFYR,LFMO,LEYR,LEMO
      COMMON /ST1/KBLK,KSFYR(5),KSFMO(5),KSEYR(5),KSEMO(5)
      COMMON /PATOPT/ PATP,NFORP,INVP,IPRP,NCHRTP,IRDP,NDTRP,LOGP,MCDP
     1           ,AMULP,ITERMP,NDIFFP,LTPP
      COMMON /COM1/ XXODAT(20,400),MNY(20),MID1(20),MINV(20),MNPCD(20)
     1      ,MIOR(20),MMYES(20),MMPOS(20),MMOVE(20),MMCD(20),XSWGT(20)
     2      ,MLFYR(20),MLFMO(20),MLEYR(20),MLEMO(20)
     3      ,MKBLK(20),MSFYR(20,5),MSFMO(20,5),MSEYR(20,5),MSEMO(20,5)
     4      ,MKRATE(20),MRYTY(20)
      DATA COMP /4H    /
      DATA COMA,COMB,COMC /4HCOMA,4HCOMB,4HCOMC/
      DATA DIFA,DIFB,DIFC /4HDIFA,4HDIFB,4HDIFC/
      INV=MINV(KCOM)
      NPCD=MNPCD(KCOM)
      IOR=MIOR(KCOM)
      MYES=MMYES(KCOM)
      MPOS=MMPOS(KCOM)
      MOVE=MMOVE(KCOM)
      KRATE=MKRATE(KCOM)
      KRY=MRYTY(KCOM)
      MCD=MMCD(KCOM)
      SWGT=XSWGT(KCOM)
      LFYR=MLFYR(KCOM)
      LFMO=MLFMO(KCOM)
      LEYR=MLEYR(KCOM)
      LEMO=MLEMO(KCOM)
      CALL CONVYM(LFYR,LFMO,LEYR,LEMO,LFDA,LEDA)
      NT=LEDA-LFDA+1
      J=LFDA-1
      DO 10 I=1,NT
       J=J+1
   10 XDAT(J)=XXODAT(KCOM,I)
      KBLK=MKBLK(KCOM)
      DO 15 I=1,5
       KSFYR(I)=MSFYR(KCOM,I)
       KSFMO(I)=MSFMO(KCOM,I)
       KSEYR(I)=MSEYR(KCOM,I)
   15 KSEMO(I)=MSEMO(KCOM,I)
```

```
      RETURN
      END
C-----THIS ROUTINE CREATES THE CI OF TC FROM THE INPUT DATA(TCI)
      SUBROUTINE COMTC
      DIMENSION COUNT(400),PCHG(400),TOTAL(400),CI(400),PVPCHG(400)
     1         ,AVPCHG(400),STAND(400),PCT(5),APCT(5),XCI(400)
      COMMON /STNDSM/ STDSUM(20,400)
      COMMON /IDCIDI/ BOSS
      COMMON /TCOUNT/ NID,JCOUNT
      COMMON /DEVICE/ MT5,MT6
      COMMON /POWER1/ WEIGH,LBASE,KFYR,KFMO,KEYR,KEMO,KFDA,KEDA
      COMMON /POWER2/ NKBLK,KAFYR(5),KAFMO(5),KAEYR(5),KAEMO(5)
      COMMON /POWER3/ MJPN,JKFYR
      COMMON /NEWRUN/ V(400)
      COMMON /TITS/ TITLE(20,20),TNAME(20)
      COMMON /RUNDAT/ XDAT(400)
      COMMON /OT1/ IPRT,ICHRT,MTYPE,NPAT1,LRATIO,LRIOR,KSGR
      COMMON /OT3/ INV,NPCD,IOR,MPOS,MOVE,MCD,SWGT,MYES
      COMMON /OT4/ KRATE,KRY
      COMMON /OT5/ COMPP
      COMMON /IT2/ LFYR,LFMO,LEYR,LEMO
      COMMON /ST1/KBLK,KSFYR(5),KSFMO(5),KSEYR(5),KSEMO(5)
      COMMON /PATOPT/ PATP,NFORP,INVP,IPRP,NCHRTP,IRDP,NDTRP,LOGP,MCDP
     1          ,AMULP,ITERMP,NDIFFP,LTPP
      COMMON /COM1/ XXODAT(20,400),MNY(20),MID1(20),MINV(20),MNPCD(20)
     1       ,MIOR(20),MMYES(20),MMPOS(20),MMOVE(20),MMCD(20),XSWGT(20)
     2       ,MLFYR(20),MLFMO(20),MLEYR(20),MLEMO(20)
     3       ,MKBLK(20),MSFYR(20,5),MSFMO(20,5),MSEYR(20,5),MSEMO(20,5)
     4       ,MKRATE(20),MRYTY(20)
      COMMON /COMCI1/ CDAT(660),TDAT(660)                          JUP06580
      COMMON /STANDG/ STRATE(400)                                  JUP06580
      DATA COMP /4H    /
      DATA COIN,PATQ /4HCOIN,4HPATP/
      DATA COMA,COMB,COMC /4HCOMA,4HCOMB,4HCOMC/
      DATA DIFA,DIFB,DIFC /4HDIFA,4HDIFB,4HDIFC/
    5 FORMAT(///5X,'**  OPTIONS INFORMATION OF COMPONENT SERIES **')
    6 FORMAT(//5X,'THE OPTION OF INVERSE(INV) = ',I1,' (0:NO  1:YES)'
     1/5X,'THE MONTH NUMBER OF SYMMETRIC CHANGE PERCENT(NPCD) = ',I1
     2/5X,'THE NB. OF FLOAT PO INT = ',I1
     3/5X,'THE OPTION OF MOVE AVER AGE(MYES) = ',I1,' ( 1:YES  0:NOT MOV
     4ING AVERAGE )',
     5/5X,'THE POSITION OF THE MOV. AVG. VALUE(MPOS) = ',I1,' (1:FIRST
     6  2:CENTER  3:LAST)'/5X,'THE NUMBER OF MOV. AVG.(MOVE) = ',I2)
    7 FORMAT(5X,'THE OPTION OF RATIO(KRATE) = ',I1,' (0:NO  1:YES)'/
     15X,'MCD VALUE(MCD) = ',I1/5X,'THE WEIGHT OF COMPONENT SERIES(SWGT)
     2 = ',F5.3/5X,'THE PERIOD OF COMPONENT SERIES(LFYR - LEMO) = ',I2,'
     3.',I2,' - ',I2,'.',I2/)
      JCOUNT=JCOUNT+1
      MCOMTC=MCOMTC+1
      RBFMO=1
      RBLMO=12
      DO 10 I=1,400
       COUNT(I)=0.0
       PCHG(I)=0.0
       AVPCHG(I)=0.0
```

```
      STAND(I)=0.0
   10 TOTAL(I)=0.0
C---------------------------------INVOKE THE DATA
      DO 200 II=1,NID
      CALL INVOK(II,N1,N2)
      NY=12
      N11=N1+NPCD
      LFDA=12*(LFYR-70)+(LFMO-1)+1
      LEDA=12*(LEYR-70)+(LEMO-1)+1
      IF(IPRT.GE.4) THEN
       WRITE(MT6,15) (TITLE(II,J),J=1,20)
       WRITE(MT6,5)
       WRITE(MT6,6) INV,NPCD,IOR,MYES,MPOS,MOVE
       WRITE(MT6,7) KRATE,MCD,SWGT,LFYR,LFMO,LEYR,LEMO
      END IF
C-------------------------------------------------MOVING AVERAGE
      IF(MYES.EQ.1) THEN
       CALL MOVE1(XDAT,LFDA,LEDA,MOVE,MPOS)
       IF(IPRT.GE.3) THEN
        WRITE(MT6,15) (TITLE(II,J),J=1,20)
        WRITE(MT6,8) MOVE
    8   FORMAT(//2X,'2.0 TC  :',I2,' MOVING-AVERAGED SERIES'//)
        CALL RITE01(XDAT,LFDA,LEDA,NY,IOR)
        IF(LRATIO.GE.1) CALL RITE04(XDAT,LFDA,LEDA,LRATIO,KRY)          DIA0691
       END IF
       IF(IPRT.GE.4) THEN
        IF(KSGR.EQ.1)  CALL RITE03(XDAT,LFDA,LEDA)                      DIA0691
       END IF
      END IF
C---------------------------------CALCULATE THE SYMM. PERCENT CHANGE
      DO 100 I=N11,N2
       C=XDAT(I)-XDAT(I-NPCD)
       D=XDAT(I)+XDAT(I-NPCD)
       PCHG(I)=200.0*(C/D)
       IF(KRATE.EQ.1) PCHG(I)=C
       IF(INV.EQ.1) PCHG(I)=PCHG(I)*(-1.0)
  100 CONTINUE
      N111=N11-1
      IF(N111.GT.0) THEN
       DO 102 I=1,N111
  102  PCHG(I)=9999999.9
      END IF
      IF(IPRT.GE.4) THEN
       WRITE(MT6,15) (TITLE(II,J),J=1,20)
       WRITE(MT6,30)
   30  FORMAT(//2X    ,'3.0  THE SYMMETIC. CHANGE RATE OF COMPONENT SER
     1IES'//)
       CALL RITE01(PCHG,N11,N2,NY,3)
      END IF
      IF((MCOMTC.EQ.0).OR.(MTYPE.EQ.2)) THEN
         IF(MCOMTC.NE.1) GO TO 666
         GO TO 888
      END IF
  666 IF(MTYPE.GE.1) THEN
       CALL NEWJPN(PCHG,N11,LEDA,KFDA,KEDA,II,NY)
```

```
       GO TO 200
      END IF
C--------------------------------<CALCULATING THE STANDARDIZATION>-----
  888  DO 150 I=1,KBLK
       PCT(I)=0.0
       PCT(2)=0.0
       IBLOK1=(KSFYR(I)-70)*NY+KSFMO(I)
       IBLOK2=(KSEYR(I)-70)*NY+KSEMO(I)
       PCNT=0.0
       DO 110 J=IBLOK1,IBLOK2
        IF((PCHG(J).GE.-99999.9).AND.(PCHG(J).LE.99999.9)) THEN
         PCT(I)=PCT(I)+ABS(PCHG(J))
         PCNT=PCNT+1.0
        END IF
  110  CONTINUE
       PCT(I)=PCT(I)/PCNT
C-----------------------------------------CUMULATING THE AVERAGE PCT>-
       IF(I.EQ.1) IBLOK1=N11
       IF(I.EQ.KBLK) IBLOK2=N2
       DO 120 J=IBLOK1,IBLOK2
        IF((PCHG(J).GE.-99999.9).AND.(PCHG(J).LE.99999.9)) THEN
         PVPCHG(J)=PCHG(J)/PCT(I)
         AVPCHG(J)=PVPCHG(J)*SWGT
         TOTAL(J)=TOTAL(J)+AVPCHG(J)
         COUNT(J)=COUNT(J)+1.0
        END IF
  120  CONTINUE
  150 CONTINUE
      IF(IPRT.GE.3) THEN
       WRITE(MT6,15) (TITLE(II,J),J=1,20)
   15  FORMAT(1H1///2X,20A4)
       WRITE(MT6,155)KBLK,PCT(1),KSFYR(1),KSFMO(1),KSEYR(1)
     1           ,KSEMO(1),PCT(2),KSFYR(2),KSFMO(2),KSEYR(2),KSEMO(2)
       CALL RITE01(PVPCHG,N11,N2,NY,3)
  155 FORMAT(//2X,' 3.1 THE STANDARD. OF THE SYMM. CHANGE RATE OF COMPON
     1ENT SERIES'//20X,'THE SECTION OF STANT. = ',I2,
     218X,'1ST STAN. FACTOR=',F6.3,' (',2(I2,'.'),' - ',2(I2,'.'),')'
     3/64X,'2ND STAN. FACTOR=',F6.3,' (',2(I2,'.'),' - ',2(I2,'.'),')'
     4//)
      END IF
      IF(IPRT.GE.3) THEN
       WRITE(MT6,15) (TITLE(II,J),J=1,20)
       IF(PCT(1).NE.0.0) PCTWG1=PCT(1)/SWGT
       IF(PCT(2).NE.0.0) PCTWG2=PCT(2)/SWGT
       WRITE(MT6,157)KBLK,SWGT,PCT(1),KSFYR(1),KSFMO(1),KSEYR(1)
     1           ,KSEMO(1),PCT(2),KSFYR(2),KSFMO(2),KSEYR(2),KSEMO(2)
     2           ,PCTWG1,PCTWG2
       CALL RITE01(AVPCHG,N11,N2,NY,3)
  157 FORMAT(//2X,' 3.2 THE WEIGHTED. OF THE SYMM. CHANGE RATE OF COMPON
     1ENT SERIES'//20X,'THE SECTION OF STANT. = ',I2,' WEIGHT = ',F5.3,
     2 3X,'1ST STAN. FACTOR=',F6.3,' (',2(I2,'.'),' - ',2(I2,'.'),')'
     3/64X,'2ND STAN. FACTOR=',F6.3,' (',2(I2,'.'),' - ',2(I2,'.'),')'
     4/64X,'1ST AVE. CHG. = ',F6.3
     5/64X,'2ND AVG. CHG. = ',F6.3//)
      END IF
```

```
      DO 160 J=1,400
      STDSUM(II,J)=AVPCHG(J)
      AVPCHG(J)=0.0
  160 PCHG(J)=0.0
  200 CONTINUE
      IF((MTYPE.EQ.1).AND.(MCOMTC.EQ.1)) THEN
        GO TO 777
      END IF
      IF(MTYPE.EQ.2) THEN
        IF(MCOMTC.EQ.1)  GO TO 889
        GO TO 777
      END IF
  889 KFDAP=KFDA+NPCD
      IF(IPRT.GE.4) THEN
   20  FORMAT(1H1)
       WRITE(MT6,15) (TNAME(J),J=1,20)
       WRITE(MT6,40)
   40  FORMAT(//2X,'4.0  THE SUM OF PCHG '//)
       CALL RITE01(TOTAL,KFDAP,KEDA,NY,3)
       WRITE(MT6,15) (TNAME(J),J=1,20)
       WRITE(MT6,50)
   50  FORMAT(//2X,'4.1  THE NUMBER OF PCHG '//)
       CALL RITE01(COUNT,KFDAP,KEDA,NY,1)
      END IF
C-----------------------------------------TOTAL AVERAGE PERCENT CHANGE
      DO 210 I=KFDA,KEDA
       IF(COUNT(I).EQ.0.0) GO TO 210
       IF(TOTAL(I).GE.99999.9) GO TO 210
       IF(TOTAL(I).LE.-99999.9) GO TO 210
       TOTAL(I)=TOTAL(I)/COUNT(I)
  210 CONTINUE
      IF(IPRT.GE.3) THEN
       WRITE(MT6,15) (TNAME(J),J=1,20)
       WRITE(MT6,60)
   60  FORMAT(//2X,'4.2  THE AVERAGE OF PCHG '//)
       CALL RITE01(TOTAL,KFDAP,KEDA,NY,3)
      END IF
C-------------------------------CALCULATE THE STANDARDIZATION OF TOTAL
      DO 250 I=1,NKBLK
       APCT(I)=0.0
       JBLOK1=(KAFYR(I)-70)*NY+KAFMO(I)
       JBLOK2=(KAEYR(I)-70)*NY+KAEMO(I)
       APCNT=0.0
       DO 220 J=JBLOK1,JBLOK2
        IF((TOTAL(J).GE.-99999.9).AND.(TOTAL(J).LE.99999.9)) THEN
         APCT(I)=APCT(I)+ABS(TOTAL(J))
         APCNT=APCNT+1.0
        END IF
  220  CONTINUE
       APCT(I)=APCT(I)/APCNT
       IF(BOSS.EQ.COIN) WEIGH=APCT(1)
       IF(I.EQ.1) JBLOK1=KFDA+NPCD
       IF(I.EQ.NKBLK) JBLOK2=KEDA
       DO 230 J=JBLOK1,JBLOK2
  230   STAND(J)=TOTAL(J)/APCT(I)*WEIGH
```

```
  250 CONTINUE
      IF(IPRT.GE.2) THEN
       IF(APCT(1).NE.0.0) APCTW1=WEIGH/APCT(1)
       IF(APCT(2).NE.0.0) APCTW2=WEIGH/APCT(2)
       WRITE(MT6,15) (TNAME(J),J=1,20)
       WRITE(MT6,260)NKBLK,WEIGH,APCT(1),KAFYR(1),KAFMO(1),KAEYR(1)
     1         ,KAEMO(2),APCT(2),KAFYR(2),KAFMO(2),KAEYR(2),KAEMO(2)
     2         ,APCTW1,APCTW2
       CALL RITE01(STAND,KFDAP,KEDA,NY,3)
  260 FORMAT(//2X,'5.0  THE STANDARD. OF THE SYMM. CHANGE RATE OF COMPON
     1ENT SERIES'//20X,'THE SECTION OF STANT. = ',I2,' WEIGHT = ',F5.3,
     2 3X,'1ST STAN. FACTOR=',F6.3,' (',2(I2,'.'),' - ',2(I2,'.'),')'
     3/64X,'2ND STAN. FACTOR=',F6.3,' (',2(I2,'.'),' - ',2(I2,'.'),')'
     4/64X,'1ST AVE. CHG. = ',F6.3
     5/64X,'2ND AVG. CHG. = ',F6.3//)
      END IF
      GO TO 221
C---------------------------------CALCULATE THE 1ST RAW CI
  221 KRATE=0
      KFDA1=KFDA+1
      CI(KFDA)=100.0
      DO 280 I=KFDA1,KEDA
  280  CI(I)=CI(I-1)*(200.0+STAND(I))/(200.0-STAND(I))
       WRITE(MT6,286)
       CALL RITE01(CI,KFDA,KEDA,NY,IOR)
      CALL REBASE(CI,KFDA,KEDA,NY)
      IF(IPRT.GE.2) THEN
       WRITE(MT6,15) (TNAME(J),J=1,20)
       WRITE(MT6,315) WEIGH
       WRITE(MT6,320) LBASE
  286   FORMAT(//' R6.0 RAW  CI (NON REBASED)'/)
  315   FORMAT(//'  6.0.R  RAW  CI WEIGHT : ',F5.3/)
  320   FORMAT(//'  6.0.R  RAW  CI------REBASED (YEAR= ',I2,')'//)
       CALL RITE01(CI,KFDA,KEDA,NY,IOR)
     END IF
  445 IF((NPAT1.EQ.1).OR.(NPAT1.GE.5)) THEN
      J=0
      DO 323 I=KFDA,KEDA
       J=J+1
  323  COUNT(J)=CI(I)
      LLFYR=KFYR+1900
      CALL PATSUB(J,LLFYR,COUNT)
      WRITE(MT6,15) (TNAME(J),J=1,20)
      WRITE(MT6,325)
  325  FORMAT(//'  8.0.R  CYCLE  OF  6.0 RAW CI'//)
      CALL RITE01(CDAT,KFDA,KEDA,NY,IOR)
      IF(LRATIO.GE.1) CALL RITE04(CDAT,KFDA,KEDA,LRATIO,1)              DIA0691
     END IF
     CALL GTRENM(STAND,CI,XCI)
     IF((NPAT1.EQ.4).OR.(NPAT1.GE.5)) THEN
      J=0
      DO 330 I=KFDA,KEDA
       J=J+1
  330  COUNT(J)=XCI(I)
      KKFYR=KFYR+1900
```

```
      CALL PATSUB(J,KKFYR,COUNT)
      WRITE(MT6,15) (TNAME(J),J=1,20)
      WRITE(MT6,335)
  335 FORMAT(//'  8.0.M  CYCLE OF 6.1 CI (MULTI)'//)
      CALL RITE01(CDAT,KFDA,KEDA,NY,IOR)
      IF(LRATIO.GE.1) CALL RITE04(CDAT,KFDA,KEDA,LRATIO,1)              DIA0691
     END IF
     CALL GTREND(STAND,CI,XCI)
     IF((NPAT1.EQ.2).OR.(NPAT1.GE.5)) THEN
      J=0
      DO 340 I=KFDA,KEDA
       J=J+1
  340  COUNT(J)=XCI(I)
      KKFYR=KFYR+1900
      CALL PATSUB(J,KKFYR,COUNT)
      WRITE(MT6,15) (TNAME(J),J=1,20)
      WRITE(MT6,345)
  345 FORMAT(//'  8.0.A  CYCLE IF 6.1 CI (ADDED)'//)
      CALL RITE01(CDAT,KFDA,KEDA,NY,IOR)
      IF(LRATIO.GE.1) CALL RITE04(CDAT,KFDA,KEDA,LRATIO,1)              DIA0691
     END IF
     CALL CONTRI(APCTW1)
  777 RETURN
     END
C-----THIS ROUTINE IS APPLIED IN NEW JAPAN CALCULATION METHOD
     SUBROUTINE NEWJPN(XDATA,MS,LEDAC,KFDAN,KEDAN,KC,NY1)
     COMMON /IDCIDI/ BOSS
     COMMON /DEVICE/ MT5,MT6
     COMMON /TCOUNT/ NID
     COMMON /POWER1/ WEIGH,LBASE,KFYR,KFMO,KEYR,KEMO,KFDA,KEDA
     COMMON /POWER2/ NKBLK,KAFYR(5),KAFMO(5),KAEYR(5),KAEMO(5)
     COMMON /POWER3/ MJPN,JKFYR
     COMMON /NEWRUN/ V(400)
     COMMON /FORTND/ COINCI(400),NFA,NLA
     COMMON /OT1/ IPRT,ICHRT,MTYPE,NPAT1,LRATIO,LRIOR,KSGR
     COMMON /TITS/ TITLE(20,20),TNAME(20)
     COMMON /ST1/KBLK,KSFYR(5),KSFMO(5),KSEYR(5),KSEMO(5)
     COMMON /ST2/IBLOK1,IBLOK2,IBLOK3,IBLOK4,IBLOK5,JBLOK1,JBLOK2
     COMMON /IT2/ LFYR,LFMO,LEYR,LEMO
     COMMON /COM1/ XXODAT(20,400),MNY(20),MID1(20),MINV(20),MNPCD(20)
    1       ,MIOR(20),MMYES(20),MMPOS(20),MMOVE(20),MMCD(20),XSWGT(20)
    2       ,MLFYR(20),MLFMO(20),MLEYR(20),MLEMO(20)
    3       ,MKBLK(20),MSFYR(20,5),MSFMO(20,5),MSEYR(20,5),MSEMO(20,5)
    4       ,MKRATE(20),MRYTY(20)
     COMMON /COMCI1/ CDAT(660),TDAT(660)                                JUP06580
     DIMENSION SPCHG(400),UAVG(400),DVSQ(400),SDVSQ(400),STD(400)       JUP12320
    1          ,Z(400),XDATA(400),SUMAVG(400),SUMSTD(400),SUMZ(400)
    2          ,CONT(400),CI(400),RCI(400),XCI(400),RV(400)
     MMJPN=MJPN-1
     DO 10 J=1,400
       SPCHG(J)=0.0
       UAVG(J)=0.0
       DVSQ(J)=0.0
       SDVSQ(J)=0.0
       STD(J)=0.0
```

```
   10   Z(J)=0.0
        DO 11 J=1,660
   11   CDAT(J)=0.0
        DO 150 I=1,KBLK
         IF(I.EQ.1) THEN
            IBLOK1=MS
            IBLOK2=MS+MMJPN
         END IF
         IF(I.NE.1) GO TO 141
        DO 5 J=IBLOK1,IBLOK2
    5 SPCHG(IBLOK2)=SPCHG(IBLOK2)+XDATA(J)
        UAVG(IBLOK2)=SPCHG(IBLOK2)/MJPN
        DO 6 J=IBLOK1,IBLOK2
        DVSQ(IBLOK2)=(UAVG(IBLOK2)-XDATA(J))**2
    6 SDVSQ(IBLOK2)=SDVSQ(IBLOK2)+DVSQ(IBLOK2)
        STD(IBLOK2)=SQRT(SDVSQ(IBLOK2)/MJPN)
        DO 17 J=IBLOK1,IBLOK2
        SPCHG(J)=SPCHG(IBLOK2)
        UAVG(J)=UAVG(IBLOK2)
        STD(J)=STD(IBLOK2)
   17 CONTINUE
  141 IBLOK3=IBLOK1+1
        IBLOK2=LEDAC
  150 CONTINUE
C-----------------------------------------< 2ND STANDARD INTERVAL  >-
        L=IBLOK3+MMJPN
        K=L
        DO 265 J=IBLOK3,IBLOK2
        SPCHG(L)=SPCHG(L-1)-XDATA(J-1)+XDATA(L)
        UAVG(L)=SPCHG(L)/MJPN
  265 L=L+1
        DO 30 M=IBLOK3,IBLOK2-MMJPN
        DO 20 J=M,M+MMJPN
           DVSQ(K)=(UAVG(K)-XDATA(J))**2
   20      SDVSQ(K)=SDVSQ(K)+DVSQ(K)
           STD(K)=SQRT(SDVSQ(K)/MJPN)
        K=K+1
   30 CONTINUE
   15   FORMAT(1H1//2X,20A4)
        IF(IPRT.GE.0) THEN
          WRITE(MT6,15)    (TITLE(KC,I), I=1,20)
          WRITE(MT6,155)
          WRITE(MT6,156)
          CALL RITE01(UAVG,IBLOK1,IBLOK2,NY1,3)
          WRITE(MT6,15)    (TITLE(KC,I), I=1,20)
          WRITE(MT6,158)
          CALL RITE01(STD,IBLOK1,IBLOK2,NY1,3)
        END IF
C-----------------------------------< STANDARD VARIATION RATE > ------
        DO 43 J=IBLOK1,IBLOK2
   43 Z(J)=(XDATA(J)-UAVG(J))/STD(J)
        IF(IPRT.GE.0) THEN
          WRITE(MT6,15)    (TITLE(KC,I), I=1,20)
          WRITE(MT6,160)
          CALL RITE01(Z,IBLOK1,IBLOK2,NY1,3)
```

```
      END IF
  155 FORMAT(//2X,' 3.1 THE STANDARDIZATION CHANGE RATE OF COMPONENT SER
     1IES(LAST 60 MONTHS) '/)
  156 FORMAT(/8X,' 1) AVERAGE OF UNIT COMPONENT SERIES '///)
  158 FORMAT(////8X,' 2) STAN.DEVIATION OF UNIT COMPONENT SERIES '///)
  160 FORMAT(////8X,' 3) STANDARDIZATION CHANGE RATE '///)
C-----------------------------------< TOTAL INDEX > -------------------
      IF(KC.EQ.1) THEN
      DO 23 J=1,400
        SUMAVG(J)=0.0
        SUMSTD(J)=0.0
        SUMZ(J)=0.0
        CONT(J)=0.0
        V(J)=0.0
        RV(J)=0.0
        CI(J)=0.0
        RCI(J)=0.0
        XCI(J)=0.0
   23 CONTINUE
      END IF
      DO 57 J=IBLOK1,IBLOK2
        SUMAVG(J)=SUMAVG(J)+UAVG(J)
        SUMSTD(J)=SUMSTD(J)+STD(J)
        SUMZ(J)=SUMZ(J)+Z(J)
        CONT(J)=CONT(J)+1.0
   57 CONTINUE
      KFDA=KFDAN
      KEDA=KEDAN
      KFDA1=KFDA+1
      IF(KC.EQ.NID) THEN
      DO 67 J=KFDA1,KEDA
        SUMAVG(J)=SUMAVG(J)/CONT(J)
        SUMSTD(J)=SUMSTD(J)/CONT(J)
        SUMZ(J)=SUMZ(J)/CONT(J)
   67 CONTINUE
      IF(IPRT.GE.0) THEN
        WRITE(MT6,161)
        WRITE(MT6,162)
         CALL RITE01(SUMAVG,KFDA1,KEDA,NY1,3)
        WRITE(MT6,164)
         CALL RITE01(SUMSTD,KFDA1,KEDA,NY1,3)
        WRITE(MT6,166)
         CALL RITE01(SUMZ,KFDA1,KEDA,NY1,3)
      END IF
      DO 77 J=KFDA1,KEDA
         V(J)=SUMAVG(J)+SUMSTD(J)*SUMZ(J)
   77 CONTINUE
      IF(IPRT.GE.0) THEN
        WRITE(MT6,170)
         CALL RITE01(V,KFDA1,KEDA,NY1,3)
        WRITE(MT6,180)
         CALL RITE01(CONT,KFDA1,KEDA,NY1,1)
      END IF
  161 FORMAT(1H1///2X,' 3.2 THE COMPOSITE. CHANGE RATE OF AVG,STD,Z '/)
  162 FORMAT(//8X,' 1) AVERAGE OF COMPOSITE INDEX : U(T)'///)
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  164 FORMAT(1H1////8X,' 2) STAN.DEVIATION OF COMPOSITE INDEX : SIGMA(T)
     1 '///)
  166 FORMAT(////8X,' 3) STANDARDIZATION CHANGE RATE : Z(T)'///)
  170 FORMAT(1H1///2X,' 4.0 COMPOSED CHANGE RATE'///)
  180 FORMAT(1H1///2X,' 4.1 THE NUMBER OF COMPONENT INDEX '///)
C-----------------------------< TOTAL JAPAN INDEX (COIN OUTPUT) >---
       CI(KFDA)=100.0
       RCI(KFDA)=100.0
      DO 280 I=KFDA1,KEDA
  280  CI(I)=CI(I-1)*(200.0+V(I))/(200.0-V(I))
       J=0
       DO 285 I=KFDA,KEDA
       J=J+1
  285   XCI(I)=CI(I)
      IF(IPRT.GE.0) THEN
       WRITE(MT6,286)
       CALL RITE01(CI,KFDA,KEDA,NY1,1)
       CALL REBASE(CI,KFDA,KEDA,NY1)
       WRITE(MT6,320) LBASE,KSGR
      END IF
  286   FORMAT(1H1//'  6.J. RAW  CI (NON REBASED)'/)
  320   FORMAT(1H1//'  6.J.R  RAW  CI------REBASED (YEAR=',I2,') '//)
       CALL RITE01(CI,KFDA,KEDA,NY1,1)
       IF(LRATIO.GE.1) CALL RITE04(CI,KFDA,KEDA,LRATIO,1)              DIA0691
       IF(KSGR.EQ.1) CALL RITE02(XCI,KFDA,KEDA)
C-----------------------------------------< JAPAN COIN PAT >-----------
      IF((NPAT1.GE.1).AND.(IPRT.GE.0)) THEN
       LLFYR=JKFYR+1900
       CALL PATSUB(J,LLFYR,CI)
       WRITE(MT6,15) (TNAME(J),J=1,20)
       WRITE(MT6,425)
  425   FORMAT(//'  8.J.R  CYCLE  OF  6.J.R JAPAN CI'//)
       CALL RITE01(CDAT,KFDA,KEDA,NY1,1)
       IF(LRATIO.GE.1) CALL RITE04(CDAT,KFDA,KEDA,LRATIO,1)              DIA06
      END IF
C---------------------------< TOTAL JAPAN INDEX (LEAD, LAGG OUTPUT) >--
      IF((MTYPE.GE.1).AND.(BOSS.NE.COIN)) THEN
       WRITE(MT6,325)
       CALL RITE01(COINCI,NFA,NLA,NY1,3)
  325   FORMAT(1H1///'T  TARGET TREND ( U(T) OF COINCIDENT INDEX )'//)
      DO 99 J=KFDA,KEDA
   99    RV(J)=COINCI(J)+(SUMSTD(J)*SUMZ(J))
       WRITE(MT6,15) (TNAME(J),J=1,20)
       WRITE(MT6,355)
       CALL RITE01(RV,KFDA,KEDA,NY1,3)
      DO 100 J=KFDA1,KEDA
  100  RCI(J)=RCI(J-1)*(200.0+RV(J))/(200.0-RV(J))
      DO 386 I=KFDA,KEDA
  386  XCI(I)=RCI(I)
       WRITE(MT6,15) (TNAME(J),J=1,20)
       WRITE(MT6,365)
       CALL RITE01(RCI,KFDA,KEDA,NY1,1)
       CALL REBASE(RCI,KFDA,KEDA,NY1)
       WRITE(MT6,15) (TNAME(J),J=1,20)
       WRITE(MT6,375) LBASE
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        CALL RITE01(RCI,KFDA,KEDA,NY1,1)
  355   FORMAT(///'T 5.J.1 ADJUSTED V(T) '//)
  365   FORMAT(///'  6.1.J COMPOSITE INDEX'//)
  375   FORMAT(///'  6.J.1  REBASED (YEAR=19',I2,')'//)
        IF(LRATIO.GE.1) CALL RITE04(RCI,KFDA,KEDA,LRATIO,1)              DIA0691
        IF(KSGR.EQ.1) CALL RITE02(XCI,KFDA,KEDA)
       END IF
      END IF
      RETURN
      END
C-----THIS ROUTINE CREATES THE CONTRIBUTION RATE OF COMPONENT SERIES
      SUBROUTINE CONTRI(STDFT)
      DIMENSION TRIB(20,5),XPCT(5),HED(5),CTSUM(20)
      REAL*8 TRADJ1,TRADJ2
      COMMON /STNDSM/ STDSUM(20,400)
      COMMON /TCOUNT/ NID
      COMMON /DEVICE/ MT5,MT6
      COMMON /POWER1/ WEIGH,LBASE,KFYR,KFMO,KEYR,KEMO,KFDA,KEDA
      COMMON /TITS/ TITLE(20,20),TNAME(20)
      COMMON /GNPOP3/ TRADJ1,TRADJ2
      COMMON /STANDG/ STRATE(400)                                        JUP06580
      DATA HED /4HMO-4,4HMO-3,4HMO-2,4HMO-1,4HLAST/
C---------------------------------CALCULATE THE SYMM. PERCENT CHANGE
      KEDA5=KEDA-4
      JJ=0
      DO 1 I=1,20
    1 CTSUM(I)=0.0
      DO 10 I=KEDA5,KEDA
       JJ=JJ+1
       XPCT(JJ)=STRATE(I)-TRADJ1
   10 CONTINUE
      JJ=0
      DO 40 I=KEDA5,KEDA
       JJ=JJ+1
       DO 30 II=1,NID
        TRIB(II,JJ)=(STDSUM(II,I)/NID)*STDFT
C       TRIB(II,JJ)=STDSUM(II,I)/SUM(JJ)*XPCT(JJ)
        CTSUM(JJ)=CTSUM(JJ)+TRIB(II,JJ)
   30  CONTINUE
   40 CONTINUE
      WRITE(MT6,100) (HED(I),I=1,5)
      DO 50 II=1,NID
       WRITE(MT6,110) (TITLE(II,I),I=1,10),(TRIB(II,I),I=1,5)
       WRITE(MT6,120) (STDSUM(II,I),I=KEDA5,KEDA)
   50 CONTINUE
      WRITE(MT6,130) (CTSUM(I),I=1,5)
      WRITE(MT6,140) (STRATE(I),I=KEDA5,KEDA)
      WRITE(MT6,150) TRADJ1
  100 FORMAT(1H1///'  THE CONTRIBUTION RATE OF COMPONENT SERIES ( THE LA
     1TEST 5 MONTHS )'//17X,'THE COMPONENT SERIES',18X,5(4X,A4))
  110 FORMAT(/1X,10A4,' CONTRIBUTION ',5F8.3)
  120 FORMAT(41X,' SYMM.  RATIO ',5F8.3)
  130 FORMAT(/30X,' THE SUM OF CONTRIBUTION ',5F8.3)
  140 FORMAT(30X,' THE WEIGHTED SYMM-RATIO ',5F8.3)
  150 FORMAT(/30X,' THE GNP ADJ. TAR-VALUE  ',F10.8)
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      RETURN
      END
C-----THIS ROUTINE CREATES THE CI OF C VALUES .
      SUBROUTINE CIOFC
      DIMENSION COUNT(400),PCHG(400),TOTAL(400),CI(400),XMON(660)
     1   ,STAND1(400),AVPCHG(400),STAND(400),PCT(5),APCT(5),XCI(400)
     2   ,TOCI(400)
      REAL*8 GOOT1,GOOT2
      COMMON /OT5/ COMPP
      COMMON /GNPOP2/ GOOT1,GOOT2
      COMMON /IDCIDI/ BOSS
      COMMON /TCOUNT/ NID
      COMMON /DEVICE/ MT5,MT6
      COMMON /POWER1/ WEIGH,LBASE,KFYR,KFMO,KEYR,KEMO,KFDA,KEDA
      COMMON /POWER2/ NKBLK,KAFYR(5),KAFMO(5),KAEYR(5),KAEMO(5)
      COMMON /TITS/ TITLE(20,20),TNAME(20)
      COMMON /RUNDAT/ XDAT(400)
      COMMON /OT1/ IPRT,ICHRT,MTYPE,NPAT1,LRATIO,LRIOR,KSGR
      COMMON /OT3/ INV,NPCD,IOR,MPOS,MOVE,MCD,SWGT,MYES
      COMMON /OT4/ KRATE,KRY
      COMMON /IT2/ LFYR,LFMO,LEYR,LEMO
      COMMON /ST1/KBLK,KSFYR(5),KSFMO(5),KSEYR(5),KSEMO(5)
      COMMON /PATOPT/ PATP,NFORP,INVP,IPRP,NCHRTP,IRDP,NDTRP,LOGP,MCDP
     1          ,AMULP,ITERMP,NDIFFP,LTPP
      COMMON /COM1/ XXODAT(20,400),MNY(20),MID1(20),MINV(20),MNPCD(20)
     1       ,MIOR(20),MMYES(20),MMPOS(20),MMOVE(20),MMCD(20),XSWGT(20)
     2       ,MLFYR(20),MLFMO(20),MLEYR(20),MLEMO(20)
     3       ,MKBLK(20),MSFYR(20,5),MSFMO(20,5),MSEYR(20,5),MSEMO(20,5)
     4       ,MKRATE(20),MRYTY(20)
      COMMON /COMCI1/ CDAT(660),TDAT(660)                          JUP06580
      DATA COMP /4H    /
      DATA COIN,PATQ /4HCOIN,4HPATP/
      DATA COMA,COMB,COMC /4HCOMA,4HCOMB,4HCOMC/
      DATA DIFA,DIFB,DIFC /4HDIFA,4HDIFB,4HDIFC/
      NY=12
      RBFMO=1
      RBLMO=12
      DO 10 I=1,400
       COUNT(I)=0.0
       PCHG(I)=0.0
       AVPCHG(I)=0.0
       STAND(I)=0.0
   10  TOTAL(I)=0.0
C---------------------------------INVOKE THE DATA
      DO 200 II=1,NID
      CALL INVOK(II,N1,N2)
      NY=12
      N11=N1+NPCD
   20     FORMAT(1H1///2X,20A4)
C---------------------------------CALCULATE THE SYMM. PERCENT CHANGE
      J=0
      DO 40 I=N1,N2
      J=J+1
   40 XMON(J)=XDAT(I)
      LLFYR=LFYR+1900
```

```
      INVP=INV
      CALL PATSUB(J,LLFYR,XMON)
      J=0
      DO 45 I=N1,N2
      J=J+1
   45 XDAT(I)=CDAT(J)
      WRITE(MT6,50)
   50 FORMAT(1H1///'  THE C SERIES OF PAT '//)
      CALL RITE01(XDAT,N1,N2,NY,IOR)
      IF(COMPP.EQ.DIFB) THEN
        J=0
        DO 55 I=N1,N2
        J=J+1
   55 XXODAT(II,J)=XDAT(I)
      GO TO 200
      END IF
      NY=12
      SD=0.0
C-----------------------------------------DIFFERENCE OF THE INPUT DATA
      DO 60 I=N1,N2
       SD=XDAT(I)+SD
   60 CONTINUE
      N12=N2-N1+1
      SD=SD/FLOAT(N12)
      DO 70 I=N1,N2
       PCHG(I)=XDAT(I)-SD
   70 CONTINUE
C--------------------------------CALCULATE THE STANDARDIZATION
      DO 150 I=1,KBLK
      PCT(I)=0.0
      KO1=KSFYR(I)
      KO2=KSFMO(I)
      KO3=KSEYR(I)
      KO4=KSEMO(I)
      CALL CONVYM(KO1,KO2,KO3,KO4,IBLOK1,IBLOK2)
      PCNT=0.0
      DO 110 J=IBLOK1,IBLOK2
      IF((PCHG(J).LT.99999.9).AND.(PCHG(J).GT.-99999.9)) THEN
        PCT(I)=PCT(I)+ABS(PCHG(J))
        PCNT=PCNT+1.0
      END IF
  110 CONTINUE
      PCT(I)=PCT(I)/PCNT
C--------------------------------CUMULATE THE AVER. PCT
      IF(I.EQ.1) IBLOK1=N1
      IF(I.EQ.KBLK) IBLOK2=N2
      DO 120 J=IBLOK1,IBLOK2
      IF((PCHG(J).LT.99999.9).AND.(PCHG(J).GT.-99999.9)) THEN
        AVPCHG(J)=PCHG(J)/PCT(I)*SWGT
        TOTAL(J)=TOTAL(J)+AVPCHG(J)
        COUNT(J)=COUNT(J)+1.0
      END IF
  120 CONTINUE
  150 CONTINUE
      IF(IPRT.GT.2) THEN
```

```
      WRITE(MT6,20) (TITLE(II,J),J=1,20)
      WRITE(MT6,160)KBLK,SWGT,PCT(1),KSFYR(1),KSFMO(1),KSEYR(1),
     1          KSEMO(1),PCT(2),KSFYR(2),KSFMO(2),KSEYR(2),KSEMO(2)
  160 FORMAT(///2X,'3.1 THE STANDARD. OF THE SYMM. CHANGE RATE OF COMPON
     1ENT SERIES'/20X,'THE SECTION OF STANT. = ',I2,' WEIGHT = ',F5.3,
     2 3X,'1ST STAN. FACTOR=',F6.3,' (',2(I2,'.'),' - ',2(I2,'.'),')'/
     364X,'2ND STAN. FACTOR=',F6.3,' (',2(I2,'.'),' - ',2(I2,'.'),')'//)
      CALL RITE01(AVPCHG,N1,N2,NY,3)
      DO 170 J=1,400
      AVPCHG(J)=0.0
  170 PCHG(J)=0.0
    END IF
  200 CONTINUE
    IF(COMPP.EQ.DIFB) GO TO 560
    IF(IPRT.GT.2) THEN
      WRITE(MT6,210)
  210 FORMAT(1H1///2X,'4.0  THE SUM OF PCHG '//)
      CALL RITE01(TOTAL,KFDA,KEDA,NY,3)
      WRITE(MT6,220)
  220 FORMAT(1H1///2X,'4.1  THE NUMBER OF PCHG '//)
      CALL RITE01(COUNT,KFDA,KEDA,NY,IOR)
    END IF
C-----------------------------------------TOTAL AVERAGE PERCENT CHANGE
    DO 230 I=KFDA,KEDA
     IF(COUNT(I).EQ.0.0) GO TO 230
     IF(TOTAL(I).GE.99999.9) GO TO 230
     IF(TOTAL(I).LE.-99999.9) GO TO 230
     TOTAL(I)=TOTAL(I)/COUNT(I)
  230 CONTINUE
    IF(IPRT.GT.2) THEN
      WRITE(MT6,240)
  240 FORMAT(1H1///2X,'4.2  THE AVERAGE OF PCHG '//)
      CALL RITE01(TOTAL,KFDA,KEDA,NY,3)
    END IF
C----------------------DIFFERENCE OF THE TOTAL AVERAGE PERCENT CHANGE
    SD=0.0
    DO 250 I=KFDA,KEDA
     SD=TOTAL(I)+SD
  250 CONTINUE
    KFE=KEDA-KFDA+1
    SD=SD/FLOAT(KFE)
    DO 260 I=KFDA,KEDA
     TOTAL(I)=TOTAL(I)-SD
  260 CONTINUE
C--------------------------------CALCULATE THE STANDARDIZATION OF TOTAL
    DO 300 I=1,NKBLK
     APCT(I)=0.0
     K01=KAFYR(I)
     K02=KAFMO(I)
     K03=KAEYR(I)
     K04=KAEMO(I)
     CALL CONVYM(K01,K02,K03,K04,JBLOK1,JBLOK2)
     APCNT=0.0
     DO 270 J=JBLOK1,JBLOK2
     IF((TOTAL(J).LT.99999.9).AND.(TOTAL(J).GT.-99999.9)) THEN
```

```
        APCT(I)=APCT(I)+ABS(TOTAL(J))
        APCNT=APCNT+1.0
      END IF
  270 CONTINUE
      APCT(I)=APCT(I)/APCNT
      IF(I.EQ.1) JBLOK1=KFDA
      IF(I.EQ.NKBLK) JBLOK2=KEDA
      DO 280 J=JBLOK1,JBLOK2
      STAND(J)=TOTAL(J)/APCT(I)*WEIGH
  280 CONTINUE
  300 CONTINUE
      IF(IPRT.GT.2) THEN
        WRITE(MT6,310)NKBLK,WEIGH,APCT(1),KAFYR(1),KAFMO(1),KAEYR(1)
     1          ,KAEMO(2),APCT(2),KAFYR(2),KAFMO(2),KAEYR(2),KAEMO(2)
  310 FORMAT(1H1///2X,'5.1 THE STANDARD. OF THE SYMM. CHANGE RATE OF COM
     1PONENT SERIES'/20X,'THE SECTION OF STANT. = ',I2,' WEIGHT = ',F5.3
     2, 3X,'1ST STAN. FACTOR=',F6.3,' (',2(I2,'.'),' - ',2(I2,'.'),')'/
     364X,'2ND STAN. FACTOR=',F6.3,' (',2(I2,'.'),' - ',2(I2,'.'),')'//)
        CALL RITE01(STAND,KFDA,KEDA,NY,3)
      END IF
C---------------------------------CALCULATE THE 1ST RAW CI
      KRATE=0
      DO 320 I=KFDA,KEDA
       CI(I)=STAND(I)+100.0
  320 CONTINUE
C---------------------------------CALCULATE THE CI(I)/C(I-1)
      KFDA1=KFDA+1
      WRITE(MT6,330)
  330 FORMAT(1H1///2X,'6.0  THE  ROW CI OF C '//)
      CALL RITE01(CI,KFDA,KEDA,NY,IOR)
       STAND1(KFDA)=GOOT1
      DO 332 I=KFDA1,KEDA
       STAND1(I)=GOOT1*STAND1(I-1)
  332 CONTINUE
      CALL REBASE(STAND1,KFDA,KEDA,NY)
      WRITE(MT6,340)
  340 FORMAT(1H1///2X,'5.1  GNP ADJ STAND-----<FORMAT: F6.1> '//)
      CALL RITE01(STAND1,KFDA,KEDA,NY,1)
      TOCI(KFDA)=1.0
      DO 520 I=KFDA,KEDA
  520 TOCI(I)=CI(I)*STAND1(I)
      CALL REBASE(TOCI,KFDA,KEDA,NY)
      WRITE(MT6,550)
  550 FORMAT(1H1///'  6.0  THE CI OF C --ADJUSTED BY T TREND '//)
      CALL RITE01(TOCI,KFDA,KEDA,NY,1)
  560 RETURN
      END
C-----THIS ROUTINE CREATES THE TREND VALUE FROM THE INPUT DATA
      SUBROUTINE GTREND(STAND,ARRAY,XCI)
      DIMENSION ARRAY(400),XCI(400),STAND(400)
      REAL*8 RR,R1,R2,GOOT1,GOOT2,TRADJ1,TRADY2
      REAL*8 A1,A2,TE1,TE2,TF1,TF2,SEXT
      COMMON /TITS/ TITLE(20,20),TNAME(20)
      COMMON /DEVICE/ MT5,MT6
      COMMON /POWER1/ WEIGH,LBASE,KFYR,KFMO,KEYR,KEMO,KFDA,KEDA
```

```
      COMMON /GNPOP1/ NGNP,I1FGYR,I1EGYR,I2FGYR,I2EGYR
      COMMON /GNPOP2/ GOOT1,GOOT2
      COMMON /GNPOP3/ TRADJ1,TRADJ2
      COMMON /OT1/ IPRT,ICHRT,MTYPE,NPAT1,LRATIO,LRIOR,KSGR
      COMMON /OT3/ INV,NPCD,IOR,MPOS,MOVE,MCD,SWGT,MYES
      COMMON /OT4/ KRATE,KRY
      COMMON /OT5/ COMPP
      COMMON /IT2/ LFYR,LFMO,LEYR,LEMO
      COMMON /COMCI1/ CDAT(660),TDAT(660)                              JUP06580
      COMMON /STANDG/ STRATE(400)                                      JUP06580
      NY=12
      KFDA1=KFDA+1
      KF1=(I1FGYR-70)*NY+1
      KF11=KF1+NY-1
      KE1=(I1EGYR-70)*NY+1
      KE11=KE1+NY-1
      R1=0.0
      R2=0.0
      TF1=0.0
      TE1=0.0
C-------------------------------------< 1 PERIOD GNP TREND ADJUSTED >-
      MON1=(I1EGYR-I1FGYR)*NY
      A1=1.0/FLOAT(MON1)
      DO 10 I=KF1,KF11
   10 TF1=TF1+ARRAY(I)
      TF1=TF1/1200.0
      DO 20 I=KE1,KE11
   20 TE1=TE1+ARRAY(I)
      TE1=TE1/1200.0
      R1=(TE1/TF1)**A1
      TRADJ1=(GOOT1-R1)*100.0
      DO 30 I=KFDA1,KEDA
   30 STRATE(I)=STAND(I)+TRADJ1
      XCI(KFDA)=100.0
      DO 40 I=KFDA1,KEDA
   40 XCI(I)=XCI(I-1)*(200.0+STRATE(I))/(200.0-STRATE(I))
C-------------------------------------< 2 PERIOD GNP TREND ADJUSTED >-
      IF (NGNP.EQ.2) THEN
        KF2=(I2FGYR-70)*NY+1
        KF22=KF2+NY-1
        KE2=(I2EGYR-70)*NY+1
        KE22=KE2+NY-1
        TF2=0.0
        TE2=0.0
        MON2=(I2EGYR-I2FGYR)*NY
        A2=1.0/FLOAT(MON2)
        DO 60 I=KF2,KF22
   60   TF2=TF2+ARRAY(I)
        DO 70 I=KE2,KE22
        TF2=TF2/1200.0
   70   TE2=TE2+ARRAY(I)
        R2=(TE2/TF2)**A2
        TE2=TE2/1200.0
        TRADJ2=(GOOT2-R2)*100.0
        DO 80 I=KFDA1,KE11
```

```
 80    STRATE(I)=STAND(I)+TRADJ1
       DO 90 I=KE2,KEDA
 90    STRATE(I)=STAND(I)+TRADJ2
       XCI(KFDA)=100.0
       DO 100 I=KFDA1,KEDA
100    XCI(I)=XCI(I-1)*(200.0+STRATE(I))/(200.0-STRATE(I))
     END IF
     IF(IPRT.GE.2) THEN
       WRITE(MT6,240) (TNAME(J),J=1,20)
       WRITE(MT6,210) LBASE
       WRITE(MT6,220)GOOT1,R1,TRADJ1,GOOT2,R2,TRADJ2
       CALL RITE01(STRATE,KFDA1,KEDA,NY,3)
     END IF
210 FORMAT(//2X,'5.1 STANDARDIAED WEIGHTED CHANGES ADJUSTED BY GNP TRE
    1ND  19',I2,' = 100'//)
220 FORMAT('   ADJUSTED COMPOSITE INDEX INDICATORS '/
    1 20X,'TREND VALUE : 1ST-GNP = ',F10.8,'   1ST-SELF = ',F10.8,'   1
    2ST-TRADJ. = ',F10.4/33X,' 2ND-GNP = ',F10.8,'   2ND-SELF = ',F10.8
    2,'   2ND-TRADJ. = ',F10.4//)
     IF(IPRT.GE.3) THEN
       WRITE(MT6,240) (TNAME(J),J=1,20)
       WRITE(MT6,225)
225    FORMAT(//'  6.1 CI --  NON-REBASED  '//)
       CALL RITE01(XCI,KFDA,KEDA,NY,IOR)
     END IF
     IF(IPRT.GE.1) THEN
       WRITE(MT6,240)  TNAME
       WRITE(MT6,250) LBASE
       CALL REBASE(XCI,KFDA,KEDA,NY)
       CALL RITE01(XCI,KFDA,KEDA,NY,IOR)
     END IF
  240 FORMAT(1H1//2X,20A4)
  250 FORMAT(//'  6.1.A COMPOSITE INDEX ADJUSTED TO GNP TREND ',I4,'=100
     1'/)
      IF(LRATIO.GE.1) CALL RITE04(XCI,KFDA,KEDA,LRATIO,KRY)          DIA0691
      CALL RITE02(XCI,KFDA,KEDA)
      RETURN
      END
C-----THIS ROUTINE CREATES THE TREND VALUE FROM THE INPUT DATA
      SUBROUTINE GTRENM(STAND,ARRAY,XCI)
      DIMENSION ARRAY(400),XCI(400),STAND(400)
      REAL*8 RR,R1,R2,GOOT1,GOOT2,TRADJ1,TRADY2,RRR
      REAL*8 A1,A2,TE1,TE2,TF1,TF2,SEXT
      COMMON /TITS/ TITLE(20,20),TNAME(20)
      COMMON /DEVICE/ MT5,MT6
      COMMON /POWER1/ WEIGH,LBASE,KFYR,KFMO,KEYR,KEMO,KFDA,KEDA
      COMMON /GNPOP1/ NGNP,I1FGYR,I1EGYR,I2FGYR,I2EGYR
      COMMON /GNPOP2/ GOOT1,GOOT2
      COMMON /GNPOP3/ TRADJ1,TRADJ2
      COMMON /OT1/ IPRT,ICHRT,MTYPE,NPAT1,LRATIO,LRIOR,KSGR
      COMMON /OT3/ INV,NPCD,IOR,MPOS,MOVE,MCD,SWGT,MYES
      COMMON /OT4/ KRATE,KRY
      COMMON /OT5/ COMPP
      COMMON /IT2/ LFYR,LFMO,LEYR,LEMO
      COMMON /COMCI1/ CDAT(660),TDAT(660)                            JUP06580
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```
      COMMON /STANDG/ STRATE(400)                                    JUP06580
      NY=12
      KFDA1=KFDA+1
      KF1=(I1FGYR-70)*NY+1
      KF11=KF1+NY-1
      KE1=(I1EGYR-70)*NY+1
      KE11=KE1+NY-1
      R1=0.0
      R2=0.0
      TF1=0.0
      TE1=0.0
C-------------------------------------< 1 PERIOD GNP TREND ADJUSTED >-
      MON1=(I1EGYR-I1FGYR)*NY
      A1=1.0/FLOAT(MON1)
      DO 10 I=KF1,KF11
   10 TF1=TF1+ARRAY(I)
      TF1=TF1/1200.0
      DO 20 I=KE1,KE11
   20 TE1=TE1+ARRAY(I)
      TE1=TE1/1200.0
      R1=(TE1/TF1)**A1
      IF(R1.NE.0.0) TRADJ1=GOOT1/R1
      RRR=1.0
      DO 30 I=KFDA,KEDA
      RRR=RRR*TRADJ1
   30 XCI(I)=ARRAY(I)*RRR
C-------------------------------------< 2 PERIOD GNP TREND ADJUSTED >-
      IF (NGNP.EQ.2) THEN
        KF2=(I2FGYR-70)*NY+1
        KF22=KF2+NY-1
        KE2=(I2EGYR-70)*NY+1
        KE22=KE2+NY-1
        TF2=0.0
        TE2=0.0
        MON2=(I2EGYR-I2FGYR)*NY
        A2=1.0/FLOAT(MON2)
        DO 60 I=KF2,KF22
60      TF2=TF2+ARRAY(I)
        DO 70 I=KE2,KE22
        TF2=TF2/1200.0
70      TE2=TE2+ARRAY(I)
        R2=(TE2/TF2)**A2
        TE2=TE2/1200.0
        IF(R2.NE.0.0) TRADJ2=GOOT2/R2
        RRR=1.0
        DO 80 I=KFDA1,KE11
        RRR=RRR*TRADJ1
80      XCI(I)=ARRAY(I)*RRR
        RRR=1.0
        DO 90 I=KE2,KEDA
        RRR=RRR*TRADJ2
90      XCI(I)=ARRAY(I)*RRR
      END IF
      CALL REBASE(XCI,KFDA,KEDA,NY)
      IF(IPRT.GE.1) THEN
```

```
        WRITE(MT6,240)  TNAME
        WRITE(MT6,250) LBASE
        CALL RITE01(XCI,KFDA,KEDA,NY,IOR)
      END IF
  240 FORMAT(1H1//2X,20A4)
  250 FORMAT(//'  6.1.M COMPOSITE INDEX ADJUSTED TO GNP TREND ',I4,'=100
     1'/)
      IF(LRATIO.GE.1) CALL RITE04(XCI,KFDA,KEDA,LRATIO,KRY)              DIA0691
      RETURN
      END
C-----THIS ROUTINE CREATES THE CDI FROM THE INPUT DATA(TCI)
      SUBROUTINE CDIFF
      DIMENSION COUNT(400),PCHG(400),TOTAL(400),CDI(400),CH(400),TT(400)
      INTEGER*2 ZM,ZQ,ZZ
      COMMON /IDCIDI/ BOSS
      COMMON /TCOUNT/ NID,JCOUNT
      COMMON /DEVICE/ MT5,MT6
      COMMON /POWER1/ WEIGH,LBASE,KFYR,KFMO,KEYR,KEMO,KFDA,KEDA
      COMMON /POWER2/ NKBLK,KAFYR(5),KAFMO(5),KAEYR(5),KAEMO(5)
      COMMON /TITS/ TITLE(20,20),TNAME(20)
      COMMON /INDAT/ XIDAT(400),XODAT(400)
      COMMON /RUNDAT/ XDAT(400)
      COMMON /OT1/ IPRT,ICHRT,MTYPE,NPAT1,LRATIO,LRIOR,KSGR
      COMMON /OT3/ INV,NPCD,IOR,MPOS,MOVE,MCD,SWGT,MYES
      COMMON /OT4/ KRATE,KRY
      COMMON /IT2/ LFYR,LFMO,LEYR,LEMO
      COMMON /ST1/KBLK,KSFYR(5),KSFMO(5),KSEYR(5),KSEMO(5)
      COMMON /PATOPT/ PATP,NFORP,INVP,IPRP,NCHRTP,IRDP,NDTRP,LOGP,MCDP
     1            ,AMULP,ITERMP,NDIFFP,LTPP
      COMMON /COM1/ XXODAT(20,400),MNY(20),MID1(20),MINV(20),MNPCD(20)
     1       ,MIOR(20),MMYES(20),MMPOS(20),MMOVE(20),MMCD(20),XSWGT(20)
     2       ,MLFYR(20),MLFMO(20),MLEYR(20),MLEMO(20)
     3       ,MKBLK(20),MSFYR(20,5),MSFMO(20,5),MSEYR(20,5),MSEMO(20,5)
     4       ,MKRATE(20),MRYTY(20)
      DATA COMP /4H    /
      DATA COMA,COMB,COMC /4HCOMA,4HCOMB,4HCOMC/
      DATA DIFA,DIFB,DIFC /4HDIFA,4HDIFB,4HDIFC/
      RBFMO=1
      RBLMO=12
      KFDAS=400
      DO 10 I=1,400
       COUNT(I)=0.0
       PCHG(I)=0.0
       TOTAL(I)=0.0
       TT(I)=0.0
   10  CDI(I)=0.0
      DO 200 II=1,NID
      CALL INVOK(II,N1,N2)
      NY=12
      DO 110 I=N1,N2
       NCON=XDAT(I)*10.0
       XDAT(I)=FLOAT(NCON)/10.0
  110 CONTINUE
      N11=N1+MCD
      IF(N11.LE.KFDAS) KFDAS=N11
```

```
      DO 140 I=N11,N2
       S=XDAT(I)-XDAT(I-MCD)
       T=XDAT(I-MCD)
       CH(I)=100.0*(S/T)
       IF(KRATE.EQ.1) CH(I)=S
       IF(INV.EQ.1) CH(I)=CH(I)*(-1.0)
       IF((CH(I).LT.0.01).AND.(CH(I).GT.-0.01)) CH(I)=0.0
       IF(CH(I)) 126,120,125
  120  TOTAL(I)=0.5
       TT(I)=TT(I)+0.5
       GO TO 130
  125  TOTAL(I)=1.0
       TT(I)=TT(I)+1.0
       GO TO 130
  126  TOTAL(I)=0.0
       TT(I)=TT(I)+0.0
  130  COUNT(I)=COUNT(I)+1.0
       PCHG(I)=0.0
  140 CONTINUE
      IF(IPRT.GE.3) THEN
        WRITE(MT6,12) (TITLE(II,J),J=1,20)
        CALL RITE01(XDAT,N1,N2,NY,IOR)
        WRITE(MT6,13) MCD
        CALL RITE01(CH,N11,N2,NY,3,0)
        WRITE(MT6,15) (TITLE(II,J),J=1,20)
        CALL RITE01(TOTAL,N11,N2,NY,2)
      END IF
   12 FORMAT(1H1///2X,20A4)
   13 FORMAT(//'  3.0  THE MCD CHANGE RATE OF COMPONENT SERIES',5X,'MCD
     1VALUE = ',I2)
   15 FORMAT(1H1///'  3.1  THE SCORE OF COMPONENT SERIES BY MCD CHANGE R
     1ATE'/)
  200 CONTINUE
      IF(IPRT.GE.3) THEN
        WRITE(MT6,20) TNAME
        CALL RITE01(TT,KFDAS,KEDA,NY,1)
        WRITE(MT6,30)
        CALL RITE01(COUNT,KFDAS,KEDA,NY,IOR)
      END IF
   20 FORMAT(1H1///20A4//'  4.0  TOTAL SCORE '//)
   30 FORMAT(1H1,///' 4.1  MONTHLY COUNTER '//)
      DO 210 I=KFDAS,KEDA
       IF(COUNT(I).NE.0.0) THEN
         TT(I)=TT(I)/COUNT(I)*100.0
       END IF
  210 CONTINUE
      IF(IPRT.GE.2) THEN
        WRITE(MT6,40)
        CALL RITE01(TT,KFDAS,KEDA,NY,1)
      END IF
   40 FORMAT(1H1,///' 4.2  MEAN SCORE '//)
      KFDAS1=KFDAS-1
      CDI(KFDAS1)=0.0
      DO 220 I=KFDAS,KEDA
      IF((TT(I).GT.99999.9).OR.(TT(I).LT.-99999.9)) TT(I)=0.0
```

```
      CDI(I)=CDI(I-1)+(TT(I)-50)
  220 CONTINUE
      IF(IPRT.GE.3) THEN
        WRITE(MT6,50)
        CALL RITE01(CDI,KFDAS,KEDA,NY,1)
      END IF
   50 FORMAT(1H1///' 4.3  ROW CDI '//)
      CALL REBASE(CDI,KFDAS,KEDA,NY)
      IF(IPRT.GE.1) THEN
        WRITE(MT6,60) LBASE
        CALL RITE01(CDI,KFDAS,KEDA,NY,1)
      END IF
   60 FORMAT(1H1///' 4.4  CDI------REBASED (YEAR=',I2,')'//)
      CALL REBASE(CDI,KFDAS,KEDA,NY)
      IF(IPRT.GE.1) THEN
        WRITE(MT6,660) LBASE
        CALL RITE01(CDI,KFDAS,KEDA,NY,1)
      END IF
  660 FORMAT(1H1///' 4.5  CDI------REBASED (YEAR=',I2,')'//)
      RETURN
      END
C-----THIS ROUTINE REBASES THE INPUT DATA(YEAR=85).
      SUBROUTINE REBASE(BDATA,NF,NE,NY)
      DIMENSION BDATA(400)
      COMMON /POWER1/ WEIGH,LBASE,KFYR,KFMO,KEYR,KEMO,KFDA,KEDA
      L1=(LBASE-KFYR)*NY+1
      L12=L1+NY-1
      TBASE=0.0
      DO 10 I=L1,L12
   10 TBASE=TBASE+BDATA(I)
      TBASE=TBASE/FLOAT(NY)
      DO 20 I=NF,NE
   20 BDATA(I)=BDATA(I)/TBASE*100.0
      RETURN
      END
C-----THIS ROUTINE CONVERTS DATES .
      SUBROUTINE CONVYM(IFYR,IFMO,IEYR,IEMO,NA,LA)
      COMMON /POWER1/ WEIGH,LBASE,KFYR,KFMO,KEYR,KEMO,KFDA,KEDA
      NY=12
      NA=NY*(IFYR-KFYR)+IFMO
      LA=NY*(IEYR-KFYR)+IEMO
      RETURN
      END                                                          COM01380
C-----THIS ROUTINE CALCULATES THE MOVING AVERAGE SERIES FROM INPUT DATA
      SUBROUTINE MOVE1(S,K,L,KMA,MASW)
      DIMENSION Z(400),S(400)
      LM=L-KMA+1
      DO 10 I=1,400
   10 Z(I)=0.0
      DO 20 I=K,LM
      DO 15 J=1,KMA
   15 Z(I)=Z(I)+S(I+J-1)/FLOAT(KMA)
   20 CONTINUE
      J=0
      IF(MASW.EQ.2) J=KMA/2
```

```
      IF(MASW.EQ.3) J=KMA-1
      DO 25 I=K,LM
   25 S(I+J)=Z(I)
      KK=K+J
      KKK=KK-1
      IF(KK.LE.K) GO TO 27
      DO 26 II=K,KKK
       I=II-K+1
   26  S(KK-I)=S(KK-I+1)*(S(KK-I+1)/S(KK-I+2)+S(KK-I+2)/S(KK-I+3))/2
   27 LMM=LM+J
      IF(LMM.GE.L) GO TO 30
      LMM=LMM+1
      DO 28 I=LMM,L
   28  S(I)=S(I-1)*(S(I-1)/S(I-2)+S(I-2)/S(I-3))/2
   30 RETURN
      END
C-----THIS ROUTINE PRINTS THE CALCULATED DATA
      SUBROUTINE RITE01(X,IFDA,IEDA,NY,IIOR)
      DIMENSION X(400),OFMT(5),MONTHS(12),QUARTS(4),FEND(5)
      COMMON /FORMT/ FMAT(20)
      COMMON /DEVICE/ MT5,MT6
      COMMON /POWER1/ WEIGH,LBASE,KFYR,KFMO,KEYR,KEMO,KFDA,KEDA
      DATA QUARTS /3H1ST,3H2ND,3H3RD,3H4TH/
      DATA MONTHS /3HJAN,3HFEB,3HMAR,3HAPR,3HMAY,3HJUN,3HJUL,3HAUG,3HSEP
     1            ,3HOCT,3HNOV,3HDEC/
      DATA OFMT/4H(I5,,4H4X,1,4H3(1X,4H, F8,4H.0))/
      DATA FEND/4H.1)),4H.2)),4H.3)),4H.4)),4H.0))/
      DATA QMD1,QMD2 /4H4X, ,4H4(1X/
  200 FORMAT(//1X,20A4)
  210 FORMAT(1X,'YEAR',4X,12(6X,A3),5X,'MEAN')
  220 FORMAT(1X,'YEAR',4X,4(6X,A3),5X,'MEAN')
      IF(NY.EQ.4) THEN
        OFMT(2)=QMD1
        OFMT(3)=QMD2
      END IF
      IF(IIOR.EQ.0) THEN
        OFMT(5)=FEND(5)
        ELSE
          OFMT(5)=FEND(IIOR)
        END IF
      IF(NY.EQ.4) THEN
        WRITE(MT6,220) QUARTS
        ELSE
          WRITE(MT6,210) MONTHS
        END IF
      N=IEDA
      N1=IFDA-1
      MOD0=IFDA/NY*NY
      MOD1=MOD0+1
      MOD2=IEDA/NY*NY
      MOD3=MOD2+1
      MOD4=MOD2+NY
      IF(N1.GT.0) THEN
        DO 530 I = 1,N1
  530   X(I)=999999999.0
```

```
      END IF
      IF(N.NE.MOD2) THEN
            NX=N+1
            DO 535 I = NX,MOD4
  535       X(I)=999999999.0
      END IF
      LL=NY-1
      KBYR=1900+KFYR
      DO 630 I=1,N,NY
        SX=0.0
        NYD=NY
        N2=I+LL
        N22=N2
        II=I
        IF((IFDA.GT.I).AND.(IFDA.LE.N2)) THEN
          II=IFDA
          NYD=NY-(IFDA-IFDA/NY*NY)+1
        END IF
        IF(N2.GT.N) THEN
          NYD=N-(N2-NY)
          N22=N
        END IF
        NYD1=0
        DO 620 J=II,N22
          IF((X(J).GT.-9999999.0).AND.(X(J).LT.9999999.9)) THEN
            SX=SX+X(J)
            NYD1=NYD1+1
          END IF
  620   CONTINUE
        IF(NYD1.NE.0) SX=SX/FLOAT(NYD1)
        WRITE(MT6,OFMT) KBYR,(X(J),J=I,N2),SX
        KBYR=KBYR+1
  630 CONTINUE
      RETURN
      END
C     THIS ROUTINE CALCULATES THE 6.2 , 6.3 , 6.4  OF 6.1.A
      SUBROUTINE RITE02(ARRAY,KFDA,KEDA)                                DIA06910
      COMMON /DEVICE/ MT5,MT6
      COMMON /OT1/ IPRT,ICHRT,MTYPE,NPAT1,LRATIO,LRIOR,KSGR
      DIMENSION ARRAY(400),TA6(400),TA12(400),TA12C(400),TA12S(400)
      NY=12
      KFDA6=KFDA+6
      DO 10 I=KFDA6,KEDA                                                DIA07560
      IF(ARRAY(I).NE.0.0) THEN
        TA6(I)=((ARRAY(I)/ARRAY(I-6))**2-1.0)*100.0                     DIA07570
      END IF
   10 CONTINUE
      KEDA11=KEDA-11                                                    DIA07700
      IE=KFDA+10                                                        DIA07760
      DO 30 J=KFDA,KEDA11
       SUM=0.0                                                          DIA07690
       IE=IE+1                                                          DIA07760
       DO 20 I=J,IE                                                     DIA07720
   20  SUM=SUM+ARRAY(I)                                                 DIA07730
       TA12(IE)=SUM/12.0                                                DIA07740
```

```
 30 CONTINUE
    KFDA17=KFDA+17                                                        DIA07790
    DO 40 I=KFDA17,KEDA                                                   DIA07800
 40 TA12C(I)=(ARRAY(I)/TA12(I-6)-1.0)*100.0                               DIA07810
    KFDA12=KFDA+12                                                        DIA07830
    POW = 1.8461538                                                       DIA07840
    DO 60 K = KFDA12,KEDA                                                 DIA07850
    IB = K-12                                                             DIA07860
    IE = K - 1                                                            DIA07870
    SUM = 0.0                                                             DIA07880
    DO 50 I = IB,IE                                                       DIA07890
 50 SUM = SUM + (ARRAY(I)/12.0)                                           DIA07900
 60 TA12S(K) = ((ARRAY(K)/SUM)**POW-1.0)*100.0                            DIA07910
    IF(IPRT.GE.4) THEN
      WRITE(MT6,100)
      CALL RITE01(TA6,KFDA6,KEDA,NY,1)
      WRITE(MT6,120)
      CALL RITE01(TA12S,KFDA12,KEDA,NY,1)
      WRITE(MT6,130)
      CALL RITE01(TA12C,KFDA17,KEDA,NY,1)
    END IF
100 FORMAT(1H1///'  6.2.A  SIX MONTH CHANGE IN ADJUSTED INDEX, ANNUAL DIA08420
   1RATE PERCENT'//)                                                      DIA08430
120 FORMAT(1H1///'  6.3.A  SIX MONTH SMOOTHED CHANGE IN ADJUSTED INDEXDIA08760
   1, ANNUAL RATE, PERCENT '//)                                           DIA08770
130 FORMAT(1H1///'  6.4.A 12 MONTH SMOOTHED CHANGE IN ADJUSTED INDEX, DIA09060
   1PERCENT '//)                                                          DIA09070
    RETURN
    END
```

```
C    THIS ROUTINE CALCULATES THE 6.2 , 6.3 , 6.4
     SUBROUTINE RITE03(ARRAY,KFDA,KEDA)                                   DIA06910
     COMMON /DEVICE/ MT5,MT6
     COMMON /OT1/ IPRT,ICHRT,MTYPE,NPAT1,LRATIO,LRIOR,KSGR
     DIMENSION ARRAY(400),TA6(400),TA12(400),TA12C(400),TA12S(400)
     NY=12
     KFDA6=KFDA+6
     DO 10 I=KFDA6,KEDA                                                   DIA07560
     IF(ARRAY(I).NE.0.0) THEN
       TA6(I)=((ARRAY(I)/ARRAY(I-6))**2-1.0)*100.0                        DIA07570
     END IF
  10 CONTINUE
     KEDA11=KEDA-11                                                       DIA07700
     IE=KFDA+10                                                           DIA07760
     DO 30 J=KFDA,KEDA11
      SUM=0.0                                                             DIA07690
      IE=IE+1                                                             DIA07760
      DO 20 I=J,IE                                                        DIA07720
  20  SUM=SUM+ARRAY(I)                                                    DIA07730
      TA12(IE)=SUM/12.0                                                   DIA07740
  30 CONTINUE
     KFDA17=KFDA+17                                                       DIA07790
     DO 40 I=KFDA17,KEDA                                                  DIA07800
  40 TA12C(I)=(ARRAY(I)/TA12(I-6)-1.0)*100.0                              DIA07810
     KFDA12=KFDA+12                                                       DIA07830
     POW = 1.8461538                                                      DIA07840
```

```
      DO 60 K = KFDA12,KEDA                                              DIA07850
      IB = K-12                                                          DIA07860
      IE = K - 1                                                         DIA07870
      SUM = 0.0                                                          DIA07880
      DO 50 I = IB,IE                                                    DIA07890
   50 SUM = SUM + (ARRAY(I)/12.0)                                        DIA07900
   60 TA12S(K) = ((ARRAY(K)/SUM)**POW-1.0)*100.0                         DIA07910
      IF(IPRT.GE.4) THEN
        WRITE(MT6,100)
        CALL RITE01(TA6,KFDA6,KEDA,NY,1)
        WRITE(MT6,120)
        CALL RITE01(TA12S,KFDA12,KEDA,NY,1)
        WRITE(MT6,130)
        CALL RITE01(TA12C,KFDA17,KEDA,NY,1)
      END IF
  100 FORMAT(1H1///'  6.2  SIX MONTH CHANGE IN ADJUSTED INDEX, ANNUAL RADIA08420
     1TE PERCENT'//)                                                     DIA08430
  120 FORMAT(1H1///'  6.3  SIX MONTH SMOOTHED CHANGE IN ADJUSTED INDEX, DIA08760
     1ANNUAL RATE, PERCENT '//)                                          DIA08770
  130 FORMAT(1H1///'  6.4   12 MONTH SMOOTHED CHANGE IN ADJUSTED INDEX, DIA09060
     1PERCENT '//)                                                       DIA09070
      RETURN
      END
C     THIS ROUTINE CALCULATES THE RATIO
      SUBROUTINE RITE04(XXI,LF1,LF2,MSPAN,KRATT)                         DIA06910
      COMMON /DEVICE/ MT5,MT6
      COMMON /OT1/ IPRT,ICHRT,MTYPE,NPAT1,LRATIO,LRIOR,KSGR
      COMMON /OT3/ INV,NPCD,IOR,MPOS,MOVE,MCD,SWGT,MYES
      COMMON /OT4/ KRATE,KRY
      DIMENSION XXI(400),XXO(400),XXIT(400),IXXI(400)
      NY=12
      LF11=LF1+MSPAN
      DO 5 I=1,400
    5  XXIT(I)=(INT((XXI(I)+0.05001)*10.0))/10.0
      DO 10 I=LF11,LF2
      IF(XXIT(I-MSPAN).NE.0.0) THEN
        XXO(I)=((XXIT(I)/XXIT(I-MSPAN))-1.0)*100.0
      END IF
      IF(KRATT.EQ.1) XXO(I)=XXIT(I)-XXIT(I-MSPAN)
      IF(INV.EQ.1) XXO(I)=-XXO(I)
   10 CONTINUE
      WRITE(MT6,20) MSPAN
      CALL RITE01(XXO,LF11,LF2,NY,LRIOR)
   20 FORMAT(1H1///2X,'R.0',I3,' MONTH CHANGE SERIES OF INPUT DATA'/)    DIA08420
      RETURN
      END
C     THIS ROUTINE CALCULATES THE RATIO
      SUBROUTINE RITE05(XXI,LF1,LF2,MSPAN,KRATT)                         DIA06910
      COMMON /DEVICE/ MT5,MT6
      COMMON /OT1/ IPRT,ICHRT,MTYPE,NPAT1,LRATIO,LRIOR,KSGR
      COMMON /OT3/ INV,NPCD,IOR,MPOS,MOVE,MCD,SWGT,MYES
      COMMON /OT4/ KRATE,KRY
      DIMENSION XXI(400),XXO(400),XXIT(400),IXXI(400)
      NY=12
      LF11=LF1+MSPAN
```

```
      DO 10 I=LF11,LF2
      IF(XXI(I-MSPAN).NE.0.0) THEN
        XXO(I)=((XXI(I)/XXI(I-MSPAN))-1.0)*100.0
      END IF
      IF(KRATT.EQ.1) XXO(I)=XXI(I)-XXI(I-MSPAN)
      IF(INV.EQ.1) XXO(I)=-XXO(I)
   10 CONTINUE
      WRITE(MT6,20) MSPAN
      CALL RITE01(XXO,LF11,LF2,NY,LRIOR)
   20 FORMAT(1H1///2X,'R.0',I3,' MONTH CHANGE SERIES OF INPUT DATA'/)   DIA08420
      RETURN
      END
      SUBROUTINE PATSUB(NNPP,KYRP,XMONP)                               SPS00030
CC ------------------------------------------------------------
CC |  THIS PGM  IS  MODIFIED BY MIN   ,                          |
CC |                                  11.JAN. 1986.              |
CC ------------------------------------------------------------
C     GROWTH PROGRAM ( VERSION DEC 78, UPDATED MARCH 79,APRIL 79)       JUP00010
C                                                                       JUP00020
CC  THIS PROGRAM COMPUTES DEVIATIONS FROM A N-TERM MOVING AVERAGE       JUP00030
CC  COMPUTES TURNING POINTS IN THE DEVIATIONS AND USES THESE TURNS      JUP00040
CC  TO COMPUTE ANOTHER TREND BASED ON TRIPLETS OF CYCLE STANDINGS       JUP00050
CC  IT THEN COMPUTES DEVIATIONS FROM THIS TREND AND THE TURNING POINTS  JUP00060
CC  IN THESE DEVIATIONS. AN OPTION IS OPEN FOR USING ONLY THE           JUP00070
CC  RAW DATA WITHOUT DETRENDING THEM.                                   JUP00080
CC                                                                      JUP00090
CC    THE MAIN VARIABLES ARE :                                          JUP00100
CC    LR1 = LOGICAL UNIT TO READ IN TP1                                 JUP00110
CC    LR2 = LOGICAL UNIT TO READ IN NEWSUB                              JUP00120
CC    LW  = LOGICAL UNIT TO WRITE                                       JUP00130
CC    LWP = LOGICAL UNIT TO WRITE ON DISK FOR PLOTTING                  JUP00140
CC    NS  = NUMBER OF SERIES IN THE RUN                                 JUP00150
CC    N   = NUMBER OF DATA IN ONE SERIES                                JUP00160
CC    KYR = FIRST YEAR                                                  JUP00170
CC    KMO = FIRST MONTH (=1)                                            JUP00180
CC    NFOR = PERIODICITY OF THE DATA. 0 = 1 = MONTHLY,2 = QUARTERLY.    JUP00190
CC    INV = INVERSION OPTION. 0 = NO INVERSION,1 = SERIES INVERTED.     JUP00200
CC    IPR = PRINTOUT OPTION. 0 = SHORT,1 = NORMAL,2 = LONG,3 = EXTRALONGJUP00210
CC    NCHRT = WRITING ON DISK FOR FUT. PLOTTING. 0 = NO,1 = YES.        JUP00220
CC    IRD = DEVIATION FR. TREND OPTION. 0 = RATIO,1 = DIFFERERENCE.     JUP00230
CC    NDTR = DETRENDING OPTION. 0 = DETRENDING,1 = NO DET. (RAW DATA)   JUP00240
CC    LOG = LOG. OPTION IN COMPUTING THE FINAL TREND. 0 = LOG,1 = NO LOGJUP00250
CC    MCD = MCD VALUE (IF =0 MCD IS COMPUTED BY THE PROGRAM).           JUP00260
CC    ITERM = NB. OF TERMS FOR THE MOV. AVG. COMPUTING THE FIRST TREND  JUP00270
CC    NDIFF = MINIMAL NB. OF MONTHS BETWEEN TWO SAME TURNING POINT.     JUP00280
CC    LTP = NUMBER OF PHASE AVERAGE , 2 = DOUBLET, 3 = TRIPLET.         JUP00280
CC    TITLE = TITLE OF THE SERIES.                                      JUP00290
CC    SER   = CODE OF THE SERIES.                                       JUP00300
CC    JTSE  = TITLE FOR THE OUTPUT.                                     JUP00310
CC    XMON = ORIGINAL DATA                                              JUP00320
CC    OBS =  DEVIATION FROM THE TREND.                                  JUP00330
CC    WMA = 12 MONTH MOV. AVG. (EXCEPT IN TP1)                          JUP00340
CC    W   = MCD MONTH MOV. AVG. (EXCEPT IN TP1)                         JUP00350
CC    WMD = SPENCER CURVE (EXCEPT IN TP1)                               JUP00360
CC    NP  = RELATIVE POSITION OF THE TURNING POINT (1 = KYR KMO)        JUP00370
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CC    NNP = IDEM NP FOR TENTATIVE TURNING POINT (EXCEPT IN PR1 = NPP)   JUP00380
CC    M = NUMBER OF TURNING POINT                                       JUP00390
CC    II = 1 TURNING POINT START AT PEAK,2 AT TROUGH.                   JUP00400
CC    III = 2 TURNING POINT START AT PEAK,1 AT TROUGH.                  JUP00410
CC    KTRU = SWITCH CONTROLLING STEPS BETWEEN TP3 AND TP4.              JUP00420
CC    IFIN = SWITCH CONTROLLING THE STATE OF THR TREND.                 JUP00430
CC           0 = FIRST TREND OR RAW DATA,1 = FINAL TREND                JUP00440
CC                                                                      JUP00450
      DIMENSION XMONP(660)
      COMMON /TITLES/ ID1,TITLE(20)
      COMMON /GIO/LR1,LR2,LW1,LWP                                       JUP00460
      COMMON /GOG/NS,N,KYR,KMO,NFOR,IPR,NCHRT,IRD,NDTR,INV,LOG,MCD,     JUP00470
     1ITERM,NDIFF,LTP /TIT/SER(2),JTSE(10)                              JUP00480
      COMMON /GAR/XMON(660),OBS(660),WMA(674),W(674),WMD(674)           JUP00490
      COMMON /GTP/NP(52),NNP(52),M,II,III,KTRU,IFIN                     JUP00500
      COMMON /AMULPT/ AMUL                                              COM00670
      COMMON /PATOPT/ PATP,NFORP,INVP,IPRP,NCHRTP,IRDP,NDTRP,LOGP,MCDP  COM00670
     1             ,AMULP,ITERMP,NDIFFP,LTPP
      COMMON /COMCI1/ CDAT(660),TDAT(660)                               JUP06580
      COMMON /TCOUNT/ NID,JCOUNT                                        JUP06580
      COMMON /OT1/ IPRT,ICHRT,MTYPE,NPAT1,LRATIO,LRIOR,KSGR
      DATA LRR1,LRR2,LWW1,LWWP/5,5,6,6/                                 JUP00520
      LR1 = LRR1                                                        JUP00540
      LR2 = LRR2                                                        JUP00550
      LW1 = LWW1                                                        JUP00560
      LWP = LWWP                                                        JUP00570
      NS=1                                                              JUP00580
  200 FORMAT(I3)                                                        JUP00590
      IFIN=0                                                            JUP00600
      FINISH=0                                                          JUP00600
      N=NNPP
      KYR=KYRP
      DO 88 I=1,N
   88 XMON(I)=XMONP(I)
      CALL TP1(LINK,FINISH)                                             JUP00610
    1 GO TO(10,20,30,40),LINK                                           JUP00620
   10 IF(FINISH.EQ.1) GO TO 999
      CALL TP1(LINK,FINISH)                                             JUP00630
      GO TO 1                                                           JUP00640
   20 CALL TP2(LINK,FINISH)                                             JUP00650
      GO TO 1                                                           JUP00660
   30 CALL TP3(LINK,FINISH)                                             JUP00670
      GO TO 1                                                           JUP00680
   40 CALL TP4(LINK,FINISH)                                             JUP00690
      GO TO 1                                                           JUP00700
  999 RETURN
      END                                                               JUP00710
      SUBROUTINE TP1 (LINK,FINISH)                                      JUP00720
C     THIS ROUTINE COMPUTES SPENCER CURVES AND 12 MONTH MOVING AVERAGE  JUP00740
C     AND ELIMINATES THE EXTREME VALUES.                                JUP00750
      COMMON /GIO/LR1,LR2,LW1,LWP                                       JUP00770
      COMMON /GOG/NS,N,KYR,KMO,NFOR,IPR,NCHRT,IRD,NDTR,INV,LOG,MCD,     JUP00780
     1ITERM,NDIFF,LTP /TIT/TITLE(20),SER(2),JTSE(10)                    JUP00790
      COMMON /GAR/XMON(660),OBS(660),WMA(674),W(674),WMD(674)           JUP00800
      COMMON /GTP/NP(52),NNP(52),M,II,III,KTRU,IFIN                     JUP00810
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      COMMON /PATOPT/ PATP,NFORP,INVP,IPRP,NCHRTP,IRDP,NDTRP,LOGP,MCDP  COM00670
     1              ,AMULP,ITERMP,NDIFFP,LTPP
      COMMON /OT1/ IPRT,ICHRT,MTYPE,NPAT1,LRATIO,LRIOR,KSGR
      DIMENSION WORK(674)                                              JUP00830
      REAL*8 SUM,SSQ,STD,AMEAN,TWO                                     JUP00840
   15 FORMAT(20A4)                                                     JUP00860
   25 FORMAT(A4,A1,1X,I3,I4,2I1,1X,2I1,1X,4I1,F3.2,1X,2I2,I1)          JUP00870
   50 FORMAT (//5X,'MEAN OF RATIOS TO SPENCER CURVE=',F9.2,5X,'STD.DEV JUP00880
     1.=',F10.3//5X,'EXTREME OBSERVATIONS AND THEIR SUBSTITUTES')      JUP00890
      NTRU = 0                                                         JUP00910
      IF(IFIN.NE.0)GO TO 115                                           JUP00920
   65 NS = NS - 1                                                      JUP00930
      NFOR=NFORP
      INV=INVP
      IPR=IPRP
      NCHRT=NCHRTP
      IRD=IRDP
      NDTR=NDTRP
      LOG=LOGP
      MCD=MCDP
      AMUL=AMULP
      ITERM=ITERMP
      NDIFF=NDIFFP
      LTP=LTPP
      IF(N .EQ. 0 .OR. KYR .EQ. 0) GO TO 700                           JUP00960
      IF(N.GT.660) GO TO 705                                           JUP00970
      KMO = 1                                                          JUP00980
   75 IF(ITERM .EQ. 0) ITERM = 75                                      JUP01010
      IF(ITERM .EQ. 1) ITERM = 101                                     JUP01010
      IF(NDIFF .EQ. 0) NDIFF = 15                                      JUP01020
      IF(AMUL.EQ.0.)AMUL=3.5                                           JUP01030
      CALL NEWSUB(IER)                                                 JUP01040
      IF(IER.EQ.2)GO TO 65                                             JUP01050
  115 CALL SPECV(OBS,WMA,WORK)                                         JUP01060
  120 IF (MCD) 186,125,186                                             JUP01070
C     COMPUTE  MCD TERM AND AVERAGE                                    JUP01080
  125 N1 = N - 1                                                       JUP01090
      DO 130 I=1,N                                                     JUP01100
  130 WORK(I) = (OBS(I) / WMA(I)) * 100.0                              JUP01110
      SUM = 0.                                                         JUP01120
      DO 135 I=1,N1                                                    JUP01130
      IF(ABS(WORK(I)) .LE. 0.00001) GO TO 131                          JUP01140
      W(I) = (WORK(I + 1) / WORK(I) - 1.0) * 100.0                     JUP01150
  131 W(I) = 0.                                                        JUP01160
  135 SUM = SUM + ABS(W(I))                                            JUP01170
      XN1 = N1                                                         JUP01180
      R = SUM / XN1                                                    JUP01190
      SUM = 0.                                                         JUP01200
      DO 140 I=1,N1                                                    JUP01210
      W(I) = (WMA(I + 1) / WMA(I) - 1.0) * 100.0                       JUP01220
  140 SUM = SUM + ABS(W(I))                                            JUP01230
      C = SUM / XN1                                                    JUP01240
      RTOC = R / C                                                     JUP01250
      WMD(1) = RTOC                                                    JUP01260
      DO 150 J=2,8                                                     JUP01270
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```
      NJ = N - J                                                          JUP01280
      SUM = 0.                                                            JUP01290
      SUMS = 0.                                                           JUP01300
      DO 145 I=1,NJ                                                       JUP01310
      LKC = I + J                                                         JUP01320
      IF(ABS(WORK(I)) .LE. 0.00001) GO TO 145                             JUP01330
      SUMS = SUMS + ABS( (WORK(LKC) / WORK(I) - 1.0) * 100.0)             JUP01340
  144 SUM = SUM + ABS( (WMA(LKC) / WMA(I) - 1.0) * 100.0)                 JUP01350
  145 CONTINUE                                                            JUP01360
  150 WMD(J) = SUMS / SUM                                                 JUP01370
      IF (WMD(8) - 1.) 155,155,185                                        JUP01380
  155 DO 170 I=1,8                                                        JUP01390
      JK = 100 + I                                                        JUP01400
      WMD(I) = WMD(I) - 1.                                                JUP01410
      IF (WMD(I)) 160,160,165                                             JUP01420
  160 WMD(JK) = WMD(I)                                                    JUP01430
      GOTO 170                                                            JUP01440
  165 WMD(JK) = WMD(I) - 50                                               JUP01450
  170 CONTINUE                                                            JUP01460
      SMALL = WMD(101)                                                    JUP01470
      MCD = 1                                                             JUP01480
      DO 180 I=2,5                                                        JUP01490
      JK = 100 + I                                                        JUP01500
      IF (SMALL - WMD(JK)) 175,180,180                                    JUP01510
  175 SMALL = WMD(JK)                                                     JUP01520
      MCD = I                                                             JUP01530
  180 CONTINUE                                                            JUP01540
       GO TO 186                                                          JUP01550
  185 MCD=6                                                               JUP01560
  186 IF(NFOR .EQ. 2) CALL QTR(WMA)                                       JUP01570
      IF(IPR .GT. 1) CALL TABWR(WMA,2)                                    JUP01580
  194 IF(MCD.LT.3) MCD= 3                                                 JUP01590
C     COMPUTE AVG AND ST. DEV. AND EXCLUSION OF EXTR. DATA                JUP01600
  200 N1 = N - 1                                                          JUP01610
  205 SUM = 0.0                                                           JUP01620
  210 SSQ = 0.0                                                           JUP01630
  215 DO 230 I=1,N                                                        JUP01640
  220 W(I) = (OBS(I) / WMA(I)) * 100.0                                    JUP01650
      IF(IRD .NE. 0 .OR. NDTR .NE. 0) W(I) = W(I)/100.                    JUP01660
  225 SUM = SUM + W(I)                                                    JUP01670
  230 SSQ = SSQ + W(I) * * 2                                              JUP01680
  235 AN = N                                                              JUP01690
  240 AMEAN = SUM / AN                                                    JUP01700
      TWO = 2.                                                            JUP01710
  245 STD = DSQRT( (SSQ / AN) - AMEAN * * TWO)                            JUP01720
  250 AMULT = AMUL * STD                                                  JUP01730
  255 ALOW = AMEAN - AMULT                                                JUP01740
  260 AHIGH = AMEAN + AMULT                                               JUP01750
      IF(IPR .GT. 1) WRITE(LW1,50) AMEAN,STD                              JUP01770
  265 W(1) = OBS(1)                                                       JUP01780
  270 W(N) = OBS(N)                                                       JUP01790
  275 DO 305 I=2,N1                                                       JUP01800
      IF (W(I) - ALOW) 295,280,280                                        JUP01810
  280 IF (W(I) - AHIGH) 285,285,295                                       JUP01820
  285 W(I) = OBS(I)                                                       JUP01830
```

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 290 GOTO 305                                                                  JUP01840
 295 W(I) = WMA(I)                                                             JUP01850
     CALL CONVR(I,JYR,JMO,KYR)                                                 JUP01860
     IF(IPR .GT.1) WRITE(LW1,300)I,JYR,JMO,OBS(I),W(I)                         JUP01870
 300 FORMAT(I5,2I6,2F10.2//)                                                   JUP01880
     NTRU = 1                                                                  JUP01890
 305 CONTINUE                                                                  JUP01900
     IF (NTRU) 320,310,320                                                     JUP01910
 310 IF(IPR .GT. 1) WRITE(LW1,315) AMUL                                        JUP01920
 315 FORMAT(///5X,' NO EXTREME VALUES BEYOND',F4.1, '  SIGMA')                 JUP01930
     GOTO 330                                                                  JUP01940
 320 CALL MOVAV(12,W,WMA,KMO,N)                                                JUP01950
     CALL SPECV(W,WMD,WORK)                                                    JUP01960
     DO 325 I=1,N                                                              JUP01970
 325 W(I) = WMD(I)                                                             JUP01980
     GOTO 340                                                                  JUP01990
 330 DO 335 I=1,N                                                              JUP02000
 335 W(I) = WMA(I)                                                             JUP02010
     CALL MOVAV(12,OBS,WMA,KMO,N)                                              JUP02020
 340 IF(NFOR .EQ. 2) CALL QTR(WMA)                                             JUP02030
     IF(IPR .GT. 1) CALL TABWR(WMA,6)                                          JUP02040
     IF(NDTR .EQ. 1) IFIN = 1                                                  JUP02050
     LINK=2                                                                    JUP02060
     RETURN                                                                    JUP02070
 700 WRITE(LW1,701) SER                                                        JUP02080
 701 FORMAT('X ERROR(S) IN THE OPTION CARD. SERIES: ',A4,A1,' EXIT.')          JUP02090
     GO TO 999                                                                 JUP02100
 705 WRITE(LW1,706) SER                                                        JUP02110
 706 FORMAT('X ERRORS SERIES : ',A4,A1,' TOO MANY DATA,660 MAXIMUM. EXIJUP02120
    1T')                                                                       JUP02130
 999 RETURN                                                                    JUP02140
9999 FINISH=1
     RETURN
     END                                                                       JUP02150
     SUBROUTINE TP2 (LINK,FINISH)                                              JUP02160
C      THIS ROUTINE DETERMINES TURNS ON 12 MONTHS MOVING AVERAGE               JUP02180
C     AND COMPUTES MCD CURVE                                                   JUP02190
     COMMON /GIO/LR1,LR2,LW1,LWP                                               JUP02210
     COMMON /GOG/NS,N,KYR,KMO,NFOR,IPR,NCHRT,IRD,NDTR,INV,LOG,MCD,             JUP02220
    1ITERM,NDIFF,LTP /TIT/TITLE(20),SER(2),JTSE(10)                            JUP02230
     COMMON /GAR/XMON(660),OBS(660),WMA(674),W(674),WMD(674)                   JUP02240
     COMMON /GTP/NP(52),NNP(52),M,II,III,KTRU,IFIN                             JUP02250
     COMMON /GTMQ/JTMQ                                                         JUP02260
     DIMENSION NYR(50),NMO(50)                                                 JUP02280
     DATA JTM/1HM/,JTQ/1HQ/                                                    JUP02300
   5 FORMAT(1H1,20A4,31X,A4,A1)                                                JUP02320
  10 FORMAT(///21X,'TENTATIVE TURNING POINTS, 12 MONTH MOVING AVERAGE          JUP02330
    1',10A4)                                                                   JUP02340
     JTMQ = JTM                                                                JUP02360
     IF(NFOR .EQ. 2) JTMQ = JTQ                                                JUP02370
     DO 20 I=1,50                                                              JUP02380
     NP(I) = 0                                                                 JUP02390
  20 NNP(I) = 0                                                                JUP02400
  35 MCD1 = MCD - 1                                                            JUP02410
     KMO1 = KMO - 1                                                            JUP02420
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      XMCD = MCD                                                        JUP02430
      J = (MCD / 2) + KMO                                               JUP02440
   40 NMCD = N - MCD / 2                                                JUP02450
   45 KMOP1 = KMO + 1                                                   JUP02460
   50 KMCD = MCD + KMO1                                                 JUP02470
   55 DO 60 I=1,KMCD                                                    JUP02490
   60 WMD(I) = 0.0                                                      JUP02500
   65 DO 70 I=KMO,KMCD                                                  JUP02520
   70 WMD(J) = WMD(J) + OBS(I)                                          JUP02530
      J1 = J - 1                                                        JUP02550
      DO 75 I=1,J1                                                      JUP02560
   75 WMD(I) = WMD(J)                                                   JUP02570
   80 DO 95 I=KMOP1,NMCD                                                JUP02580
   85 L = I + MCD1                                                      JUP02590
   90 J = J + 1                                                         JUP02600
   95 WMD(J) = WMD(J - 1) - OBS(I - 1) + OBS(L)                         JUP02610
  100 DO 105 I=1,NMCD                                                   JUP02620
  105 WMD(I) = WMD(I) / XMCD                                            JUP02630
      NMC1 = NMCD + 1                                                   JUP02650
      DO 110 I=NMC1,N                                                   JUP02660
  110 WMD(I) = WMD(NMCD)                                                JUP02670
      IF(NFOR .EQ. 2) CALL QTR(WMD)                                     JUP02680
      IF(IPR .GT.1) CALL TABWR(WMD,5)                                   JUP02690
  125 IF(IPR .GT. 0) WRITE(LW1,5)TITLE,SER                              JUP02700
      KTRU = 0                                                          JUP02710
      IF(IPR .GT. 0) WRITE(LW1,10) JTSE                                 JUP02720
  130 CALL WTP(WMA,NER)                                                 JUP02730
      IF (NER - 9) 135,145,135                                          JUP02740
  135 CALL MDP(W,6)                                                     JUP02750
  140 LINK=3                                                            JUP02760
      RETURN                                                            JUP02770
  145 IF (M) 190,190,150                                                JUP02780
  150 CALL MDP(OBS,6)                                                   JUP02790
      WRITE(LW1,155) JTSE                                               JUP02800
  155 FORMAT(/// 40X, ' TURNING POINTS ',10A4//)                       JUP02810
      WRITE(LW1,156) JTMQ                                               JUP02820
  156 FORMAT(42X,'OBS   YEAR  ',A1,'    VALUE'/)                        JUP02830
      DO 165 I=1,M                                                      JUP02840
      CALL CONVR(NNP(I),NYR(I),NMO(I),KYR)                              JUP02850
      JPZ = NNP(I)                                                      JUP02860
  165 WRITE(LW1,160) JPZ,NYR(I),NMO(I),OBS(JPZ)                         JUP02870
  160 FORMAT(37X,I3,I5,I7,I3,F9.2)                                      JUP02880
      IF(NCHRT.EQ.0)GO TO 190                                           JUP02890
      WRITE(LWP,201)M                                                   JUP02900
  201 FORMAT(I3)                                                        JUP02910
      WRITE(LWP,202)(NYR(I),NMO(I),I=1,M)                               JUP02920
      IFIN=0                                                            JUP02930
  202 FORMAT(4(I4,I2,4X))                                               JUP02940
  190 IF (NS) 195,195,200                                               JUP02950
  195 FINISH=1                                                          JUP02960
  200 LINK=1                                                            JUP02970
      RETURN                                                            JUP02980
      END                                                               JUP02990
      SUBROUTINE TP3 (LINK,FINISH)                                      JUP03000
C     THIS ROUTINE CALLS TEST AND CHECKS THE LENGTH OF THE LAST PHASE   JUP03020
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      COMMON /TCOUNT/ NID,JCOUNT                                          JUP06580
      COMMON /COMCI1/ CDAT(660),TDAT(660)                                 JUP06580
      COMMON /IT2/ LFYR                                                   JUP06580
      COMMON /OT1/ IPRT,ICHRT,MTYPE,NPAT1,LRATIO,LRIOR,KSGR
      COMMON /GIO/LR1,LR2,LW1,LWP                                         JUP03040
      COMMON /GOG/NS,N,KYR,KMO,NFOR,IPR,NCHRT,IRD,NDTR,INV,LOG,MCD,       JUP03050
     1ITERM,NDIFF,LTP /TIT/TITLE(20),SER(2),JTSE(10)                      JUP03060
      COMMON /GAR/XMON(660),OBS(660),WMA(674),W(674),WMD(674)             JUP03070
      COMMON /GTP/NP(52),NNP(52),M,II,III,KTRU,IFIN                       JUP03080
   15 FORMAT(//40X,' TURNING POINTS ',10A4)                               JUP03100
   20 FORMAT (45X,'NO EXCLUSIONS')                                        JUP03110
   21 FORMAT(1H1,20A4,31X,A4,A1)                                          JUP03120
      IF (KTRU) 40,25,40                                                  JUP03140
   25 IF(IPR .GT. 0) WRITE(LW1,21) TITLE,SER                              JUP03150
      IF(IPR .GT. 0) WRITE(LW1,30) JTSE                                   JUP03160
      IF(IPR .GT. 0) CALL PR1(W,NNP,M,0)                                  JUP03170
   30 FORMAT(/// 25X,'TENTATIVE TURNING POINTS, SPENCER CURVE B          JUP03180
     1,10A4)                                                              JUP03190
      IF(M-4) 35,31,31                                                    JUP03200
   31 CALL TEST(W,NOE)                                                    JUP03210
      IF(NOE .EQ. 99 .AND. IPR .GT. 0) WRITE(LW1,20)                      JUP03220
   35 KTRU = 1                                                            JUP03230
      LINK=4                                                              JUP03240
      RETURN                                                              JUP03250
   40 IF (M-4) 50,41,41                                                   JUP03260
   41 CALL TEST(OBS,NOE)                                                  JUP03270
      IF (NOE - 99) 50,45,50                                              JUP03280
   45 IF(IPR .GT. 0) WRITE(LW1,20)                                        JUP03290
C-----TEST DURATION OF PHASES                                             JUP03300
   50 MM = M                                                              JUP03310
      DO 55 I=1,M                                                         JUP03320
   55 NNP(I) = NP(I)                                                      JUP03330
      M1 = M - 1                                                          JUP03340
   60 DO 85 I=1,M1                                                        JUP03350
      IF (NP(I + 1) - NP(I) - 5) 65,85,85                                 JUP03360
   65 K = NP(I)                                                           JUP03370
      KK = NP(I + 1)                                                      JUP03380
      CALL CONVR(K,JYR,JMO,KYR)                                           JUP03390
      CALL CONVR(KK,JR,JM,KYR)                                            JUP03400
      IF(I-M1) 66,130,130                                                 JUP03410
  130 IF(IPR .GT. 0) WRITE(LW1,135)JR,JM                                  JUP03420
  135 FORMAT(1H0,40X,'LAST PHASE TOO SHORT, ELIMINATE LAST TURN',2I5)     JUP03430
      MM=MM-1                                                             JUP03440
      GO TO 90                                                            JUP03450
   66 IF(IPR .GT. 0) WRITE (LW1,70) JYR, JMO, JR, JM                      JUP03460
   70 FORMAT (1H0,40X,'PHASE TOO SHORT, ELIMINATE BOTH,',2I5,'AND',2I5)   JUP03470
      MM=MM-2                                                             JUP03480
      DO 75 JJ=I,MM                                                       JUP03490
   75 NNP(JJ) = NNP(JJ + 2)                                               JUP03500
      MK1= MM - 1                                                         JUP03510
      DO 80 JJ=1,MM                                                       JUP03520
   80 NP(JJ) = NNP(JJ)                                                    JUP03530
      IF(MK1-1) 90,90,60                                                  JUP03540
   85 CONTINUE                                                            JUP03550
      IF (MM - M) 90,105,90                                               JUP03560
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 90 M = MM                                                                JUP03570
105 IF(IFIN.NE.0)GO TO 120                                                JUP03580
    IF(IPR .EQ. 0) WRITE(LW1,21) TITLE,SER                                JUP03590
    WRITE(LW1,15) JTSE                                                    JUP03600
    IF (LTP.EQ.3) CALL PR1(OBS,NNP,M,1)                                   JUP03610
    IF (LTP.EQ.2) CALL PR1(OBS,NNP,M,5)                                   JUP03610
    IF(M - 4) 107,106,106                                                 JUP03620
106 IFIN = 1                                                              JUP03630
    GO TO 115                                                             JUP03640
107 IF(NDTR .EQ. 0) WRITE(LW1,108)                                        JUP03650
108 FORMAT(//'THE NUMBER OF TURNING POINT LESS THAN 4. IMPOSSIBLE TO CJUP03660
   1OMPUTE THE FINAL TREND. JUMP TO NEXT SERIES OR EXIT.')                JUP03670
    DO 155 I=1,660
155 CDAT(I)=OBS(I)
    GO TO 112                                                             JUP03680
120 CONTINUE                                                              JUP03690
    WRITE (LW1,125) TITLE,SER,JTSE                                        JUP03700
125 FORMAT(1H1,20A4,31X,A4,A1//35X,'FINAL TURNING POINTS ',10A4)          JUP03710
    CALL PR1(OBS,NNP,M,2)                                                 JUP03720
    IFIN=0                                                                JUP03730
112 IF (NS) 110,110,115                                                   JUP03740
110 FINISH=1                                                              JUP03750
115 LINK=1                                                                JUP03760
    RETURN                                                                JUP03770
    END                                                                   JUP03780
    SUBROUTINE TP4 (LINK,FINISH)                                          JUP03790
C   THIS ROUTINE CHECKS THE FIRST AND THE LAST TURNING POINT.             JUP03810
    COMMON /GIO/LR1,LR2,LW1,LWP                                           JUP03830
    COMMON /GOG/NS,N,KYR,KMO,NFOR,IPR,NCHRT,IRD,NDTR,INV,LOG,MCD,         JUP03840
   1ITERM,NDIFF,LTP /TIT/TITLE(20),SER(2),JTSE(10)                        JUP03850
    COMMON /GAR/XMON(660),OBS(660),WMA(674),W(674),WMD(674)               JUP03860
    COMMON /GTP/NP(52),NNP(52),M,II,III,KTRU,IFIN                         JUP03870
  5 FORMAT(1H1,20A4,31X,A4,A1)                                            JUP03890
 10 FORMAT (//30X,'TURNING POINTS SPENCER CURVE B ',10A4)                 JUP03900
 20 FORMAT (//26X,'TURNING POINTS,',I1,' MONTH MOVING AVERAGE ',10A4)     JUP03910
 25 FORMAT (/// 35X,'TENTATIVE TURNING POINTS ',10A4)                    JUP03920
 30 FORMAT (//35X,' LAST TURN IS TOO NEAR END OF SERIES')                 JUP03930
 40 IF(IPR .GT. 0)  WRITE(LW1,10) JTSE                                    JUP03950
    IF(IPR .GT. 0) CALL PR1(W,NP,M,0)                                     JUP03960
 45 IF(IPR .GT. 0) WRITE(LW1,5)TITLE,SER                                  JUP03970
 50 IF(IPR .GT. 0) WRITE(LW1,20)MCD,JTSE                                  JUP03980
    CALL MDP(WMD,5)                                                       JUP03990
    IF(IPR .GT. 0) CALL PR1(WMD,NP,M,0)                                   JUP04000
    IF(IPR .GT. 0) WRITE(LW1,5)TITLE,SER                                  JUP04010
 55 IF(IPR .GT. 0) WRITE(LW1,25) JTSE                                     JUP04020
    CALL MDP(OBS,MCD)                                                     JUP04030
 60 IF(IPR .GT. 0) CALL PR1(OBS,NP,M,0)                                   JUP04040
    LKZ = NP(M)                                                           JUP04050
    LKZ1 = LKZ + 1                                                        JUP04060
    IF (II - 1) 110,65,110                                                JUP04070
C   FIRST TURN PEAK                                                       JUP04080
C   LAST TURN PEAK                                                        JUP04090
 65 IF ( (M / 2) * 2 - M) 70,100,70                                       JUP04100
 70 DO 75 I=LKZ1,N                                                        JUP04110
    KK = I                                                                JUP04120
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      IF (OBS(LKZ) - OBS(I)) 80,80,75                                    JUP04130
C     MUST BE HIGHER                                                     JUP04140
   75 CONTINUE                                                           JUP04150
      GOTO 90                                                            JUP04160
   80 M = M - 1                                                          JUP04170
      CALL CONVR(LKZ,JYR,JMO,KYR)                                        JUP04180
      CALL CONVR(KK,JY,JM,KYR)                                           JUP04190
      IF(IPR .GT. 0) WRITE(LW1,85)JYR,JMO,OBS(LKZ),JY,JM,OBS(KK)         JUP04200
   85 FORMAT(//10X,2(I5,I3,F10.2),2X,'ELIMINATE TURN' )                  JUP04210
      IF (M) 245,245,90                                                  JUP04220
C     TEST FOR 6 MONTHS DISTANCE                                         JUP04230
   90 IF (NP(M) - N + 5) 115,95,95                                       JUP04240
   95 IF(IPR .GT. 0) WRITE(LW1,30)                                       JUP04250
      M = M - 1                                                          JUP04260
      IF (M) 245,245,115                                                 JUP04270
C     LAST TURN TROUGH                                                   JUP04280
  100 DO 105 I=LKZ1,N                                                    JUP04290
      KK = I                                                             JUP04300
      IF (OBS(LKZ) - OBS(I)) 105,80,80                                   JUP04310
  105 CONTINUE                                                           JUP04320
      GOTO 90                                                            JUP04330
C     FIRST TURN TROUGH                                                  JUP04340
  110 IF ( (M / 2) * 2 - M) 100,70,70                                    JUP04350
C    CHECK FIRST TURN                                                    JUP04360
  115 LKZ = NP(1)                                                        JUP04370
      LKZ1 = LKZ - 1                                                     JUP04380
      IF (II - 1) 175,120,175                                            JUP04390
C     FIRST TURN PEAK                                                    JUP04400
  120 DO 125 I=KMO,LKZ1                                                  JUP04410
      KK = I                                                             JUP04420
      IF (OBS(LKZ) - OBS(I)) 130,125,125                                 JUP04430
  125 CONTINUE                                                           JUP04440
      GOTO 150                                                           JUP04450
  130 II = 2                                                             JUP04460
      III = 1                                                            JUP04470
  135 CALL CONVR(LKZ,JYR,JMO,KYR)                                        JUP04480
      CALL CONVR(KK,JR,JM,KYR)                                           JUP04490
      IF(IPR .GT. 0) WRITE(LW1,85)JYR,JMO,OBS(LKZ),JR,JM,OBS(KK)         JUP04500
      M = M - 1                                                          JUP04510
      IF (M) 245,245,140                                                 JUP04520
  140 DO 145 I=1,M                                                       JUP04530
  145 NP(I) = NP(I + 1)                                                  JUP04540
  150 IF (NP(1) - 6) 155,190,190                                         JUP04550
  155 IT = II                                                            JUP04560
      II = III                                                           JUP04570
      III = IT                                                           JUP04580
      IF(IPR .GT. 0) WRITE(LW1,160)                                      JUP04590
  160 FORMAT( // 37X,' FIRST TURN IS TOO NEAR BEGINNING ')               JUP04600
      M = M - 1                                                          JUP04610
      IF (M) 245,245,165                                                 JUP04620
  165 DO 170 I=1,M                                                       JUP04630
  170 NP(I) = NP(I + 1)                                                  JUP04640
      GOTO 190                                                           JUP04650
C     FIRST TURN IS TROUGH                                               JUP04660
  175 DO 180 I=KMO,LKZ1                                                  JUP04670
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      KK = I                                                                    JUP04680
      IF (OBS(LKZ) - OBS(I)) 180,180,185                                        JUP04690
  180 CONTINUE                                                                  JUP04700
      GOTO 150                                                                  JUP04710
  185 II = 1                                                                    JUP04720
      III = 2                                                                   JUP04730
      GOTO 135                                                                  JUP04740
  190 LINK=3                                                                    JUP04750
      RETURN                                                                    JUP04760
  245 IF(IPR .GT. 0) WRITE(LW1,250)                                             JUP04770
  250 FORMAT (//20X,'NOT ENOUGH TURNS LEFT ')                                   JUP04780
  260 LINK=1                                                                    JUP04790
      RETURN                                                                    JUP04800
      END                                                                       JUP04810
      SUBROUTINE NEWSUB(IER)                                                    JUP04820
C     THIS ROUTINE READS THE DATA AND COMPUTES THE FIRST DETRENDING             JUP04840
      COMMON /GIO/LR1,LR2,LW1,LWP                                               JUP04860
      COMMON /GOG/NS,N,KYR,KMO,NFOR,IPR,NCHRT,IRD,NDTR,INV,LOG,MCD,             JUP04870
     1ITERM,NDIFF,LTP /TIT/TITLE(20),SER(2),JTSE(10)                            JUP04880
      COMMON /GAR/XMON(660),OBS(660),WMA(674),W(674),WMD(674)                   JUP04890
      COMMON /GTP/NP(52),NNP(52),M,II,III,KTRU,IFIN                             JUP04900
      COMMON /PATOPT/ PATP,NFORP,INVP,IPRP,NCHRTP,IRDP,NDTRP,LOGP,MCDP          COM00670
     1             ,AMULP,ITERMP,NDIFFP,LTPP
      COMMON /FTR/XXMON(660)                                                    JUP09700
      DIMENSION YXMON(660),RXMON(660),VEC(20)                                   JUP04920
      DIMENSION AMON(50),ZMON(50),AAMON(50)                                     JUP04930
      IER = 0                                                                   JUP04950
      NOBS=N                                                                    JUP04960
      NOBYR=12                                                                  JUP04970
      GO TO 10                                                                  JUP04980
   52 WRITE(LW1,51)NOBS,IC                                                      JUP04990
   51 FORMAT('0 ERROR: NUMBER OF DATA TOO SMALL ',2I5,' ARE NECESSARY.          JUP05000
     1JUMP TO THE NEXT SERIES OR EXIT')                                         JUP05010
      IER=2                                                                     JUP05030
      RETURN                                                                    JUP05040
  509 FORMAT(20A4)                                                              JUP05070
   10 CALL TITPR(1)                                                             JUP05090
      IF(NFOR .NE. 2) GO TO 201                                                 JUP05100
      DO 91 I=1,NOBS                                                            JUP05110
      J=NOBS+1-I                                                                JUP05120
      JI=3*J-2                                                                  JUP05130
      XMON(JI)=XMON(J)                                                          JUP05140
      XMON(JI+1)=XMON(J)                                                        JUP05150
   91 XMON(JI+2)=XMON(J)                                                        JUP05160
      NOBS=NOBS*3                                                               JUP05170
      N = NOBS                                                                  JUP05180
      CALL QTR(XMON)                                                            JUP05190
  201 CALL TABWR(XMON,1)                                                        JUP05200
      IF(NDTR .EQ. 1) GO TO 601                                                 JUP05210
      SUMA = 0.0                                                                JUP05220
      SUMB = 0.0                                                                JUP05230
      SUMY = 0.0                                                                JUP05240
      SUMZ = 0.0                                                                JUP05250
      C = 0.0                                                                   JUP05260
      X = 0.0                                                                   JUP05270
```

```
54  DO 40 I=1,ITERM                                                    JUP05280
 40 SUMA = SUMA + XMON(I)                                             JUP05290
    SUMA = SUMA/ITERM                                                 JUP05300
    IB = NOBYR * 2 + 1                                                JUP05310
    IC = ITERM + NOBYR * 2                                            JUP05320
    IF(IC.GT.NOBS) GO TO 52                                           JUP05330
    DO 50 I = IB, IC                                                  JUP05340
 50 SUMB = SUMB + XMON(I)                                             JUP05350
    SUMB = SUMB/ITERM                                                 JUP05360
    SUMAA = ALOG(SUMA)                                                JUP05370
    SUMBB = ALOG(SUMB)                                                JUP05380
    C = (SUMBB - SUMAA)/(NOBYR * 2)                                   JUP05390
    M = (ITERM + 1)/2 - 1                                             JUP05400
    AMON(1) = SUMA - SUMA * C                                         JUP05410
    DO 60 J = 2,M                                                     JUP05420
    NN = J - 1                                                        JUP05430
 60 AMON(J) = AMON(NN) - AMON(NN) * C                                 JUP05440
    DO 70 K = 1,M                                                     JUP05450
    KK = M - K + 1                                                    JUP05460
 70 AAMON(K) = AMON(KK)                                               JUP05470
    LL = NOBS - ITERM + 1                                             JUP05480
    DO 80 I = LL,NOBS                                                 JUP05490
 80 SUMZ = SUMZ + XMON(I)                                             JUP05500
    LN = NOBS - NOBYR*2                                               JUP05510
    LM = LN - ITERM + 1                                               JUP05520
    DO  90 I = LM, LN                                                 JUP05530
 90 SUMY = SUMY + XMON(I)                                             JUP05540
    SUMZ = SUMZ/ITERM                                                 JUP05550
    SUMY = SUMY/ITERM                                                 JUP05560
    SUMYY = ALOG(SUMY)                                                JUP05570
    SUMZZ = ALOG(SUMZ)                                                JUP05580
    X = (SUMZZ - SUMYY)/(NOBYR*2)                                     JUP05590
    ZMON(1) = SUMZ + SUMZ * X                                         JUP05600
    DO 100 JJ = 2,M                                                   JUP05610
    NN = JJ - 1                                                       JUP05620
100 ZMON(JJ) = ZMON(NN) + ZMON(NN) * X                                JUP05630
    CALL MOVAV (ITERM,XMON,YXMON,KMO,NOBS)                            JUP05640
    DO 120 I = 1,M                                                    JUP05650
120 XXMON(I) = AAMON(I)                                               JUP05660
    IM = (ITERM + 1)/2                                                JUP05670
    IN = NOBS - M                                                     JUP05680
    DO 130 I = IM,IN                                                  JUP05690
130 XXMON(I) = YXMON(I)                                               JUP05700
    DO 140 I = 1,M                                                    JUP05710
    K = I + IN                                                        JUP05720
140 XXMON(K) = ZMON(I)                                                JUP05730
    IF(IRD.EQ.0)GO TO 320                                             JUP05740
    IF(INV .NE. 0) GO TO 305                                          JUP05750
    DO 300 I = 1, NOBS                                                JUP05760
300 RXMON(I) = XMON(I) - XXMON(I)                                     JUP05770
    GO TO 296                                                         JUP05780
305 DO 311 I = 1, NOBS                                                JUP05790
311 RXMON(I) = XXMON(I) - XMON(I)                                     JUP05800
    GO TO 296                                                         JUP05810
320 IF (INV) 299,299,298                                              JUP05820
```

```
298 DO 297 I=1,NOBS                                                    JUP05830
297 RXMON(I) = (XXMON(I)/XMON(I)) * 100                                JUP05840
    GO TO 296                                                          JUP05850
299 DO 400 I = 1,NOBS                                                  JUP05860
400 RXMON(I) = (XMON(I)/XXMON(I)) * 100                                JUP05870
296 IF(NFOR .EQ. 2) CALL QTR(XXMON)                                    JUP05880
    IF(IPR .GT. 1) CALL TABWR(XXMON,11)                                JUP05890
    IF(IRD.NE.0)GO TO 330                                              JUP05900
    IF(NFOR .EQ. 2) CALL QTR(RXMON)                                    JUP05910
    IF(IPR .GT. 0) CALL TABWR(RXMON,12)                                JUP05920
    GO TO 340                                                          JUP05930
330 IF(NFOR .EQ. 2) CALL QTR(RXMON)                                    JUP05940
    IF(IPR .GT. 0) CALL TABWR(RXMON,13)                                JUP05950
340 IF(IPR .LE. 2) GO TO 350                                           JUP05960
    WRITE(LW1,7)                                                       JUP05970
  7 FORMAT(1H1,2X,'MOVING AVERAGES FOR GROWTH RATE CALCULATIONS'///)   JUP05980
    WRITE(LW1,8) SUMA, SUMB, SUMY, SUMZ                                JUP05990
  8 FORMAT(5X,'A=',F7.0,5X,'B=',F7.0,5X,'Y=',F7.0,5X,'Z=',F7.0///)     JUP06000
    WRITE(LW1,9)                                                       JUP06010
  9 FORMAT(5X, 'GROWTH RATE BEGINNING', 20X, 'GROWTH RATE END'//)      JUP06020
    WRITE(LW1,11)                                                      JUP06030
 11 FORMAT(8X,'(LN B - LNA)/2N', 28X,'(LN Z - LNY)/2N'//)              JUP06040
    WRITE(LW1,12) C , X                                                JUP06050
 12 FORMAT(9X, F9.6, 33X, F9.6///)                                     JUP06060
    WRITE(LW1,13) NOBYR                                                JUP06070
 13 FORMAT(2X, 'N =', I3)                                              JUP06080
    WRITE(LW1,14)                                                      JUP06090
 14 FORMAT(6X,'EXTRAPOLATED MOVING AVERAGES'///)                       JUP06100
    WRITE(LW1,15)                                                      JUP06110
 15 FORMAT(10X, 'BEGINNING', 20X, 'END'//)                             JUP06120
    WRITE(LW1,16) (I, AAMON(I), ZMON(I), I = 1,M)                      JUP06130
 16 FORMAT(I3, 6X, F8.3, 22X, F8.3)                                    JUP06140
350 IF(IPR .EQ. 0) GO TO 220                                           JUP06150
    SDVSQ=0.0                                                          JUP06160
    SDVQR=0.0                                                          JUP06170
    AVG=0.0                                                            JUP06180
    AVGR=0.0                                                           JUP06190
    DO 555 I=1,NOBS                                                    JUP06200
    AVG=AVG+XMON(I)                                                    JUP06210
555 AVGR=AVGR+RXMON(I)                                                 JUP06220
    AVG=AVG/NOBS                                                       JUP06230
    AVGR=AVGR/NOBS                                                     JUP06240
    DO 556 I=1,NOBS                                                    JUP06250
    DVSQ=(AVG-XMON(I))**2                                              JUP06260
    DVSQR=(AVGR-RXMON(I))**2                                           JUP06270
    SDVSQ=SDVSQ+DVSQ                                                   JUP06280
556 SDVQR=SDVQR+DVSQR                                                  JUP06290
    STD=SQRT(SDVSQ/NOBS)                                               JUP06300
    STDR=SQRT(SDVQR/NOBS)                                              JUP06310
    WRITE(LW1,557)                                                     JUP06320
557 FORMAT(/////40X,'MEAN',35X,'STANDARD DEVIATION',//)                JUP06330
    WRITE(LW1,558) AVG,STD,AVGR,STDR                                   JUP06340
558 FORMAT(1HO,10X,'S.A. DATA ',17X,F11.4,32X,F11.4////11X,'RATIO DATAJUP06350
   1',17X,F11.4,32X,F11.4//)                                           JUP06360
220 CONTINUE                                                           JUP06370
```

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      DO 600 I=1,NOBS                                                    JUP06380
  600 OBS(I)=RXMON(I)                                                    JUP06390
      IF(IPR .GT. 2) CALL BAR(XXMON,1)                                   JUP06400
      GO TO 999                                                          JUP06410
  601 DO 602 I = 1,NOBS                                                  JUP06420
      OBS(I) = XMON(I)                                                   JUP06430
      IF(INV .EQ. 1) OBS(I) = - XMON(I)                                  JUP06440
  602 CONTINUE                                                           JUP06450
      IF(IPR .GT. 0) CALL BAR(XXMON,1)                                   JUP06460
  999 RETURN                                                             JUP06470
      END                                                                JUP06480
      SUBROUTINE DOUBLE(NYR,NMO,NTP)                                     JUP09600
CC----COMPUTES FINAL TREND BY INTERPOLATING BETWEEN MIDPOINTS OF         JUP09620
CC----DOUBLETS OF PHASE AVERAGES.                                        JUP09630
      REAL*8 SOB,SOBT                                                    JUP09720
      DIMENSION NYR(50),NMO(50),NDATE(50),PMM(50),PAM1(50),MY(50),MM(50) JUP09730
     1, PA(50),PAEXP(660),PM(50),WE(50),PAM(50),S(50),SD(50),SWE(50),    JUP09740
     2  OBST(660),NY(4),NM(4),OBS1(660),RCOBS1(660),SLN(50),NYY(50),     JUP09750
     3 NMM(50),FOBS1(660),RCOBSF(660),FOBS(660)                          JUP09760
      COMMON /GIO/LR1,LR2,LW1,LWP                                        JUP09650
      COMMON /GOG/NS,N,KYR,KMO,NFOR,IPR,NCHRT,IRD,NDTR,INV,LOG,MCD,      JUP09660
     1ITERM,NDIFF,LTP /TIT/TITLE(20),SER(2),JTSE(10)                     JUP06560
      COMMON /GAR/XMON(660),OBS(660),WMA(674),W(674),WMD(674)            JUP09680
      COMMON /GTMQ/JTMQ                                                  JUP09690
      COMMON /FTR/XXMON(660)                                             JUP09700
      COMMON /COMCI1/ CDAT(660),TDAT(660)                                JUP06580
      WRITE(6,1332) NTP                                                  JUP09780
 1332 FORMAT(I6/)                                                        JUP09790
      WRITE(6,1333) (NYR(I),NMO(I),I=1,NTP)                              JUP09800
 1333 FORMAT(2I5)                                                        JUP09810
      DO 5 I=1,660                                                       JUP09820
    5 FOBS1(I)=XXMON(I)                                                  JUP09830
      DO 10 I=1,660                                                      JUP09840
      RCOBSF(I)=100.                                                     JUP09850
      RCOBS1(I)=100.                                                     JUP09860
      FOBS(I)=100.                                                       JUP09870
   10 OBS(I)=100.                                                        JUP09880
      IF(NFOR .NE. 2) GO TO 12                                           JUP09890
      DO 11 I = 1,NTP                                                    JUP09900
   11 NMO(I) = 3*NMO(I) - 1                                              JUP09910
   12 MMM=12                                                             JUP09920
      CALL TITPR(2)                                                      JUP09930
      NFY=(KYR-1900)*12+KMO                                              JUP09940
      NLY=NFY+N                                                          JUP09950
CC---- PUT RELATIVE TURNING POINT DATES INTO NDATE                       JUP09960
      N1=1                                                               JUP09970
      NTP2=NTP                                                           JUP09980
CC---- FOR BETTER EXTRAPOLATION DEFINE FIRST TURNING POINT IN           JUP09990
CC---- BEGINNING OF SERIES-- UNLESS FIRST TURN OCCURS WITHIN 6 MONTHS.   JUP10000
      IF (NYR(1) .EQ. 0) GO TO 30                                        JUP10010
      TEMP = (NYR(1) - 1900) * 12 + NMO(1)                               JUP10020
      IF (TEMP - NFY .LE. 6) GO TO 35                                    JUP10030
C-----ELSE ADD TWO TURNS TO KEEP TRACK OF P'S AND T'S                    JUP10040
      NTP = NTP + 2                                                      JUP10050
      NDATE(1) = 0                                                       JUP10060
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```
      NDATE(2) = NFY                                                          JUP10070
      N1 = 3                                                                  JUP10080
      DO 25 I=3,NTP                                                           JUP10090
   25 NDATE(I) = (NYR(I-2)-1900)*12+ NMO(I-2)                                 JUP10100
      GO TO 45                                                                JUP10110
   30 TEMP = (NYR(2) - 1900) * 12 + NMO(2)                                    JUP10120
      IF (TEMP - NFY .LE. 6) GO TO 35                                         JUP10130
C-----ELSE CHANGE FIRST TURN TO FIRST DATE                                    JUP10140
      NDATE(1) = NFY                                                          JUP10150
      N1 = 2                                                                  JUP10160
   35 DO 40 I=N1,NTP                                                          JUP10170
   40 NDATE(I)=(NYR(I)-1900)*12+NMO(I)                                        JUP10180
C-----TAKE LOGS                                                               JUP10190
   45 IF(LOG)9000,50,160                                                      JUP10200
   50 DO 60 I=1,N                                                             JUP10210
      IF(XMON(I).LE.0)WRITE(LW1,90)I,XMON(I),SER                              JUP10220
   90 FORMAT('XWARNING DATA NEG. OBS=',I4,' VALUE ',F9.2,' SER ',A4,A1)       JUP10230
   60 XMON(I)=ALOG(XMON(I))                                                   JUP10240
  160 CONTINUE                                                                JUP10250
CC  MATCH TURNS                                                               JUP10260
      I=1                                                                     JUP10270
      IF(NDATE(1).EQ.0)I=2                                                    JUP10280
      DO 190 JF=I,NTP                                                         JUP10290
      KK=NDATE(JF)                                                            JUP10300
      K=KK-NFY                                                                JUP10310
      IF(K) 190,200,200                                                       JUP10320
  190 CONTINUE                                                                JUP10330
      GO TO 9000                                                              JUP10340
  200 K1=K+1                                                                  JUP10350
      K2=KK-K1                                                                JUP10360
      NTP1=NTP-1                                                              JUP10370
CC--- COMPUTE PHASE AVERAGES (PA)                                            JUP10380
      DO 300 J=JF,NTP1                                                        JUP10390
      IF(NDATE(J+1))9000,310,210                                              JUP10400
  210 IF(NDATE(J+1)-NLY)220,220,310                                           JUP10410
  220 MB=NDATE(J)-K2+1                                                        JUP10420
      ME=NDATE(J+1)-K2-1                                                      JUP10430
      DV=ME-MB+2                                                              JUP10440
      PS=0                                                                    JUP10450
      IF(MB-ME) 250,250,270                                                   JUP10460
  250 DO 255 L=MB,ME                                                          JUP10470
  255 PS=PS+XMON(L)                                                           JUP10480
  270 PA(J)=(PS+(XMON(MB-1)+XMON(ME+1))*.5)/DV                                JUP10490
      WE(J)=(2.*DV*DV)/(2.*DV-1)                                              JUP10500
      PMN=NDATE(J)+NDATE(J+1)-K2*2                                            JUP10510
  300 PM(J)=PMN/2                                                             JUP10520
      DO 280 JJ=2,6,2                                                         JUP10530
  280 DVL=DVL+NDATE(NTP-JJ)+NDATE(NTP-JJ-1)                                   JUP10540
      DVL=DVL/3.                                                              JUP10550
      WE(NTP)=2.*DV*DV/(2.*DV-1.)                                             JUP10560
      PA1=0.                                                                  JUP10570
      PA2=0.                                                                  JUP10580
      PA3=0.                                                                  JUP10590
      PAL=0.                                                                  JUP10600
      NO=NDATE(NTP)-K2                                                        JUP10610
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      NN=N-N0+1                                                          JUP10620
      DO 301 I=N0,N                                                      JUP10630
  301 PAL=PAL+XMON(I)                                                    JUP10640
      PAL=PAL/NN                                                         JUP10650
      KNN=NN/12                                                          JUP10660
      NN=KNN*12                                                          JUP10670
      IF(KNN.EQ.0) THEN                                                  JUP10680
        PA4=1.                                                           JUP10690
        GO TO 309                                                        JUP10700
      ENDIF                                                              JUP10710
      IF(NTP2.LE.2) GO TO 307                                            JUP10720
      N2=NDATE(NTP-2)-K2                                                 JUP10730
      N3=N2+NN-1                                                         JUP10740
      DO 302 I=N2,N3                                                     JUP10750
  302 PA1=PA1+XMON(I)                                                    JUP10760
      PA1=PA1/NN                                                         JUP10770
      IF(N3.GE.(NDATE(NTP-1)-K2)) PA1=PA(NTP-2)                          JUP10780
      IF(NTP2.LE.4) GO TO 306                                            JUP10790
      N4=NDATE(NTP-4)-K2                                                 JUP10800
      N5=N4+NN-1                                                         JUP10810
      DO 303 I=N4,N5                                                     JUP10820
  303 PA2=PA2+XMON(I)                                                    JUP10830
      PA2=PA2/NN                                                         JUP10840
      IF(N5.GE.(NDATE(NTP-3)-K2)) PA2=PA(NTP-4)                          JUP10850
      IF(NTP2.LE.6) GO TO 305                                            JUP10860
      N6=NDATE(NTP-6)-K2                                                 JUP10870
      N7=N6+NN-1                                                         JUP10880
      DO 304 I=N6,N7                                                     JUP10890
  304 PA3=PA3+XMON(I)                                                    JUP10900
      PA3=PA3/NN                                                         JUP10910
      IF(N7.GE.(NDATE(NTP-5)-K2)) PA3=PA(NTP-6)                          JUP10920
      PA4=(PA(NTP-2)/PA1+PA(NTP-4)/PA2+PA(NTP-6)/PA3)/3                  JUP10930
      GO TO 309                                                          JUP10940
  305 PA4=(PA(NTP-2)/PA1+PA(NTP-4)/PA2)/2                                JUP10950
      GO TO 308                                                          JUP10960
  306 PA4=PA(NTP-2)/PA1                                                  JUP10970
      GO TO 308                                                          JUP10980
  307 WRITE(LW1,4000) NTP2                                               JUP10990
      CALL EXIT                                                          JUP11000
  308 WRITE(LW1,4001) NTP2                                               JUP11010
 4000 FORMAT(' ONLY',I3,'  TURNING POINTS: TERMINATING EXECUTION')       JUP11020
 4001 FORMAT(' ONLY',I3,'  TURNING POINTS : CONTINUING EXECUTION')       JUP11030
  309 PA(NTP)=PAL*PA4                                                    JUP11040
      WRITE(6,727) PAL,PA1,PA2,PA3,PA(NTP-2),PA(NTP-4),PA(NTP-6),PA(NTP)JUP11050
  727 FORMAT('AVG. TERMINAL PHASE=',F14.7/'PARTIAL AVG.(-2)=',           JUP11060
     1F14.7/'PARTIAL AVG.(-4)=',F14.7/'PARTIAL AVG.(-6)=',F14.7/         JUP11070
     2'PA(-2)=',F14.7/'PA(-4)=',F14.7,/'PA(-6)=',F14.7/                  JUP11080
     3'LAST PHASE AVG.=',F14.7///)                                       JUP11090
      NPP=0                                                              JUP11100
      KOU=0                                                              JUP11110
      NEND=5                                                             JUP11120
      IF(NTP.LE.6) NEND=NTP-3                                            JUP11130
      DO 299 I=1,NEND,2                                                  JUP11140
      KOU=KOU+1                                                          JUP11150
      NPM=NDATE(NTP-I)-NDATE(NTP-I-1)                                    JUP11160
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      WRITE(6,1296) I+1,NPM                                                  JUP11170
 1296 FORMAT('DURATION OF PHASE(-',I1,')  =',I8)                             JUP11180
  299 NPP=NPP+(NDATE(NTP-I)-NDATE(NTP-I-1))                                  JUP11190
      PNM=NPP/KOU                                                            JUP11200
      WRITE(6,1297) KOU,PNM                                                  JUP11210
 1297 FORMAT('AVG DURATION OF LAST ',I1,' PHASES =',F10.4////)               JUP11220
      PM(NTP)=NDATE(NTP)+PNM/2-K2                                            JUP11230
      GO TO 420                                                              JUP11240
 9000 WRITE(LW1,9001)                                                        JUP11250
 9001 FORMAT(' ERROR IN COMPUTING NDATE OR LOG READIN IN DOUBLE')            JUP11260
      CALL EXIT                                                              JUP11270
  310 NTP1=J                                                                 JUP11280
  420 JFP1=JF+1                                                              JUP11290
CC LOOP, STARTING WITH DOUBLETS                                              JUP11300
CC REPLACED BY DOUBLETS ONLY                                                 JUP11310
      L=2                                                                    JUP11320
      FL=L                                                                   JUP11330
      DO 450 M=JFP1,NTP                                                      JUP11340
      M1=M-1                                                                 JUP11350
      M2=M                                                                   JUP11360
      SC=0.                                                                  JUP11370
      SPA=0.                                                                 JUP11380
      SPM=0.                                                                 JUP11390
      SS=0.                                                                  JUP11400
      SCW=0.                                                                 JUP11410
      SPAW=0.                                                                JUP11420
      SPMW=0.                                                                JUP11430
      SMW=0.                                                                 JUP11440
      SSW=0.                                                                 JUP11450
      DO 440 K=M1,M2                                                         JUP11460
      SC=SC+PA(K)*PM(K)                                                      JUP11470
      SPA=SPA+PA(K)                                                          JUP11480
      SPM=SPM+PM(K)                                                          JUP11490
      SS=SS+PM(K)*PM(K)                                                      JUP11500
      WPM=PM(K)*WE(K)                                                        JUP11510
      SCW=SCW+PA(K)*WPM                                                      JUP11520
      SPAW=SPAW+PA(K)*WE(K)                                                  JUP11530
      SPMW=SPMW+WPM                                                          JUP11540
      SMW=SMW+WE(K)                                                          JUP11550
  440 SSW=SSW+WPM*PM(K)                                                      JUP11560
      SMN=(SPA*SPM)/FL                                                       JUP11570
      SMD=SPM**2/FL                                                          JUP11580
      PAM(M)=SPA/FL                                                          JUP11590
      PMM(M)=SPM/FL                                                          JUP11600
      S(M)=(SC-SMN)/(SS-SMD)                                                 JUP11610
      SMNW=(SPAW*SPMW)/SMW                                                   JUP11620
      SMDW=(SPMW*SPMW)/SMW                                                   JUP11630
      SD(M)=SSW-SMDW                                                         JUP11640
  450 SWE(M)=(SCW-SMNW)/SD(M)                                                JUP11650
      L2 = L/2                                                               JUP11660
      WRITE(LW1,453) TITLE,SER                                               JUP11670
  453 FORMAT(1H1,20A4,31X,A4,A1//,35X,'PRELIMINARY STEPS FOR COMPUTING TJUP11680
     1HE FINAL TREND'//)                                                     JUP11690
      IF(LOG .NE. 0) GO TO 350                                               JUP11700
      WRITE(LW1,340) JTMQ,JTMQ,JTMQ                                          JUP11710
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340 FORMAT(11X,'PHASE: FROM YEAR  ',A1,'  TO YEAR  ',A1,6X,'AVG. ANTILJUP11720
   1OG',4X,'DOUBLETS AVG.',4X,'MIDPOINTS : YEAR   ',A1/)              JUP11730
    GO TO 355                                                         JUP11740
350 WRITE(LW1,353) JTMQ,JTMQ,JTMQ                                     JUP11750
353 FORMAT(11X,'PHASE: FROM YEAR  ',A1,'  TO YEAR  ',A1,11X,'AVERAGE',JUP11760
   14X,'DOUBLETS AVG.',4X,'MIDPOINTS : YEAR   ',A1/)                  JUP11770
355 DO 401 J = JF,NTP                                                 JUP11780
    IF(LOG .NE. 0) GO TO 400                                          JUP11790
    PAEXP(J) = EXP(PA(J))                                             JUP11800
    IF(J .LT. JFP1 .OR. J .GT. NTP) GO TO 401                         JUP11810
    PAM1(J) = EXP(PAM(J))                                             JUP11820
    GO TO 401                                                         JUP11830
400 PAEXP(J) = PA(J)                                                  JUP11840
    IF(J .LT. JFP1 .OR. J .GT. NTP) GO TO 401                         JUP11850
    PAM1(J) = PAM(J)                                                  JUP11860
401 CONTINUE                                                          JUP11870
    DO 405 J = JF,NTP                                                 JUP11880
    CALL CONVR(NDATE(J),NYY(J),NMM(J),KYR)                            JUP11890
405 NYY(J) = NYY(J) - KYR                                             JUP11900
    DO 410 J = JF,NTP1                                                JUP11910
    NYK = NYY(J) + 1900                                               JUP11920
    NYK1 = NYY(J+1) + 1900                                            JUP11930
    JJ1 = J - 1                                                       JUP11940
    IF(J .LT. JFP1 .OR. J .GT. NTP) GO TO 406                         JUP11950
    KMR =(PM(J)+PM(JJ1))/2                                            JUP11960
    CALL CONVR(KMR,MY(J),MM(J),KYR)                                   JUP11970
    MY(J)=MY(J)-1900                                                  JUP11980
    MMY=MY(J)+1900                                                    JUP11990
    WRITE(LW1,415) JJ1,NYK,NMM(J),NYK1,NMM(J+1),PAEXP(J),PAM1(J),MMY  JUP12000
   1,MM(J)                                                            JUP12010
415 FORMAT(1H0,13X,I2,7X,I4,I3,5X,I4,I3,6X,F12.2,5X,F12.2,16X,2I4)     JUP12020
    GO TO 410                                                         JUP12030
406 WRITE(LW1,415) JJ1,NYK,NMM(J),NYK1,NMM(J+1),PAEXP(J)              JUP12040
410 CONTINUE                                                          JUP12050
    IF(IPR .GT. 2) WRITE(LW1,475)                                     JUP12060
475 FORMAT(///26X,'1ST PHASE',6X,'LAST PHASE',3X,'MIDPOINT',8X,'SLOPE'JUP12070
   1,4X,'WTD. SLOPE',2X,'LEVEL ADJMT.'//)                             JUP12080
476 MM1=2                                                             JUP12090
    SLN(JF+1)=(PAM(JF+2)-PAM(JF+1))/(PMM(JF+2)-PMM(JF+1))             JUP12100
    OBST(1)=PAM(JF+1)-SLN(JF+1)*PMM(JF+1)                             JUP12110
    MM3=1                                                             JUP12120
    MM4=1                                                             JUP12130
    DO 550 M=JFP1,NTP1                                                JUP12140
CC FOR NONCUMULATIVE COMPUTATION OF DIFF SET SOB AND SOBT=0. HERE     JUP12150
    SOB=0.                                                            JUP12160
    SOBT=0.                                                           JUP12170
    NY(1) = NYY(M-1)                                                  JUP12180
    NM(1) = NMM(M-1)                                                  JUP12190
    NY(2) = NYY(M)                                                    JUP12200
    NM(2) = NMM(M)                                                    JUP12210
    LL=M+L                                                            JUP12220
    NY(3) = NYY(LL-2)                                                 JUP12230
    NM(3) = NMM(LL-2)                                                 JUP12240
    NY(4) = NYY(LL-1)                                                 JUP12250
    NM(4) = NMM(LL-1)                                                 JUP12260
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      IF(IPR .GT. 2) WRITE(LW1,480)(NY(IK),NM(IK),IK=1,4),MY(M),MM(M),   JUP12270
     1S(M),SWE(M)                                                        JUP12280
  480 FORMAT(25X,2(2X,4I3),2I4,2F14.5)                                   JUP12290
      SLN(M)=(PAM(M+1)-PAM(M))/(PMM(M+1)-PMM(M))                         JUP12300
      IF(IPR .GT. 2) WRITE(LW1,481) SLN(M)                               JUP12310
  481 FORMAT(61X,F14.5)                                                  JUP12320
      MM2=PMM(M+1)                                                       JUP12330
      IF(M.NE.NTP1) GO TO 485                                            JUP12340
      IF(M.EQ.NTP1) MM2=N                                                JUP12350
  485 DO 490 I=MM1,MM2                                                   JUP12360
  490 OBST(I)=OBST(I-1)+SLN(M)                                           JUP12370
      MM4=MM3                                                            JUP12380
      MM1=MM2+1                                                          JUP12390
  550 MM3=MM2+1                                                          JUP12400
  489 IF(NFOR .EQ. 2) CALL QTR(OBST)                                     JUP12410
      IF(IPR .GT. 2) CALL TABWR(OBST,4)                                  JUP12420
CC PUT MOVING AVG COMPUTATIONS HERE                                      JUP12430
 494  CALL MOV3(MMM,OBST,OBS1,KMO,N)                                     JUP12440
      IF(NFOR .EQ. 2) CALL QTR(OBS1)                                     JUP12450
      IF(NFOR.EQ.2) CALL QTR(FOBS1)                                      JUP12460
      IF(IPR .GT. 2 .AND. LOG .EQ. 0) CALL TABWR(OBS1,7)                 JUP12470
C-----TAKE ANTILOGS                                                      JUP12480
 4913 IF(LOG.NE.0) GOTO 500                                              JUP12490
      DO 495 I=1,N                                                       JUP12500
      XMON(I)=EXP(XMON(I))                                               JUP12510
  495 OBS1(I)=EXP(OBS1(I))                                               JUP12520
  500 IF(IRD .EQ. 1) GO TO 540                                           JUP12530
      IF(INV .NE. 0) GO TO 515                                           JUP12540
      DO 510 IL=1,N                                                      JUP12550
      FOBS(IL)=XMON(IL)/FOBS1(IL)*100.                                   JUP12560
  510 OBS(IL)=XMON(IL)/OBS1(IL)*100.                                     JUP12570
      GO TO 700                                                          JUP12580
  515 DO 516 IL = 1,N                                                    JUP12590
      FOBS(IL) = FOBS1(IL)/XMON(IL)*100.                                 JUP12600
  516 OBS(IL) = OBS1(IL)/XMON(IL)*100.                                   JUP12610
      GO TO 700                                                          JUP12620
  540 IF(INV .NE. 0) GO TO 580                                           JUP12630
      DO 570 IL=1,N                                                      JUP12640
      FOBS(IL)=XMON(IL)-FOBS1(IL)                                        JUP12650
  570 OBS(IL)=XMON(IL)-OBS1(IL)                                          JUP12660
      GO TO 700                                                          JUP12670
  580 DO 590 IL = 1,N                                                    JUP12680
      FOBS(IL) = FOBS1(IL) - XMON(IL)                                    JUP12690
  590 OBS(IL) = OBS1(IL) - XMON(IL)                                      JUP12700
  700 DO 985 JAB=1,660
  985 CDAT(JAB)=OBS(JAB)
C     WRITE(LW1,*) CDAT                                                  JUP09300
      NQB = 2                                                            JUP12710
      NQD = 1                                                            JUP12720
      NMA = 12                                                           JUP12730
      IF(NFOR .NE. 2) GO TO 710                                          JUP12740
      NQB = 4                                                            JUP12750
      NQD = 3                                                            JUP12760
      NMA = 4                                                            JUP12770
  710 IF(LOG .EQ. 0) GO TO 712                                           JUP12780
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      DO 711 IL = 1,N                                                    JUP12790
      IF(OBS1(IL) .LE. 0.) GO TO 714                                     JUP12800
  711 CONTINUE                                                           JUP12810
  712 IDI = 3                                                            JUP12820
      DO 520 IL=NQB,N                                                    JUP12830
      RCOBSF(IL)=((FOBS1(IL)/FOBS1(IL-NQD))**NMA-1.)*100.                JUP12840
  520 RCOBS1(IL)=((OBS1(IL)/OBS1(IL-NQD))**NMA-1.)*100.                  JUP12850
      DO 525 IL = 1,NQD                                                  JUP12860
      RCOBSF(IL)=RCOBSF(NQB)                                             JUP12870
  525 RCOBS1(IL)=RCOBS1(NQB)                                             JUP12880
      GO TO 719                                                          JUP12890
  714 IDI = 14                                                           JUP12900
      DO 530 IL = NQB,N                                                  JUP12910
      RCOBSF(IL) = (FOBS1(IL) - FOBS1(IL-NQD))*NMA                       JUP12920
  530 RCOBS1(IL) = (OBS1(IL) - OBS1(IL-NQD))*NMA                         JUP12930
      DO 535 IL = 1,NQD                                                  JUP12940
      RCOBSF(IL) = RCOBSF(NQB)                                           JUP12950
  535 RCOBS1(IL) = RCOBS1(NQB)                                           JUP12960
  719 IF(NCHRT .EQ. 0) GO TO 720                                         JUP12970
      CALL TABWR(FOBS1,15)                                               JUP12980
      CALL TABWR(RCOBSF,15)                                              JUP12990
      CALL TABWR(FOBS,15)                                                JUP13000
      CALL TABWR(OBS1,10)                                                JUP13010
      CALL TABWR(RCOBS1,10)                                              JUP13020
      CALL TABWR(OBS,10)                                                 JUP13030
  720 CALL TABWR(OBS1,8)                                                 JUP13040
      CALL TABWR(RCOBS1,IDI)                                             JUP13050
      IF(IDI .EQ. 14) WRITE(LW1,790)                                     JUP13060
  790 FORMAT(/ ,1X,'WARNING :THE ABSOLUTE CHANGE IS PRINTED IN PLACE OF  JUP13070
     1THE PERCENT ONE, THE TREND BEING NEGATIVE OR NULL IN PART.')       JUP13080
      CALL TABWR(OBS,9)                                                  JUP13090
 1000 CONTINUE                                                           JUP13100
      IF(IPR .GT. 0) CALL BAR(OBS1,2)                                    JUP13110
      RETURN                                                             JUP13120
      END                                                                JUP13130
      SUBROUTINE TRIPLE(NYR,NMO,NTP)                                     JUP06490
CC----COMPUTES FINAL TREND BY INTEROLATING BETWEEN MIDPOINTS OF          JUP06510
CC----TRIPLETS OF PHASE AVERAGES.                                        JUP06520
      COMMON /GIO/LR1,LR2,LW1,LWP                                        JUP06540
      COMMON /GOG/NS,N,KYR,KMO,NFOR,IPR,NCHRT,IRD,NDTR,INV,LOG,MCD,      JUP06550
     1ITERM,NDIFF,LTP /TIT/TITLE(20),SER(2),JTSE(10)                     JUP06560
      COMMON /GAR/XMON(660),OBS(660),WMA(674),W(674),WMD(674)            JUP06570
      COMMON /GTMQ/JTMQ                                                  JUP06580
      COMMON /TCOUNT/ NID,JCOUNT
      COMMON /COMCI1/ CDAT(660),TDAT(660)                                JUP06580
      COMMON /IT2/ LFYR,LFMO,LEYR,LEMO                                   JUP06580
      COMMON /OT1/ IPRT,ICHRT,MTYPE,NPAT1,LRATIO,LRIOR,KSGR
      COMMON /POWER5/ KPEYR,KPEMO                                        JUP06580
      COMMON /POWER6/ LPEYR,LPEMO                                        JUP06580
      COMMON /PATPA1/ NPSEL
      COMMON /PATPA2/ FORCS
      COMMON /PATPA3/ NPSELC
      COMMON /PATPA4/ FORCSC
      COMMON /PATPA5/ NPAT2
      REAL*8 SOB,SOBT,FORCS,FORCSC                                       JUP06600
```

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      DIMENSION NYR(50),NMO(50),NDATE(50),PMM(50),PAM1(50),MY(50),MM(50)JUP06610
     1, PA(50),PAEXP(660),PM(50),WE(50),PAM(50),S(50),SD(50),SWE(50),   JUP06620
     2  OBST(660),NY(4),NM(4),OBS1(660),RCOBS1(660),SLN(50),NYY(50),    JUP06630
     3 NMM(50)                                                          JUP06640
      DO 10 I=1,660                                                     JUP06660
      RCOBS1(I)=100.                                                    JUP06670
  10  OBS(I)=100.                                                       JUP06680
      IF(NFOR .NE. 2) GO TO 12                                          JUP06690
      DO 11 I = 1,NTP                                                   JUP06700
   11 NMO(I) = 3*NMO(I) - 1                                             JUP06710
   12 MMM=12                                                            JUP06720
      CALL TITPR(2)                                                     JUP06730
      NFY=(KYR-1900)*12+KMO                                             JUP06740
      NLY=NFY+N                                                         JUP06750
CC---- PUT RELATIVE TURNING POINT DATES INTO NDATE                      JUP06760
      N1=1                                                              JUP06770
CC---- FOR BETTER EXTRAPOLATION DEFINE FIRST TURNING POINT IN           JUP06780
CC---- BEGINNING OF SERIES-- UNLESS FIRST TURN OCCURS WITHIN 6 MONTHS.  JUP06790
      IF (NYR(1) .EQ. 0) GO TO 30                                       JUP06800
      TEMP = (NYR(1) - 1900) * 12 + NMO(1)                              JUP06810
      IF (TEMP - NFY .LE. 6) GO TO 35                                   JUP06820
C-----ELSE ADD TWO TURNS TO KEEP TRACK OF P'S AND T'S                   JUP06830
      NTP = NTP + 2                                                     JUP06840
      NDATE(1) = 0                                                      JUP06850
      NDATE(2) = NFY                                                    JUP06860
      N1 = 3                                                            JUP06870
      DO 25 I=3,NTP                                                     JUP06880
   25 NDATE(I) = (NYR(I-2)-1900)*12+ NMO(I-2)                           JUP06890
      GO TO 45                                                          JUP06900
   30 TEMP = (NYR(2) - 1900) * 12 + NMO(2)                              JUP06910
      IF (TEMP - NFY .LE. 6) GO TO 35                                   JUP06920
C-----ELSE CHANGE FIRST TURN TO FIRST DATE                              JUP06930
      NDATE(1) = NFY                                                    JUP06940
      N1 = 2                                                            JUP06950
   35 DO 40 I=N1,NTP                                                    JUP06960
   40 NDATE(I)=(NYR(I)-1900)*12+NMO(I)                                  JUP06970
C-----TAKE LOGS                                                         JUP06980
   45 IF(LOG)9000,50,160                                                JUP06990
   50  DO 60 I=1,N                                                      JUP07000
       IF(XMON(I).LE.0)WRITE(LW1,90)I,XMON(I),SER                       JUP07010
   90 FORMAT('XWARNING DATA NEG. OBS=',I4,' VALUE ',F9.2,' SER ',A4,A1) JUP07020
   60 XMON(I)=ALOG(XMON(I))                                             JUP07030
  160 CONTINUE                                                          JUP07040
C     WRITE LOG TABLE                                                   JUP
      WRITE(LW1,1785)    SER                                            JUP
 1785 FORMAT (1H1,///,6X,'LOG OF INPUT DATA ',90X,A4,A1,                 JUP
     1//, 4X,' YEAR          JAN       FEB       MAR       APR       MAY     JUP
     1JUN     JULY       AUG      SEPT       OCT       NOV       DEC')  JUP
      JYR = KYR                                                         JUP
      DO 1700 I=1,N,12                                                  JUP
      K = I+11                                                          JUP
      IF (K-N) 1795,1795,1790                                           JUP
 1790 K=N                                                               JUP
 1795 WRITE(LW1,1798) JYR,(XMON(J),J=I,K)
```

```
 1798 FORMAT(1H0,3X,I5,3X,12F9.4)
 1700 JYR = JYR + 1
CC  MATCH TURNS
      I=1
      IF(NDATE(1).EQ.0)I=2
      DO 190 JF=I,NTP
      KK=NDATE(JF)
      K=KK-NFY
      IF(K) 190,200,200
  190 CONTINUE
      GO TO 9000
  200 WRITE(LW1,1801)
 1801 FORMAT(1H1,///,5X,'PHASE AVERAGE',5X, 'WEIGHT'
     1,5X,'BEGIN',5X,'END',5X,'LENGTH','   PHASE MIDPOINT',/,
     233X,'(70.1=841)',33X,'WEIGHT=(2.*DV*DV)/(2.*DV-1.)')
      K1=K+1
      K2=KK-K1
      NTP1=NTP-1
CC--- COMPUTE PHASE AVERAGES (PA)
      DO 300 J=JF,NTP1
      IF(NDATE(J+1))9000,310,210
  210 IF(NDATE(J+1)-NLY)220,220,310
  220 MB=NDATE(J)-K2+1
      ME=NDATE(J+1)-K2-1
      DV=ME-MB+2
      PS=0
      IF(MB-ME) 250,250,270
  250 DO 255 L=MB,ME
  255 PS=PS+XMON(L)
  270 PA(J)=(PS+(XMON(MB-1)+XMON(ME+1))*.5)/DV
      WE(J)=(2.*DV*DV)/(2.*DV-1)
      PMN=NDATE(J)+NDATE(J+1)-K2*2
      PM(J)=PMN/2
      WRITE(LW1,1901) PA(J),WE(J),NDATE(J),NDATE(J+1),DV,PM(J)
 1901 FORMAT(1H0,///,8X,F10.6,3X,F10.3,4X,I4,4X,I4,4X,F6.3,4X,F8.3)
  300 CONTINUE
      GO TO 420
 9000 WRITE(LW1,9001)
 9001 FORMAT(1H ,' ERROR IN COMPUTING NDATE OR LOG READIN IN TRIPLE')
      FINISH=1
  310 NTP1=J
  420 JFP1=JF+1
CC LOOP, STARTING WITH TRIPLETS
CC REPLACED BY TRIPLETS ONLY
      L=LTP
      FL=L
      JEML1=NTP1-L+2
      WRITE(LW1,1010) TITLE,SER
 1010 FORMAT(1H1,20A4,31X,A4,A1//,35X,'PRELIMINARY STEPS FOR COMPUTING T
     1HE FINAL TREND',/,1X,'  SPA     SPM      SMN          SC        SS
     2 SMD      SMW       SPAW        SPMW       SCW       SMNW        SMDW
     3  SSW')
      DO 450 M=JFP1,JEML1
      M1=M-1
      M2=M1+L-1
```

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JUP
JUP07050
JUP07060
JUP07070
JUP07080
JUP07090
JUP07100
JUP07110
JUP07120
JUP07130
JUP07330
JUP07340
JUP07340
JUP07340
JUP07140
JUP07150
JUP07160
JUP07170
JUP07180
JUP07190
JUP07200
JUP07210
JUP07220
JUP07230
JUP07240
JUP07250
JUP07260
JUP07270
JUP07280
JUP07290
JUP07300
JUP07310
JUP07330
JUP07340
JUP07310
JUP07320
JUP07330
JUP07340
JUP07350
JUP07360
JUP07370
JUP07380
JUP07390
JUP07440
JUP07450
JUP07790
JUP07800
JUP07810
JUP07460
JUP07470
JUP07480
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      SC=0.                                                              JUP07490
      SPA=0.                                                             JUP07500
      SPM=0.                                                             JUP07510
      SS=0.                                                              JUP07520
      SCW=0.                                                             JUP07530
      SPAW=0.                                                            JUP07540
      SPMW=0.                                                            JUP07550
      SMW=0.                                                             JUP07560
      SSW=0.                                                             JUP07570
      DO 440 K=M1,M2                                                     JUP07580
      SC=SC+PA(K)*PM(K)                                                  JUP07590
      SPA=SPA+PA(K)                                                      JUP07600
      SPM=SPM+PM(K)                                                      JUP07610
      SS=SS+PM(K)*PM(K)                                                  JUP07620
      WPM=PM(K)*WE(K)                                                    JUP07630
      SCW=SCW+PA(K)*WPM                                                  JUP07640
      SPAW=SPAW+PA(K)*WE(K)                                              JUP07650
      SPMW=SPMW+WPM                                                      JUP07660
      SMW=SMW+WE(K)                                                      JUP07670
  440 SSW=SSW+WPM*PM(K)                                                  JUP07680
      SMN=(SPA*SPM)/FL                                                   JUP07690
      SMD=SPM**2/FL                                                      JUP07700
      PAM(M)=SPA/FL                                                      JUP07710
      PMM(M)=SPM/FL                                                      JUP07720
      S(M)=(SC-SMN)/(SS-SMD)                                             JUP07730
      SMNW=(SPAW*SPMW)/SMW                                               JUP07740
      SMDW=(SPMW*SPMW)/SMW                                               JUP07750
      SD(M)=SSW-SMDW                                                     JUP07760
      SWE(M)=(SCW-SMNW)/SD(M)                                            JUP07770
      WRITE(LW1,1020) SPA,SPM,SMN,SC,SS,SMD,SMW,SPAW,SPMW,SCW,           JUP07790
     1  SMNW,SMDW,SSW                                                    JUP07790
 1020 FORMAT(1H0,3X,F7.4,1X,F5.1,1X,2(F9.4,1X),2(F8.2,1X),F7.4,1X,F8.4, JUP07800
     111X,F9.4,1X,4(F9.2,1X))
  450 CONTINUE
      L2 = L/2                                                           JUP07780
      WRITE(LW1,451)                                                     JUP07790
  451 FORMAT(1H0,//,15X,'SLOPE',20X,' WTD. SLOPE',//,7X,'(SC-SMN)/(SS-S JUP07800
     1MD)',15X,'(SCW-SMNW)/(SSW-SMDW)')                                  JUP07800
      WRITE(LW1,452)  ( S(LJ),SWE(LJ),LJ=JFP1,JEML1 )                    JUP07790
  452 FORMAT(1H0,//,13X,F9.7,20X,F9.7)                                   JUP07800
      WRITE(LW1,453) TITLE,SER                                           JUP07790
  453 FORMAT(1H1,20A4,31X,A4,A1//,35X,'PRELIMINARY STEPS FOR COMPUTING TJUP07800
     1HE FINAL TREND'//)                                                 JUP07810
      IF(LOG .NE. 0) GO TO 350                                           JUP07820
      WRITE(LW1,340) JTMQ,JTMQ,JTMQ                                      JUP07830
  340 FORMAT(11X,'PHASE: FROM YEAR  ',A1,'  TO YEAR  ',A1,6X,'AVG. ANTILJUP07840
     10G',4X,'TRIPLETS AVG.',4X,'MIDPOINTS : YEAR   ',A1/)               JUP07850
      GO TO 355                                                          JUP07860
  350 WRITE(LW1,353) JTMQ,JTMQ,JTMQ                                      JUP07870
  353 FORMAT(11X,'PHASE: FROM YEAR  ',A1,'  TO YEAR  ',A1,11X,'AVERAGE',JUP07880
     14X,'TRIPLETS AVG.',4X,'MIDPOINTS : YEAR   ',A1/)                   JUP07890
  355 DO 401 J = JF,NTP1                                                 JUP07900
      IF(LOG .NE. 0) GO TO 400                                           JUP07910
      PAEXP(J) = EXP(PA(J))                                              JUP07920
      IF(J .LT. JFP1 .OR. J .GT. JEML1) GO TO 401                        JUP07930
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      PAM1(J) = EXP(PAM(J))                                                    JUP07940
      GO TO 401                                                                JUP07950
  400 PAEXP(J) = PA(J)                                                         JUP07960
      IF(J .LT. JFP1 .OR. J .GT. JEML1) GO TO 401                              JUP07970
      PAM1(J) = PAM(J)                                                         JUP07980
  401 CONTINUE                                                                 JUP07990
      DO 405 J = JF,NTP                                                        JUP08000
      CALL CONVR(NDATE(J),NYY(J),NMM(J),KYR)                                   JUP08010
  405 NYY(J) = NYY(J) - KYR                                                    JUP08020
      DO 410 J = JF,NTP1                                                       JUP08030
      NYK = NYY(J) + 1900                                                      JUP08040
      NYK1 = NYY(J+1) + 1900                                                   JUP08050
      JJ1 = J - 1                                                              JUP08060
      IF(J .LT. JFP1 .OR. J .GT. JEML1) GO TO 406                              JUP08070
      JL = J + L2 - 1                                                          JUP08080
      PMN = NDATE(JL)                                                          JUP08090
      IF((L -L2*2) .NE. 0) PMN = PM(JL) + K2                                   JUP08100
      KMR = PMN                                                                JUP08110
      CALL CONVR(KMR,MY(J),MM(J),KYR)                                          JUP08120
      MY(J) = MY(J) - KYR                                                      JUP08130
      MMY = MY(J) + 1900                                                       JUP08140
      WRITE(LW1,415) JJ1,NYK,NMM(J),NYK1,NMM(J+1),PAEXP(J),PAM1(J),MMY,        JUP08150
     1MM(J)                                                                    JUP08160
  415 FORMAT(1HO,13X,I2,7X,I4,I3,5X,I4,I3,6X,F12.2,5X,F12.2,16X,2I4)           JUP08170
      GO TO 410                                                                JUP08180
  406 WRITE(LW1,415) JJ1,NYK,NMM(J),NYK1,NMM(J+1),PAEXP(J)                     JUP08190
  410 CONTINUE                                                                 JUP08200
      IF(IPR .GT. 2) WRITE(LW1,475)                                            JUP08210
  475 FORMAT(///26X,'1ST PHASE',6X,'LAST PHASE',3X,'MIDPOINT',8X,'SLOPE'       JUP08220
     1,4X,'WTD. SLOPE',2X,'LEVEL ADJMT.'//)                                    JUP08230
  476 MM1=2                                                                    JUP08240
      OBST(1)=XMON(1)                                                          JUP08250
      MM3=1                                                                    JUP08260
      MM4=1                                                                    JUP08270
      DO 550 M=JFP1,JEML1                                                      JUP08280
CC FOR NONCUMULATIVE COMPUTATION OF DIFF SET SOB AND SOBT=0. HERE              JUP08290
      SOB=0.                                                                   JUP08300
      SOBT=0.                                                                  JUP08310
      NY(1) = NYY(M-1)                                                         JUP08320
      NM(1) = NMM(M-1)                                                         JUP08330
      NY(2) = NYY(M)                                                           JUP08340
      NM(2) = NMM(M)                                                           JUP08350
      LL=M+L                                                                   JUP08360
      NY(3) = NYY(LL-2)                                                        JUP08370
      NM(3) = NMM(LL-2)                                                        JUP08380
      NY(4) = NYY(LL-1)                                                        JUP08390
      NM(4) = NMM(LL-1)                                                        JUP08400
      IF(IPR .GT. 2) WRITE(LW1,660)(NY(IK),NM(IK),IK=1,4),MY(M),MM(M),         JUP08410
     1S(M),SWE(M)                                                              JUP08420
  660 FORMAT(25X,2(2X,4I3),2I4,2F14.5)                                         JUP08430
      IF(M.EQ.JEML1)GO TO 482                                                  JUP08440
      SLN(M)=(PAM(M+1)-PAM(M))/(PMM(M+1)-PMM(M))                               JUP08450
      IF(IPR .GT. 2) WRITE(LW1,481)SLN(M)                                      JUP08460
  481 FORMAT(61X,F14.5)                                                        JUP08470
      MM2=PMM(M+1)                                                             JUP08480
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```
      DO 490 I=MM1,MM2                                                  JUP08490
  490 OBST(I)=OBST(I-1)+SLN(M)                                          JUP08500
C TREND PRINT(BEFORE ADJUSTING)
      WRITE(LW1,1030) (OBST(LT),LT=MM4,MM2)
 1030 FORMAT (1H0,12F9.6)
      DO 487 I=MM4,MM2                                                  JUP08510
      SOBT=SOBT+OBST(I)                                                 JUP08520
  487 SOB=SOB+XMON(I)                                                   JUP08530
      DIFF=SOB-SOBT                                                     JUP08540
      FMM=MM2-MM4+1                                                     JUP08550
      DIFF=DIFF/FMM                                                     JUP08560
       IF(IPR .GT. 2) WRITE(LW1,521) DIFF                               JUP08570
  521 FORMAT(1H+,88X,F14.5)                                             JUP08580
      DO 488 I=MM4,MM2                                                  JUP08590
  488 OBST(I)=OBST(I)+DIFF                                              JUP08600
C TREND PRINT(AFTER ADJUSTING)
      WRITE(LW1,1040) (OBST(LT),LT=MM4,MM2)
 1040 FORMAT (1H0,12F9.6)
      MM4=MM3                                                           JUP08610
      MM1=MM2+1                                                         JUP08620
  550 MM3=MM2+1                                                         JUP08630
CCC LAST  STEP                                                          JUP08640
      GO TO 489                                                         JUP08650
  482 N8 = N - MM1 + 1                                                  JUP08680
      IF(NPAT2.EQ.2) GO TO 443                                          JUP08660
      IF(NPSEL-1) 1021,1023,1077                                        JUP08660
  443 IF(NPSELC-1) 1021,1024,1078
C-------------------------------ORIGINAL LAST ADJ.
 1021 DO 491 I = MM1,N                                                  JUP08660
  491 SOB = SOB + XMON(I)                                               JUP08670
      SOBT = N8*OBST(MM1-1)                                             JUP08690
      DIFF = SOB - SOBT                                                 JUP08700
      ADJ = ((1 + N8)*N8)/2.                                            JUP08710
      SLS = DIFF/ADJ                                                    JUP08720
      IF(NPSELC.EQ.0) GO TO 991
      GO TO 993
C-------------------------------LAST ADJ. BY CAL. LAST T/P
 1077 IF(NPSEL.NE.2) GO TO 1100
      GO TO 1036
 1078 IF(NPSELC.NE.2) GO TO 1105
 1036 NNA=(N/12)*12
      GO TO 1055
 1100 KPFYR=KYR-1900
      KPFMO=KMO
      NNA=(KPEYR-KPFYR)*12+(KPEMO-KPFMO)+1
C     WRITE(LW1,1039) KPEYR,KPFYR,KPEMO,KPFMO,NNA
C1039 FORMAT(/3X,'KPEYR=',I4,'KPFYR=',I4,'KPEMO=',I4,'KPFMO=',I4
C    1,'NNA=',I9)
      GO TO 1055
 1105 NNA=(LPEYR-LFYR)*12+(LPEMO-LFMO)+1
 1055 IF(NNA.LE.MM1) GO TO 993
      NDATE(NTP+1)=(KYR-1900)*12+NNA
      MB=NDATE(NTP)-K2+1
      ME=NDATE(NTP+1)-K2-1
      SS=0.
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```
      DO 501 I=MB,ME
  501 SS = SS + XMON(I)                                                  JUP08670
      SS2=(XMON(MB-1)+XMON(ME+1))*.5+SS
      NSS2=ME-MB+2
      PA(NTP)=SS2/NSS2
      PM(NTP)=(NDATE(NTP)+NDATE(NTP+1)-K2*2)/2
      PAM(NTP1)=(PA(NTP)+PA(NTP-1)+PA(NTP-2))/3
      PMM(NTP1)=(PM(NTP)+PM(NTP-1)+PM(NTP-2))/3
      SLS=(PAM(NTP1)-PAM(NTP1-1))/(PMM(NTP1)-PMM(NTP1-1))
      IF(NPSELC.GE.2) GO TO 991
      GO TO 993
C-------------------------------LAST ADJ. BY FORCED INPUT VALUE
 1023 SLS=FORCS
      GO TO 447
 1024 SLS=FORCSC
      IF(N8 .LE. 12) SLS = SLN(M-1)                                     JUP08730
  991 DO 486 I = MM1,N                                                  JUP08740
  486 OBST(I) = OBST(I-1) + SLS                                         JUP08750
      IF((IPR .GT. 2).AND.(NPAT2.EQ.2)) THEN                            JUP08760
       WRITE(LW1,1025) SLS
       IF(NPSELC.EQ.0) WRITE(LW1,1026) SLS
       IF(NPSELC.EQ.1) WRITE(LW1,1027) SLS
       IF(NPSELC.EQ.2) WRITE(LW1,1028) SLS
       IF(NPSELC.EQ.3) WRITE(LW1,1029) SLS,NY(4),NM(4),LPEYR,LPEMO
      END IF
      GO TO 466
 1025 FORMAT(/2X,'LAST SLOPE(JIST BEFOR SLOPE):',F10.8)
 1026 FORMAT(/2X,'LAST SLOPE(ORIGINAL PAT):',F10.8)
 1027 FORMAT(/2X,'LAST SLOPE(FORCED INPUT):',F10.8)
 1028 FORMAT(/2X,'LAST SLOPE(IN-ADJ. PAT):',F10.8)
 1029 FORMAT(/2X,'LAST SLOPE(IN-ADJ. PAT --- OPTIONAL TURNING POINT):'
     1,F10.8,10X,2I3,3X,2I3)
C-------------------------------CAL. LAST TREND
  447 IF(N8 .LE. 12) SLS = SLN(M-1)                                     JUP08730
  993 DO 499 I = MM1,N                                                  JUP08740
  499 OBST(I) = OBST(I-1) + SLS                                         JUP08750
      IF((IPR .GT. 2).AND.(NPAT1.GE.1)) THEN                            JUP08760
C      IF(N8 .LE. 12) WRITE(LW1,1025) SLS
C      IF((NPSEL.EQ.0).AND.(N8 .GT. 12)) WRITE(LW1,1026) SLS
C      IF((NPSEL.EQ.1).AND.(N8 .GT. 12)) WRITE(LW1,1027) SLS
C      IF((NPSEL.EQ.2).AND.(N8 .GT. 12)) WRITE(LW1,1028) SLS
       WRITE(LW1,1025) SLS
       IF(NPSEL.EQ.0) WRITE(LW1,1026) SLS
       IF(NPSEL.EQ.1) WRITE(LW1,1027) SLS
       IF(NPSEL.EQ.2) WRITE(LW1,1028) SLS
       IF(NPSEL.EQ.3) WRITE(LW1,1029) SLS,NY(4),NM(4),KPEYR,KPEMO
      END IF
  466 WRITE(LW1,1040) (OBST(LT),LT=MM1,N)
  489 IF(NFOR .EQ. 2) CALL QTR(OBST)                                    JUP08770
      IF(IPR .GT. 2) CALL TABWR(OBST,4)                                 JUP08780
CC PUT MOVING AVG COMPUTATIONS HERE                                     JUP08790
 674  CALL MOV3(MMM,OBST,OBS1,KMO,N)                                    JUP08800
      IF(NFOR .EQ. 2) CALL QTR(OBS1)                                    JUP08810
      IF(IPR .GT. 2 .AND. LOG .EQ. 0) CALL TABWR(OBS1,7)                JUP08820
C-----TAKE ANTILOGS                                                     JUP08830
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4913 IF(LOG.NE.0) GOTO 500                                          JUP08840
     DO 495 I=1,N                                                   JUP08850
     XMON(I)=EXP(XMON(I))                                           JUP08860
 495 OBS1(I)=EXP(OBS1(I))                                           JUP08870
 500 IF(IRD .EQ. 1) GO TO 540                                       JUP08880
     IF(INV .NE. 0) GO TO 515                                       JUP08890
     DO 510 IL=1,N                                                  JUP08900
 510 OBS(IL)=XMON(IL)/OBS1(IL)*100.                                 JUP08910
     GO TO 700                                                      JUP08920
 515 DO 516 IL = 1,N                                                JUP08930
 516 OBS(IL) = OBS1(IL)/XMON(IL)*100.                               JUP08940
     GO TO 700                                                      JUP08950
 540 IF(INV .NE. 0) GO TO 580                                       JUP08960
     DO 570 IL=1,N                                                  JUP08970
 570 OBS(IL)=XMON(IL)-OBS1(IL)                                      JUP08980
     GO TO 700                                                      JUP08990
 580 DO 590 IL = 1,N                                                JUP09000
 590 OBS(IL) = OBS1(IL) - XMON(IL)                                  JUP09010
 700 IF (JCOUNT.GT.NID) GO TO 735
     IF (LFYR.GT.70) GO TO 810
     NF1=1
 735 DO 985 JAB=1,660
 985 CDAT(JAB)=OBS(JAB)
     GO TO 820
 810 NF1=(LFYR-70)*12
     NF2=NF1+1
     DO 830 JAB=1,NF1
 830 CDAT(JAB)=10000000.0
     DO 840 JAB=NF2,660
 840 CDAT(JAB)=OBS(JAB-NF1)
 820 NQB = 2                                                        JUP09020
     NQD = 1                                                        JUP09030
     NMA = 12                                                       JUP09040
     IF(NFOR .NE. 2) GO TO 710                                      JUP09050
     NQB = 4                                                        JUP09060
     NQD = 3                                                        JUP09070
     NMA = 4                                                        JUP09080
 710 IF(LOG .EQ. 0) GO TO 712                                       JUP09090
     DO 711 IL = 1,N                                                JUP09100
     IF(OBS1(IL) .LE. 0.) GO TO 714                                 JUP09110
 711 CONTINUE                                                       JUP09120
 712 IDI = 3                                                        JUP09130
     DO 520 IL=NQB,N                                                JUP09140
 520 RCOBS1(IL)=((OBS1(IL)/OBS1(IL-NQD))**NMA-1.)*100.              JUP09150
     DO 525 IL = 1,NQD                                              JUP09160
 525 RCOBS1(IL)=RCOBS1(NQB)                                         JUP09170
     GO TO 719                                                      JUP09180
 714 IDI = 14                                                       JUP09190
     DO 530 IL = NQB,N                                              JUP09200
 530 RCOBS1(IL) = (OBS1(IL) - OBS1(IL-NQD))*NMA                     JUP09210
     DO 535 IL = 1,NQD                                              JUP09220
 535 RCOBS1(IL) = RCOBS1(NQB)                                       JUP09230
 719 IF(NCHRT .EQ. 0) GO TO 720                                     JUP09240
     CALL TABWR(OBS1,10)                                            JUP09250
     CALL TABWR(RCOBS1,10)                                          JUP09260
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      CALL TABWR(OBS,10)                                                    JUP09270
  720 CALL TABWR(OBS1,8)                                                    JUP09280
      CALL TABWR(RCOBS1,IDI)                                                JUP09290
      IF(IDI .EQ. 14) WRITE(LW1,790)                                        JUP09300
  790 FORMAT(/ ,1X,'WARNING :THE ABSOLUTE CHANGE IS PRINTED IN PLACE OF     JUP09310
     1THE PERCENT ONE, THE TREND BEING NEGATIVE OR NULL IN PART.')          JUP09320
      CALL TABWR(OBS,9)                                                     JUP09330
 1000 CONTINUE                                                              JUP09340
      IF(IPR .GT. 0) CALL BAR(OBS1,2)                                       JUP09350
      RETURN                                                                JUP09360
      END                                                                   JUP09370
      SUBROUTINE TABWR(X, IDIK)                                             JUP09380
C     THIS ROUTINE PRINTS THE TABLES                                        JUP09400
      COMMON /GIO/LR1,LR2,LW1,LWP                                           JUP09420
      COMMON /GOG/NS,N,KYR,KMO,NFOR,IPR,NCHRT,IRD,NDTR,INV,LOG,MCD,         JUP09430
     1ITERM,NDIFF,LTP /TIT/TITLE(20),SER(2),JTSE(10)                        JUP09440
      COMMON /GAR/XMON(660),OBS(660),WMA(674),W(674),WMD(674)               JUP09450
      COMMON /GTP/NP(52),NNP(52),M,II,III,KTRU,IFIN                         JUP09460
      DIMENSION X(1),IFOM(5),IFOQ(6),ILOG(3),ILOG1(3),JINV(3),JINV1(3)      JUP09480
      DATA IFOM/4H(1X,,4HI5,3,4HX,12,4HF9.2,1H)/                            JUP09500
      DATA IFOQ/4H(1X,,4HI5,8,4HX,4(,4HF12.,4H2,9X,2H))/                    JUP09510
      DATA ICOM/4HF9.1/,IFOM4/4HF9.2/,ICOQ/4H3,9X/,IFOQ5/4H2,9X/            JUP09520
      DATA ILOG1/4HLOG.,4H OF ,4HTHE /,IBLANK/4H    /,MINF/4HF9.4/          JUP09530
      DATA JINV1/4H (IN,4HVERT,4HED) /                                      JUP09540
    5 FORMAT (1H1,20A4)                                                     JUP09560
   10 FORMAT(30X,'NBER GROWTH CYCLE PROGRAM'/40X,'TIME SERIES DATA',56X     JUP09570
     1,A4,A1)                                                               JUP09580
   15 FORMAT(22X,'SPENCER CURVE (NO SUBSTITUTIONS) ',10A4,17X,A4,A1)        JUP09590
   20 FORMAT(35X,'PERCENT CHANGE IN FINAL TREND, ANNUAL RATE',35X,A4,A1)    JUP09600
   21 FORMAT(34X,'ABSOLUTE CHANGE IN FINAL TREND, ANNUAL BASIS',34X,A4,A    JUP09610
     11)                                                                    JUP09620
   30 FORMAT(26X,I3,' MONTH MOVING AVERAGE ',10A4,22X,A4,A1)                JUP09630
   35 FORMAT (26X,'12 MONTH MOVING AVERAGE ',10A4,22X,A4,A1)                JUP09640
      NFOR1=NFOR+1                                                          JUP09660
      IF(IDIK .EQ. 10) GO TO 210                                            JUP09670
   40 NN=N                                                                  JUP09680
      IF(NN.EQ.0) NN=N                                                      JUP09690
      WRITE(LW1,5)TITLE                                                     JUP09700
      GO TO (50,55,60,65,70,75,66,200,205,210,300,320,320,61),IDIK          JUP09710
   50 WRITE(LW1,10)SER                                                      JUP09720
      GO TO (80,80,81),NFOR1                                                JUP09730
   55 WRITE(LW1,15) JTSE,SER                                                JUP09740
      GO TO (80,80,81),NFOR1                                                JUP09750
   60 WRITE(LW1,20)SER                                                      JUP09760
      GO TO (80,80,81),NFOR1                                                JUP09770
   61 WRITE(LW1,21)SER                                                      JUP09780
      GO TO (80,80,81),NFOR1                                                JUP09790
   65 DO 27 I = 1,3                                                         JUP09800
      ILOG(I) = ILOG1(I)                                                    JUP09810
      IF(LOG .NE. 0) ILOG(I) = IBLANK                                       JUP09820
   27 CONTINUE                                                              JUP09830
      WRITE(LW1,25) ILOG,SER                                                JUP09840
   25 FORMAT(23X,        3A4,'COMPUTED FINAL TREND BEFORE 12 MONTH MOVINJUP09850
     1G AVERAGE ',25X,A4,A1)                                                JUP09860
      IF(LOG.EQ.0) IFOM(4)=MINF
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      GO TO (80,80,81),NFOR1                                                JUP09870
   66 WRITE(LW1,26) SER                                                     JUP09880
   26 FORMAT(24X,'LOG. OF THE COMPUTED FINAL TREND  AFTER 12 MONTH MOVINJUP09890
     1G AVERAGE',25X,A4,A1)                                                JUP09900
      IF(LOG.EQ.0) IFOM(4)=MINF
      GO TO (80,80,81),NFOR1                                               JUP09910
   70 WRITE(LW1,30)MCD, JTSE,SER                                           JUP09920
      NN = N - MCD / 2                                                     JUP09930
      GO TO (80,80,81),NFOR1                                               JUP09940
  200 WRITE(LW1,201)SER                                                    JUP09950
  201 FORMAT(45X,'COMPUTED FINAL TREND',47X,A4,A1)                         JUP09960
      GO TO (80,80,81),NFOR1                                               JUP09970
  205 WRITE(LW1,206) JTSE,SER                                              JUP09980
  206 FORMAT(30X,'TIME SERIES DATA ',10A4,25X,A4,A1)                       JUP09990
      GO TO (80,80,81),NFOR1                                               JUP10000
  210 WRITE(LWP,211)SER,N,KYR                                              JUP10010
  211 FORMAT(A4,A1,1X,I3,1X,I4)                                            JUP10020
      WRITE(LWP,212)(X(J),J=1,NN)                                          JUP10030
  212 FORMAT(12F11.3)                                                      JUP10040
      GO TO 220                                                            JUP10050
  300 WRITE(LW1,310) ITERM,SER                                             JUP10060
  310 FORMAT(39X,I2,' MONTH MOVING AVERAGE (FIRST TREND)',36X,A4,A1)       JUP10070
      GO TO (80,80,81),NFOR1                                               JUP10080
  320 DO 321 I = 1,3                                                       JUP10090
      JINV(I) = IBLANK                                                     JUP10100
      IF(INV .NE. 0) JINV(I) = JINV1(I)                                    JUP10110
  321 CONTINUE                                                             JUP10120
      IF(IDIK .EQ. 13) GO TO 340                                           JUP10130
      WRITE(LW1,330) ITERM,JINV,SER                                        JUP10140
  330 FORMAT(34X,'RATIO TO ',I2,' MONTH MOVING AVERAGE (FIRST TREND)',     JUP10150
     13A4,20X,A4,A1)                                                       JUP10160
      GO TO (80,80,81),NFOR1                                               JUP10170
  340 WRITE(LW1,350) ITERM,JINV,SER                                        JUP10180
  350 FORMAT(29X,'     DIFFERENCE FROM ',I2,' MONTH MOVING AVERAGE (FIRSJUP10190
     1T TREND)',3A4,13X,A4,A1)                                             JUP10200
      GO TO (80,80,81),NFOR1                                               JUP10210
   75 WRITE(LW1,35) JTSE,SER                                               JUP10220
      GO TO (80,80,81),NFOR1                                               JUP10230
      GO TO(80,80,81) ,NFOR1                                               JUP10240
C     WRITE TABLES                                                         JUP10250
   80 WRITE(LW1,85)                                                        JUP10260
   85 FORMAT(/1X,115HYEAR      JAN       FEB       MAR       APR       MAY  JUP10270
     1    JUNE      JULY      AUG       SEPT      OCT       NOV       DEC) JUP10280
      NYR = KYR                                                            JUP10290
      IF(IDIK.EQ.3) IFOM(4) = ICOM                                         JUP10300
      DO 100 I=1,NN,12                                                     JUP10310
      K = I+11                                                             JUP10320
      IF (K-NN) 95,95,90                                                   JUP10330
   90 K=NN                                                                 JUP10340
   95 WRITE (6,IFOM) NYR,(X(J),J=I,K)                                      JUP10350
      IF(IDIK.EQ.8) WRITE (6,1017) (X(J),J=I,K)                            JUP10360
      IF(IDIK.EQ.9) WRITE (6,1017) (X(J),J=I,K)                            JUP10370
 1017 FORMAT(4F9.3)                                                        JUP10380
  100 NYR = NYR + 1                                                        JUP10390
      IF(IDIK .EQ. 3) IFOM(4) = IFOM4                                      JUP10400
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      IF(IFOM(4).EQ.MINF) IFOM(4)=IFOM4
  220 RETURN                                                          JUP10410
C------- WRITE QUARTERLY TABLES                                       JUP10420
   81   WRITE(LW1,2)                                                  JUP10430
    2   FORMAT(/2X,'YEAR',8X,'FIRST QUARTER',8X,'SECOND QUARTER',8X,  JUP10440
       1  'THIRD QUARTER',9X,'FOURTH QUARTER')                        JUP10450
       NYR=KYR                                                       JUP10460
       IF(IDIK.EQ.3) IFOQ(5) = ICOQ                                  JUP10470
       DO 4 I=1,NN,12                                                JUP10480
       K=I+11                                                        JUP10490
        IF(K-NN ) 6,6,7                                              JUP10500
    7  K=NN                                                          JUP10510
    6  WRITE(LW1,IFOQ) NYR,(X(J),J=I,K,3)                            JUP10520
       IF(IDIK.EQ.8) WRITE (6,1017) (X(J),J=I,K,3)                   JUP10530
       IF(IDIK.EQ.9) WRITE (6,1017) (X(J),J=I,K,3)                   JUP10540
    4  NYR=NYR+1                                                     JUP10550
       IF(IDIK .EQ. 3) IFOQ(5) = IFOQ5                               JUP10560
       RETURN                                                        JUP10570
       END                                                           JUP10580
       SUBROUTINE PR1(X,NNP,MM,NTRIP)                                JUP10590
C      THIS ROUTINE PRINTS THE TURNING POINTS (INSIDE VERSION FOR PLOTTINJUP10610
C      G OF TP IN QUARTERLY SERIES.)                                 JUP10620
       COMMON /GIO/LR1,LR2,LW1,LWP                                   JUP10640
       COMMON /GOG/NS,N,KYR,KMO,NFOR,IPR,NCHRT,IRD,NDTR,INV,LOG,MCD, JUP10650
      1ITERM,NDIFF,LTP /TIT/TITLE(20),SER(2),JTSE(10)                JUP10660
       COMMON /GTP/NP(52),NPP(52),M,II,III,KTRU,IFIN                 JUP10670
       COMMON /GTMQ/JTMQ                                             JUP10680
       DIMENSION X(1), NNP(5), NYR(50), NMO(50), NMQ(50)             JUP10700
    5  FORMAT(//45X,'TROUGHS',19X,'PEAKS')                           JUP10720
   10  FORMAT( /38X ,2I4,F12.2,12X,2I4,F12.2)                        JUP10730
   15  FORMAT(/70X,2I4,F12.2//26X,2(12X,2I4,F12.2))                  JUP10740
   20  FORMAT(/38X,'YEAR',3X,A1,6X,'VALUE',13X,'YEAR',3X,A1,6X,'VALUE'/) JUP10750
       NPUN=0                                                        JUP10770
       IF(NCHRT.EQ.1.AND.IFIN.EQ.1.AND.NTRIP.EQ.2) NPUN = 1          JUP10780
   40  WRITE(LW1,5)                                                  JUP10790
       WRITE(LW1,20) JTMQ,JTMQ                                       JUP10800
   45  DO 80 I=1,MM                                                  JUP10810
       CALL CONVR(NNP(I),NYR(I),NMO(I),KYR)                          JUP10820
   80  CONTINUE                                                      JUP10830
       IF(NPUN.NE.1) GO TO 85                                        JUP10840
       MM1 = MM                                                      JUP10850
       IF(II .EQ. 1) MM1 = MM + 1                                    JUP10860
       WRITE(LWP,96) MM1                                             JUP10870
   96  FORMAT(I3)                                                    JUP10880
       DO 81 I = 1,MM                                                JUP10890
       NMQ(I) = NMO(I)                                               JUP10900
       IF(NFOR .EQ. 2) NMQ(I) = 3*NMO(I) - 1                         JUP10910
   81  CONTINUE                                                      JUP10920
   85  IF (III - II) 90,90,205                                       JUP10930
   90  NBEG = 1                                                      JUP10940
   95  CONTINUE                                                      JUP10950
       DO 195 I=NBEG,MM,4                                            JUP10960
  100  K1 = NNP(I)                                                   JUP10970
  105  K2 = NNP(I + 1)                                               JUP10980
  110  K3 = NNP(I + 2)                                               JUP10990
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115 K4 = NNP(I + 3)                                                    JUP11000
    IF(I+2-MM)135,180,130                                              JUP11010
130 IF(I+1-MM)150,165,150                                              JUP11020
135 WRITE(LW1,10)NYR(I),NMO(I),X(K1),NYR(I+1),NMO(I+1),X(K2),NYR(I+2),JUP11040
   1NMO(I+2),X(K3),NYR(I+3),NMO(I+3),X(K4)                             JUP11050
    IF (NPUN - 1) 195,140,195                                          JUP11060
140 WRITE(LWP,145)NYR(I),NMQ(I),NYR(I+1),NMQ(I+1),NYR(I+2),NMQ(I+2),   JUP11070
   1 NYR(I+3),NMQ(I+3)                                                 JUP11080
145 FORMAT(4(I4,I2,4X))                                                JUP11090
    GOTO 195                                                           JUP11100
150 WRITE(LW1,10)NYR(I),NMO(I),X(K1)                                   JUP11120
    IF (NPUN - 1) 195,155,195                                          JUP11130
155 WRITE(LWP,160)NYR(I),NMQ(I)                                        JUP11140
160 FORMAT(I4,I2)                                                      JUP11150
    GOTO 195                                                           JUP11160
165 WRITE(LW1,10)NYR(I),NMO(I),X(K1),NYR(I+1),NMO(I+1),X(K2)           JUP11180
    IF (NPUN - 1) 195,170,195                                          JUP11190
170 WRITE(LWP,175)NYR(I),NMQ(I),NYR(I+1),NMQ(I+1)                      JUP11200
175 FORMAT(2(I4,I2,4X))                                                JUP11210
    GOTO 195                                                           JUP11220
180 WRITE(LW1,10)NYR(I),NMO(I),X(K1),NYR(I+1),NMO(I+1),X(K2),NYR(I+2),JUP11240
   1NMO(I+2),X(K3)                                                     JUP11250
    IF (NPUN - 1) 195,185,195                                          JUP11260
185 WRITE(LWP,190)NYR(I),NMQ(I),NYR(I+1),NMQ(I+1),NYR(I+2),NMQ(I+2)    JUP11270
190 FORMAT(3(I4,I2,4X))                                                JUP11280
195 CONTINUE                                                           JUP11300
199 IF(NTRIP.EQ.1.AND.MM.GE.4) CALL TRIPLE(NYR,NMO,MM)                 JUP11520
    IF(NTRIP.EQ.5.AND.MM.GE.4) CALL DOUBLE(NYR,NMO,MM)                 JUP11520
200 GOTO 240                                                           JUP11530
205 NBEG = 4                                                           JUP11560
210 K1 = NNP(1)                                                        JUP11570
215 K2 = NNP(2)                                                        JUP11580
220 K3 = NNP(3)                                                        JUP11590
    IF(MM .EQ. 2) GO TO 226                                            JUP11600
    IF(MM .EQ. 1) GO TO 228                                            JUP11610
225 WRITE(LW1,15)NYR(1),NMO(1),X(K1),NYR(2),NMO(2),X(K2),NYR(3),NMO(3)JUP11620
   1,X(K3)                                                             JUP11630
    IF(NPUN .EQ. 1) WRITE(LWP,191) (NYR(I),NMQ(I),I=1,3)               JUP11640
191 FORMAT(10X,3(I4,I2,4X))                                            JUP11650
    GO TO 97                                                           JUP11660
226 WRITE(LW1,10) NYR(1),NMO(1),X(K1),NYR(2),NMO(2),X(K2)              JUP11670
    IF(NPUN .EQ. 1) WRITE(LWP,176) (NYR(I),NMQ(I), I = 1,2)            JUP11680
176 FORMAT(10X,2(I4,I2,4X))                                            JUP11690
    GO TO 97                                                           JUP11700
228 WRITE(LW1,15) NYR(1),NMO(1),X(K1)                                  JUP11710
    IF(NPUN .EQ. 1) WRITE(LWP,161) NYR(1),NMQ(1)                       JUP11720
161 FORMAT(10X,I4,I2)                                                  JUP11730
 97 IF(MM.GT.3)GO TO 95                                                JUP11740
240 RETURN                                                             JUP11750
    END                                                                JUP11760
    SUBROUTINE MOV3 (MMM,OBS,WMA,KMO,N)                                JUP11770
C     THIS ROUTINE COMPUTES A MOVING AVERAGE WITH:                     JUP11780
C    MOV=TERM OF MOVING AVERAGE                                        JUP11790
C    OBS=ARRAY CONTAINING ORIG. DATA                                   JUP11800
C    WMA=ARRAY CONTAINING MOVING AVERAGE                               JUP11810
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C     KMO=FIRST MONTH                                                  JUP11820
C     N=NUMBER OF OBSERVATIONS                                         JUP11830
      DIMENSION OBS(1),WMA(1)                                          JUP11850
      MOV = MMM                                                        JUP11870
      MOV1=MOV-1                                                       JUP11880
      KMO1=KMO-1                                                       JUP11890
      XMOV=MOV                                                         JUP11900
      J=(MOV / 2) + KMO                                                JUP11910
      J1= J - 1                                                        JUP11920
      NMOV = N + 1 - ((MOV + 1) / 2)                                   JUP11930
      NMOV1 = NMOV + 1                                                 JUP11940
      MP1O2 = ( MOV + 1 ) / 2                                          JUP11950
      J2 = MP1O2 + KMO - 1                                             JUP11960
      MO2 = MOV / 2                                                    JUP11970
      KMOP1= KMO + 1                                                   JUP11980
      KMOV = MOV + KMO1                                                JUP11990
      DO 110 I=1,N                                                     JUP12000
  110 WMA (I)=0.0                                                      JUP12010
      DO 120 I=KMO,KMOV                                                JUP12020
  120 WMA (J)= WMA (J) +OBS(I)                                         JUP12030
      DO 140 I = KMOP1,NMOV                                            JUP12040
      L= I+ MOV1                                                       JUP12050
      J= J+1                                                           JUP12060
  140 WMA(J)=WMA(J-1) - OBS(I-1) + OBS(L)                              JUP12070
      C=WMA(J1+2)/WMA(J1+1)                                            JUP12080
      C1=WMA(J1+3)/WMA(J1+2)                                           JUP12090
      C=(C+C1)/2.                                                      JUP12100
      DO 125 I=KMO,J1                                                  JUP12110
      K=J1-I+1                                                         JUP12120
  125 WMA(K)=WMA(K+1)/C                                                JUP12130
      C2=WMA(NMOV1-1)/WMA(NMOV1-2)                                     JUP12140
      C3=WMA(NMOV1-2)/WMA(NMOV1-3)                                     JUP12150
      C2=(C2+C3)/2.                                                    JUP12160
      DO 160 I=NMOV1,N                                                 JUP12170
  160 WMA(I)=WMA(I-1)*C2                                               JUP12180
      DO 170 I=1,N                                                     JUP12190
  170 WMA(I)=WMA(I)/XMOV                                               JUP12200
      RETURN                                                           JUP12210
      END                                                              JUP12220
      SUBROUTINE MOVAV(MMM, OBS, WMA, KMO, N)                          JUP12230
C    THIS ROUTINE COMPUTES A MOVING AVERAGE WITH :                     JUP12250
C     MOV=TERM OF MOVING AVERAGE                                       JUP12260
C     OBS=ARRAY CONTAINING ORIG. DATA                                  JUP12270
C     WMA=ARRAY CONTAINING MOVING AVERAGE                              JUP12280
C     KMO=FIRST MONTH                                                  JUP12290
C     N=NUMBER OF OBSERVATIONS                                         JUP12300
      DIMENSION OBS(1) ,WMA(1)                                         JUP12320
      MOV = MMM                                                        JUP12340
      MOV1 = MOV - 1                                                   JUP12350
      KMO1 = KMO - 1                                                   JUP12360
      XMOV = MOV                                                       JUP12370
      J = (MOV / 2) + KMO                                              JUP12380
      J1 = J - 1                                                       JUP12390
      NMOV = N + 1 - ( (MOV + 1) / 2)                                  JUP12400
      NMOV1 = NMOV + 1                                                 JUP12410
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      MP1O2 = (MOV + 1) / 2                                              JUP12420
      J2 = MP1O2 + KMO - 1                                               JUP12430
      MO2 = MOV / 2                                                      JUP12440
      KMOP1 = KMO + 1                                                    JUP12450
      KMOPJ=J                                                            JUP12460
      KMOV = MOV + KMO1                                                  JUP12470
      DO 5 I=1,N                                                         JUP12480
    5 WMA(I) = 0.0                                                       JUP12490
      DO 10 I=KMO,KMOV                                                   JUP12500
   10 WMA(J) = WMA(J) + OBS(I)                                           JUP12510
      DO 15 I=KMOP1,NMOV                                                 JUP12520
      L = I + MOV1                                                       JUP12530
      J = J + 1                                                          JUP12540
   15 WMA(J) = WMA(J - 1) - OBS(I - 1) + OBS(L)                          JUP12550
C     FIRST MONTHS                                                       JUP12560
      DO 20 I=KMO,J2                                                     JUP12570
   20 WMA(KMO) = WMA(KMO) + OBS(I)                                       JUP12580
      IF (J1 - 1) 35,35,25                                               JUP12590
   25 DO 30 I=KMOP1,J1                                                   JUP12600
      K = I + MO2 - 1                                                    JUP12610
   30 WMA(I) = WMA(I - 1) + OBS(K)                                       JUP12620
C    LAST MONTHS                                                        JUP12630
   35 DO 40 I=NMOV1,N                                                    JUP12640
      K = I - MP1O2 - 1                                                  JUP12650
   40 WMA(I) = WMA(I - 1) - OBS(K)                                       JUP12660
C     DIVIDE FIRST                                                       JUP12670
      X = MP1O2                                                          JUP12680
      DO 45 I=KMO,J1                                                     JUP12690
      WMA(I) = WMA(I) / X                                                JUP12700
   45 X = X + 1.                                                         JUP12710
C     DIVIDE LAST                                                        JUP12720
      X = XMOV - 1.0                                                     JUP12730
      DO 50 I=NMOV1,N                                                    JUP12740
      WMA(I) = WMA(I) / X                                                JUP12750
   50 X = X - 1.                                                         JUP12760
      DO 55 I=KMOPJ,NMOV                                                 JUP12770
   55 WMA(I) = WMA(I) / XMOV                                             JUP12780
      RETURN                                                             JUP12790
      END                                                                JUP12800
      SUBROUTINE QTR(X)                                                  JUP12810
C     THIS ROUTINE COMPUTES 3 MONTH AVERAGE TO TRANSFORM QUAT. DATA      JUP12830
      DIMENSION X(1)                                                     JUP12850
      COMMON /GOG/NS,N,KYR,KMO,NFOR,IPR,NCHRT,IRD,NDTR,INV,LOG,MCD,      JUP12870
     1ITERM,NDIFF,LTP                                                    JUP12880
      DO 1 I = 1,N,3                                                     JUP12900
      X(I) = (X(I) + X(I+1) + X(I+2))/3.                                 JUP12910
      X(I+1) = X(I)                                                      JUP12920
    1 X(I+2) = X(I)                                                      JUP12930
      RETURN                                                             JUP12940
      END                                                                JUP12950
      SUBROUTINE CONVR(KK, JYR, JMO, KFYR)                               JUP12960
C      CONVERSION FOR DATES                                              JUP12980
      COMMON /GOG/NS,N,KYR,KMO,NFOR,IPR,NCHRT,IRD,NDTR,INV,LOG,MCD,      JUP13000
     1ITERM,NDIFF,LTP /TIT/TITLE(20),SER(2),JTSE(10)                     JUP13010
    5 JEMP = KK / 12                                                     JUP13030
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   10 JMO = KK - (JEMP * 12)                                                JUP13040
   15 JYR = KYR + JEMP                                                      JUP13050
   20 IF (JMO) 35,25,35                                                     JUP13060
   25 JMO = 12                                                              JUP13070
   30 JYR = JYR - 1                                                         JUP13080
   35 IF(NFOR .NE. 2) GO TO 99                                              JUP13090
      FMO = FLOAT(JMO)/3.3                                                  JUP13100
      JMO = FMO + 1                                                         JUP13110
   99 RETURN                                                                JUP13120
      END                                                                   JUP13130
      SUBROUTINE SPECV (X, RES, D)                                          JUP13140
C     THIS ROUTINE COMPUTES A SPENCER MOVING AVERAGE RES.                   JUP13160
      COMMON /GOG/NS,N,KYR,KMO,NFOR,IPR,NCHRT,IRD,NDTR,INV,LOG,MCD,         JUP13180
     1ITERM,NDIFF,LTP /TIT/TITLE(20),SER(2),JTSE(10)                        JUP13190
      DIMENSION X(1) ,RES(1) ,D(1)                                          JUP13210
    5 K7 = KMO + 6                                                          JUP13230
      NP8 = N + 8                                                           JUP13240
      NP14 = N + 14                                                         JUP13250
      NP7 = N + 7                                                           JUP13260
      K8 = K7 + 1                                                           JUP13270
      N1 = N - 1                                                            JUP13280
      TEMP = (X(KMO) + X(KMO + 1) + X(KMO + 2) + X(KMO + 3)) / 4.0          JUP13290
   10 DO 20 I=KMO,K7                                                        JUP13300
   20 D(I) = TEMP                                                           JUP13310
      TEMP = (X(N - 3) + X(N - 2) + X(N - 1) + X(N)) / 4.0                  JUP13320
      DO 25 I=NP8,NP14                                                      JUP13330
   25 D(I) = TEMP                                                           JUP13340
      DO 30 I=K8,NP7                                                        JUP13350
   30 D(I) = X(I - 7)                                                       JUP13360
      DO 40 I=KMO,N                                                         JUP13370
   35 RES(I)=(-3.*D(I)-6.*D(I+1)-5.*D(I+2)+3.*D(I+3)+21.*D(I+4)+46.*D(I     JUP13380
     1+5)+67.*D(I+6)+74.*D(I+7)+67.*D(I+8)+46.*D(I+9)+21.*D(I+10)+3.*D(IJUP13390
     2+11)-5.*D(I+12)-6.*D(I+13)-3.*D(I+14))/320.                           JUP13400
   40 CONTINUE                                                              JUP13410
      IF (KMO - 1) 45,55,45                                                 JUP13420
   45 DO 50 I=1,KMO                                                         JUP13430
   50 RES(I) = RES(KMO)                                                     JUP13440
   55 RETURN                                                                JUP13450
      END                                                                   JUP13460
      SUBROUTINE MDP(X, MC)                                                 JUP13470
C     THIS ROUTINE ELIMINATES THE CROSS-OVER.                               JUP13490
      COMMON /GIO/LR1,LR2,LW1,LWP                                           JUP13510
      COMMON /GOG/NS,N,KYR,KMO,NFOR,IPR,NCHRT,IRD,NDTR,INV,LOG,MCD,         JUP13520
     1ITERM,NDIFF,LTP /TIT/TITLE(20),SER(2),JTSE(10)                        JUP13530
      COMMON /GTP/NP(52),NNP(52),M,II,III,KTRU,IFIN                         JUP13540
      DIMENSION X(1)                                                        JUP13560
      EQUIVALENCE(M,MM)                                                     JUP13580
    5 FORMAT (65X,'ELIMINATE',I5,I3,' AND',I5,I3,' CROSS OVER')             JUP13600
      IF (MC - MCD) 130,10,130                                              JUP13620
   10 IF (MCD - 4) 15,15,20                                                 JUP13630
   15 MR = 4                                                                JUP13640
      GOTO 25                                                               JUP13650
   20 MR = MCD                                                              JUP13660
   25 NTEST = II - 1                                                        JUP13670
      IT = 0                                                                JUP13680
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      DO 120 I=1,M                                                    JUP13690
      IT = IT + 1                                                     JUP13700
      MT = NP(I) - MR                                                 JUP13710
      MP = NP(I) + MR                                                 JUP13720
      MMM = NP(I)                                                     JUP13730
      IF (MT - MR / 2) 30,30,45                                       JUP13740
   30 IF (MR / 2) 35,40,35                                            JUP13750
   35 MT = MR / 2                                                     JUP13760
      GOTO 45                                                         JUP13770
   40 MT = 1                                                          JUP13780
   45 IF (MP - (N - MR / 2)) 55,55,50                                 JUP13790
   50 MP = N - MR / 2                                                 JUP13800
   55 NNP(IT) = MMM                                                   JUP13810
      IF (NTEST) 90,60,90                                             JUP13820
   60 NTEST = 1                                                       JUP13830
      DO 70 JJ=MT,MP                                                  JUP13840
      IF (X(MMM) - X(JJ)) 65,65,70                                    JUP13850
   65 NNP(IT) = JJ                                                    JUP13860
      MMM = JJ                                                        JUP13870
   70 CONTINUE                                                        JUP13880
   75 IF (I - 2) 120,80,80                                            JUP13890
   80 IF (NNP(IT) - NNP(IT - 1)) 85,85,120                            JUP13900
   85 KK = NNP(IT - 1)                                                JUP13910
      CALL CONVR(KK,JYR,JMO,KYR)                                      JUP13920
      KK = NNP(IT)                                                    JUP13930
      CALL CONVR(KK,JR,JM,KYR)                                        JUP13940
      IF(IPR .GT. 0) WRITE(LW1,5) JYR,JMO,JR,JM                       JUP13950
      IT = IT - 2                                                     JUP13960
      GOTO 120                                                        JUP13970
   90 NTEST = 0                                                       JUP13980
   95 DO 115 JJ=MT,MP                                                 JUP13990
  100 IF (X(MMM) - X(JJ)) 115,105,105                                 JUP14000
  105 NNP(IT) = JJ                                                    JUP14010
  110 MMM = JJ                                                        JUP14020
  115 CONTINUE                                                        JUP14030
      GOTO 75                                                         JUP14040
  120 CONTINUE                                                        JUP14050
      M = IT                                                          JUP14060
      DO 125 I=1,M                                                    JUP14070
  125 NP(I) = NNP(I)                                                  JUP14080
      RETURN                                                          JUP14090
  130 MR = 6                                                          JUP14100
      GOTO 25                                                         JUP14110
      END                                                             JUP14120
      SUBROUTINE WTP(XXX,NTRU)                                        JUP14130
C     THIS ROUTINE DETERMINES THE FIRST TENATIVE TURNING POINTS       JUP14150
      COMMON /GIO/LR1,LR2,LW1,LWP                                     JUP14170
      COMMON /GOG/NS,N,KYR,KMO,NFOR,IPR,NCHRT,IRD,NDTR,INV,LOG,MCD,   JUP14180
     1ITERM,NDIFF,LTP /TIT/TITLE(20),SER(2),JTSE(10)                  JUP14190
      COMMON /GTP/NP(52),NNP(52),M,II,III,KTRU,IFIN                   JUP14200
      COMMON /GTMQ/JTMQ                                               JUP14210
      DIMENSION XXX(1),IL(50,2)                                       JUP14230
    5 FORMAT(44X,'TENTATIVE PEAKS'/)                                  JUP14250
   10 FORMAT(42X,'OBS   YEAR',2X,A1,'    VALUE')                      JUP14260
   15 FORMAT(37X,I3,I5,I7,I3,F9.2)                                    JUP14270
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   20 FORMAT(//43X,'TENTATIVE TROUGHS'/)                                    JUP14280
   40 FORMAT(1X,'REJECTIONS MULTIPLE PEAKS OR TROUGHS : OBS ',I4,' YEAR     JUP14290
     1 MO/Q ',I5,I3,' VALUE ',F10.2)                                        JUP14300
   50 DO 55 I=1,50                                                          JUP14320
      DO 55 J=1,2                                                           JUP14330
   55 IL(I,J) = 0                                                           JUP14340
   60 IF(IPR .GT. 0) WRITE(LW1,5)                                           JUP14350
      IF(IPR .GT. 0)  WRITE(LW1,10) JTMQ                                    JUP14360
   65 L = 1                                                                 JUP14370
      KM = KMO + 5                                                          JUP14380
      JPZ = KMO                                                             JUP14390
   70 DO 80 I=KMO,KM                                                        JUP14400
      IF (XXX(JPZ) - XXX(I + 1)) 75,75,80                                   JUP14410
   75 JPZ = I + 1                                                           JUP14420
   80 CONTINUE                                                              JUP14430
      JXRX = JPZ + 5                                                        JUP14440
      DO 85 J=JPZ,JXRX                                                      JUP14450
      IF (XXX(J + 1) - XXX(JPZ)) 85,100,100                                 JUP14460
   85 CONTINUE                                                              JUP14470
      IF (JPZ - KMO) 100,100,90                                             JUP14480
   90 IL(L,1) = JPZ                                                         JUP14490
      CALL CONVR(JPZ,JYR,JMO,KYR)                                           JUP14500
      IF(IPR .GT. 0) WRITE(LW1,15) L,JPZ,JYR,JMO,XXX(JPZ)                   JUP14510
   95 L = 2                                                                 JUP14520
C     MIDDLE PEAKS                                                         JUP14540
  100 KM = KM + 1                                                           JUP14550
      NN = N - 1                                                            JUP14560
  105 DO 155 I=KM,NN                                                        JUP14570
  110 IF (XXX(I) - XXX(I + 1)) 155,155,115                                  JUP14580
  115 MM = I - 6                                                            JUP14590
      MP = I + 6                                                            JUP14600
      IF (MP - N) 125,125,120                                               JUP14610
  120 MP = N                                                                JUP14620
  125 DO 130 IJ=MM,MP                                                       JUP14630
      IF (XXX(I) - XXX(IJ)) 155,130,130                                     JUP14640
  130 CONTINUE                                                              JUP14650
  135 IL(L,1) = I                                                           JUP14660
  140 CALL CONVR(I,JYR,JMO,KYR)                                             JUP14670
  145 IF(IPR .GT. 0) WRITE(LW1,15) L,I,JYR,JMO,XXX(I)                       JUP14680
  150 L = L + 1                                                             JUP14690
      IF (50 - L) 625,625,155                                               JUP14700
  155 CONTINUE                                                              JUP14710
      IF (L - 1) 160,160,170                                                JUP14720
  160 WRITE(LW1,165)                                                        JUP14730
  165 FORMAT ('0  NO PEAKS FOUND')                                          JUP14740
C     TROUGHS                                                              JUP14760
  170 KM = KM - 1                                                           JUP14770
C     USE 361-410                                                          JUP14780
  175 IF(IPR .GT. 0) WRITE(LW1,20)                                          JUP14790
      IF(IPR .GT. 0) WRITE(LW1,10) JTMQ                                     JUP14800
  180 K = 1                                                                 JUP14810
      JPZ = KMO                                                             JUP14820
  185 DO 195 I=KMO,KM                                                       JUP14830
      IF (XXX(JPZ) - XXX(I + 1)) 195,190,190                                JUP14840
  190 JPZ = I + 1                                                           JUP14850
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195 CONTINUE                                                          JUP14860
    JXRX = JPZ + 5                                                    JUP14870
    DO 200 J=JPZ,JXRX                                                 JUP14880
    IF (XXX(J + 1) - XXX(JPZ)) 215,215,200                            JUP14890
200 CONTINUE                                                          JUP14900
    IF (JPZ - KMO) 215,215,205                                        JUP14910
205 IL(K,2) = JPZ                                                     JUP14920
    CALL CONVR(JPZ,JYR,JMO,KYR)                                       JUP14930
    IF(IPR .GT. 0) WRITE(LW1,15) K,JPZ,JYR,JMO,XXX(JPZ)               JUP14940
210 K = 2                                                             JUP14950
215 KM = KM + 1                                                       JUP14970
220 DO 270 I=KM,NN                                                    JUP14980
225 IF (XXX(I) - XXX(I + 1)) 230,270,270                              JUP14990
230 MM = I - 6                                                        JUP15000
    MP = I + 6                                                        JUP15010
    IF (MP - N) 240,240,235                                           JUP15020
235 MP = N                                                            JUP15030
240 DO 250 IJ=MM,MP                                                   JUP15040
245 IF (XXX(I) - XXX(IJ)) 250,250,270                                 JUP15050
250 CONTINUE                                                          JUP15060
255 IL(K,2) = I                                                       JUP15070
    CALL CONVR(I,JYR,JMO,KYR)                                         JUP15080
260 IF(IPR .GT. 0) WRITE(LW1,15) K,I,JYR,JMO,XXX(I)                   JUP15090
265 K = K + 1                                                         JUP15100
    IF (50 - K) 625,625,270                                           JUP15110
270 CONTINUE                                                          JUP15120
    IF (K - 1) 275,275,285                                            JUP15130
275 WRITE(LW1,280)                                                    JUP15140
280 FORMAT( '0 NO TROUGHS FOUND ')                                    JUP15150
285 CONTINUE                                                          JUP15160
290 IF (L - 1) 300,300,295                                            JUP15180
295 IF (K - 1) 300,300,310                                            JUP15190
300 WRITE(LW1,305)                                                    JUP15200
305 FORMAT ( '0 PROGRAM CANNOT FIND ANY OTHER TURNS ')                JUP15210
    M = L + K                                                         JUP15220
    GOTO 635                                                          JUP15230
310 IF (IL(1,1) - IL(1,2)) 315,315,335                                JUP15240
C     SERIES BEGINS WITH A PEAK                                       JUP15260
315 II = 1                                                            JUP15270
320 III = 2                                                           JUP15280
330 GOTO 350                                                          JUP15290
C     SERIES BEGINS WITH A TROUGH                                     JUP15310
335 II = 2                                                            JUP15320
340 III = 1                                                           JUP15330
350 L = L - 1                                                         JUP15340
355 K = K - 1                                                         JUP15350
360 M = L + K                                                         JUP15360
    IF (50 - M) 625,625,365                                           JUP15370
365 NP(1) = IL(1,II)                                                  JUP15380
370 NP(2) = IL(1,III)                                                 JUP15390
375 MM = M                                                            JUP15400
380 L2 = 2                                                            JUP15420
385 L3 = 2                                                            JUP15430
390 DO 595 I=3,M,2                                                    JUP15450
395 IF (IL(L2,II)) 570,570,400                                        JUP15460
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  400 IF (IL(L3,III)) 405,410,405                                    JUP15470
  405 IF (IL(L2,II) - IL(L3,III)) 410,410,435                        JUP15480
  410 IF (NP(I - 1) - IL(L2,II)) 415,415,500                         JUP15490
  415 NP(I) = IL(L2,II)                                              JUP15500
  420 IF (IL(L3,III)) 575,575,425                                    JUP15510
  425 NP(I + 1) = IL(L3,III)                                         JUP15520
  430 GOTO 580                                                       JUP15530
C     L2 GREATER THAN L3                                           JUP15540
  435 K = IL(L3,III)                                                 JUP15550
  440 KK = NP(I - 1)                                                 JUP15560
  445 IF (III - 2) 450,480,450                                       JUP15570
  450 IF (XXX(K) - XXX(KK)) 485,455,455                              JUP15580
  455 NP(I - 1) = K                                                  JUP15590
  460 CALL CONVR(KK,JYR,JMO,KYR)                                     JUP15600
  465 IF(IPR .GT. 0) WRITE(LW1,40) KK,JYR,JMO,XXX(KK)                JUP15610
  470 L3 = L3 + 1                                                    JUP15620
  475 MM = MM - 1                                                    JUP15630
      GOTO 395                                                       JUP15640
  480 IF (XXX(K) - XXX(KK)) 455,455,485                              JUP15660
  485 CALL CONVR(K,JYR,JMO,KYR)                                      JUP15670
  490 IF(IPR .GT. 0) WRITE(LW1,40) K,JYR,JMO,XXX(K)                  JUP15680
  495 GOTO 470                                                       JUP15690
C     (I-1) GREATER THAN L2                                        JUP15700
  500 K = IL(L2,II)                                                  JUP15710
  505 KK = NP(I - 2)                                                 JUP15720
  510 IF (II - 2) 515,550,515                                        JUP15730
  515 IF (XXX(K) - XXX(KK)) 555,520,520                              JUP15740
  520 NP(I - 2) = K                                                  JUP15750
  525 CALL CONVR(KK,JYR,JMO,KYR)                                     JUP15760
  530 IF(IPR .GT. 0) WRITE(LW1,40) KK,JYR,JMO,XXX(KK)                JUP15770
  535 L2 = L2 + 1                                                    JUP15780
  540 MM = MM - 1                                                    JUP15790
  545 GOTO 395                                                       JUP15800
  550 IF (XXX(K) - XXX(KK)) 520,520,555                              JUP15810
  555 CALL CONVR(K,JYR,JMO,KYR)                                      JUP15820
  560 IF(IPR .GT. 0) WRITE(LW1,40) K,JYR,JMO,XXX(K)                  JUP15830
  565 GOTO 535                                                       JUP15840
C     TEST FOR MORE OPPOSITE TURNS IN THE END                      JUP15860
  570 IF (IL(L3,III)) 600,600,435                                    JUP15870
  575 L2 = L2 + 1                                                    JUP15880
      IF (IL(L2,II))600,600,576                                      JUP15890
  576 K = IL(L2,II)                                                  JUP15900
      KK = NP(I)                                                     JUP15910
      IF (II-2) 577,579,577                                          JUP15920
  577 IF (XXX(K)-XXX(KK)) 578,555,555                                JUP15930
  578 NP(I) = K                                                      JUP15940
      GO TO 525                                                      JUP15950
  579 IF (XXX(K)-XXX(KK)) 555,578,578                                JUP15960
  580 IF ( (I + 1) - MM) 585,600,600                                 JUP15970
  585 L2 = L2 + 1                                                    JUP15980
  590 L3 = L3 + 1                                                    JUP15990
  595 CONTINUE                                                       JUP16000
  600 M = MM                                                         JUP16020
      IF (50 - M) 625,605,605                                        JUP16030
  605 IF (M - 2) 640,640,620                                         JUP16040
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  620 RETURN                                                              JUP16050
  625 WRITE(LW1,630)                                                      JUP16060
  630 FORMAT('  MORE THAN 50 TENATIVE TURNS DETERMINED, SERIES MUST BE BJUP16070
     1ROKEN')                                                             JUP16080
  635 NTRU = 9                                                            JUP16090
      RETURN                                                              JUP16100
  640 WRITE(LW1,305)                                                      JUP16110
      GOTO 635                                                            JUP16120
      END                                                                 JUP16130
      SUBROUTINE TEST (ARAY, NOE)                                         JUP16140
C       TEST FOR MINIMUM DURATION                                         JUP16160
      COMMON /GIO/LR1,LR2,LW1,LWP                                         JUP16180
      COMMON /GOG/NS,N,KYR,KMO,NFOR,IPR,NCHRT,IRD,NDTR,INV,LOG,MCD,       JUP16190
     1ITERM,NDIFF,LTP /TIT/TITLE(20),SER(2),JTSE(10)                      JUP16200
      COMMON /GTP/NP(52),NNP(52),M,II,III,KTRU,IFIN                       JUP16210
      DIMENSION ARAY(1)                                                   JUP16230
    5 FORMAT(1X,8HREJECT  ,3I5,F9.2,5X,  ' PEAKS LESS THAN ',I2,' MO APAJUP16250
     1RT')                                                                JUP16260
   10 FORMAT(1X,8HREJECT  ,3I5,F9.2,5X,21H CORRESPONDING TROUGH)          JUP16270
   15 FORMAT (1X,6HREJECT,3I5,F9.2,5X,'TROUGHS LESS THAN ',I2,' MO APARTJUP16280
     1')                                                                  JUP16290
   20 FORMAT(1X,8HREJECT  ,3I5,F9.2,5X,21H CORRESPONDING  PEAK )         JUP16300
   25 FORMAT(1X,8HREJECT  ,3I5,F9.2,5X,13H DOUBLE PEAKS)                 JUP16310
   30 FORMAT (//40X,'TEST FOR MINIMUM DURATION OF',I3,' MONTHS'//)       JUP16320
      NOE = 1                                                             JUP16340
      MM = M                                                              JUP16350
      MMM = M                                                             JUP16360
C     II=1,STARTS AT PEAK                                                 JUP16380
C     II=2, STARTS AT TROUGH                                              JUP16390
      IF(IPR .GT. 0) WRITE(LW1,30)NDIFF                                   JUP16410
      DO 35 JJ=1,MM                                                       JUP16420
   35 NNP(JJ) = 0                                                         JUP16430
      J = II                                                              JUP16440
      I = II                                                              JUP16450
C     FIRST TURN                                                          JUP16460
      NNP(1) = NP(1)                                                      JUP16470
      IF (II - 1) 40,80,40                                                JUP16480
   40 IF (NP(I + 1) - (NNP(J - 1) + NDIFF)) 45,80,80                      JUP16490
C     FIND LOWER TROUGH                                                   JUP16500
   45 K1 = NNP(J - 1)                                                     JUP16510
      KK = NP(I + 1)                                                      JUP16520
      IF (ARAY(K1) - ARAY(KK)) 50,75,75                                   JUP16530
C     REJECT KK,ACCEPT EARLY TROUGH                                       JUP16550
   50 NNP(J - 1) = K1                                                     JUP16560
      CALL CONVR(KK,JYR,JMO,KYR)                                          JUP16570
      IF(IPR .GT. 0) WRITE(LW1,15)KK,JYR,JMO,ARAY(KK),NDIFF               JUP16580
C     TEST PEAKS                                                          JUP16600
      K1 = NP(I)                                                          JUP16610
      KK = NP(I + 2)                                                      JUP16620
      IF (ARAY(K1) - ARAY(KK)) 55,55,60                                   JUP16630
   55 L = K1                                                              JUP16640
      NNP(J) = NP(I + 2)                                                  JUP16650
      GOTO 65                                                             JUP16660
   60 L = KK                                                              JUP16670
      NNP(J) = NP(I)                                                      JUP16680
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   65 CALL CONVR(L,JYR,JMO,KYR)                                          JUP16690
      IF(IPR .GT. 0) WRITE(LW1,20)L,JYR,JMO,ARAY(L)                      JUP16700
      I = I + 2                                                          JUP16710
      NP(I) = NNP(J)                                                     JUP16720
C     ARE T  J-1 AND I+1  15 MO APART                                    JUP16730
      IF (NP(I + 1) - (NNP(J - 1) + NDIFF)) 45,70,70                     JUP16740
   70 NNP(J + 1) = NP(I + 1)                                             JUP16750
      GOTO 80                                                            JUP16760
C     REJECT FIRST TROUGH                                                JUP16780
   75 CALL CONVR(K1,JYR,JMO,KYR)                                         JUP16790
      IF(IPR .GT. 0) WRITE(LW1,15)K1,JYR,JMO,ARAY(K1),NDIFF              JUP16800
      II = 1                                                             JUP16810
      III = 2                                                            JUP16820
      J = J - 1                                                          JUP16830
C     START MAIN TRACK                                                   JUP16850
   80 IF(MM-I-2) 285,81,81                                               JUP16860
   81 IF (NP(I + 2) - (NP(I) + NDIFF)) 85,305,305                        JUP16870
   85 IF(IPR .GT. 0) WRITE(LW1,90)NP(I+2),NP(I)                          JUP16880
   90 FORMAT(16H PEAKS TOO CLOSE,2I10)                                   JUP16890
C     FIND HIGHER PEAK                                                   JUP16910
   95 K1 = NP(I)                                                         JUP16920
      KK = NP(I + 2)                                                     JUP16930
      IF (ARAY(K1) - ARAY(KK)) 100,100,245                               JUP16940
  100 CALL CONVR(K1,JYR,JMO,KYR)                                         JUP16950
      IF(IPR .GT. 0) WRITE(LW1,5)K1,JYR,JMO,ARAY(K1),NDIFF               JUP16960
      NNP(J) = KK                                                        JUP16970
C     TEST TROUGH DISTANCE                                               JUP16990
      IF (J - 1) 105,265,105                                             JUP17000
  105 IF (I - MM - 2) 110,115,115                                        JUP17010
  110 IF (NP(I + 3) - (NP(I + 1) + NDIFF)) 165,115,115                   JUP17020
C     REJECT TROUGH ADJACENT TO PEAK,I-1 OR I+1                          JUP17040
  115 K1 = NNP(J - 1)                                                    JUP17050
      KK = NP(I + 1)                                                     JUP17060
      IF (ARAY(K1) - ARAY(KK)) 155,120,120                               JUP17070
  120 L = K1                                                             JUP17080
      NNP(J - 1) = KK                                                    JUP17090
  125 CALL CONVR(L,JYR,JMO,KYR)                                          JUP17100
      IF(IPR .GT. 0) WRITE(LW1,10)L,JYR,JMO,ARAY(L)                      JUP17110
      NNP(J + 1) = NP(I + 3)                                             JUP17120
      I = I + 2                                                          JUP17130
      IF (I - MM + 1) 130,275,275                                        JUP17140
  130 IF (NP(I + 2) - (NNP(J) + NDIFF)) 135,310,310                      JUP17150
  135 NP(I) = NNP(J)                                                     JUP17160
      IF (I - 1) 140,145,140                                             JUP17170
  140 NP(I - 1) = NNP(J - 1)                                             JUP17180
  145 IF (NP(I + 2) - (NNP(J) + NDIFF)) 150,310,310                      JUP17190
  150 GOTO 85                                                            JUP17200
  155 L = KK                                                             JUP17210
      NNP(J - 1) = K1                                                    JUP17220
      IF (I - MM + 2) 125,160,125                                        JUP17230
  160 IF (NP(I + 1) - (NP(I - 1) + NDIFF)) 125,285,285                   JUP17240
C     REJECTP(I),TEST FOR T(I+1)   T(I+3)                                JUP17260
  165 K1 = NP(I + 1)                                                     JUP17270
      KK = NP(I + 3)                                                     JUP17280
      IF (ARAY(K1) - ARAY(KK)) 180,170,170                               JUP17290
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  170 NNP(J + 1) = KK                                                    JUP17300
      L = K1                                                             JUP17310
      IF (J - 1) 175,125,175                                             JUP17320
  175 NNP(J - 1) = NP(I - 1)                                             JUP17330
      GOTO 125                                                           JUP17340
C     TROUBLE REJECT T(I+3)                                              JUP17360
  180 CALL CONVR(KK,JYR,JMO,KYR)                                         JUP17370
      IF(IPR .GT. 0) WRITE(LW1,10)KK,JYR,JMO,ARAY(KK)                    JUP17380
C     CHECK PEAKS AGAIN,EXCEPT     THE LAST ONE                          JUP17400
      IF (I - MM + 3) 185,300,185                                        JUP17410
  185 K1 = NP(I + 2)                                                     JUP17420
      KK = NP(I + 4)                                                     JUP17430
      IF (ARAY(K1) - ARAY(KK)) 190,190,195                               JUP17440
  190 L = K1                                                             JUP17450
      NNP(J) = KK                                                        JUP17460
      GOTO 200                                                           JUP17470
  195 L = KK                                                             JUP17480
      NNP(J) = K1                                                        JUP17490
  200 CALL CONVR(L,JYR,JMO,KYR)                                          JUP17500
      IF(IPR .GT. 0) WRITE(LW1,25)L,JYR,JMO,ARAY(L)                      JUP17510
C     CHECK TROUGHS                                                      JUP17530
  205 K1 = NNP(J - 1)                                                    JUP17540
      KK = NP(I + 1)                                                     JUP17550
  210 IF (ARAY(K1) - ARAY(KK)) 215,220,220                               JUP17560
  215 NNP(J - 1) = K1                                                    JUP17570
      L = KK                                                             JUP17580
      GOTO 225                                                           JUP17590
  220 NNP(J - 1) = KK                                                    JUP17600
      L = K1                                                             JUP17610
  225 CALL CONVR(L,JYR,JMO,KYR)                                          JUP17620
      IF(IPR .GT. 0) WRITE(LW1,10)L,JYR,JMO,ARAY(L)                      JUP17630
      IF (I - MM + 5) 240,230,230                                        JUP17640
  230 IF(IPR .GT. 0) WRITE(LW1,235)I,MM                                  JUP17650
  235 FORMAT(15H I IS TOO LARGE,2(2X,I4))                                JUP17660
      I = I + 4                                                          JUP17670
      GOTO 310                                                           JUP17680
  240 I = I + 4                                                          JUP17690
      GOTO 135                                                           JUP17700
C                                                                        JUP17710
C     REJECT LATER,I+2 ACCEPT EARLIER PEAK                               JUP17720
  245 NNP(J) = NP(I)                                                     JUP17730
      CALL CONVR(KK,JYR,JMO,KYR)                                         JUP17740
      IF(IPR .GT. 0) WRITE(LW1,5)KK,JYR,JMO,ARAY(KK),NDIFF               JUP17750
      IF (I - MM + 2) 250,335,250                                        JUP17760
C     NOT NECESSARY TO TEST TROUGH DISTANCE,                             JUP17770
  250 K1 = NP(I + 1)                                                     JUP17780
      KK = NP(I + 3)                                                     JUP17790
      IF (ARAY(K1) - ARAY(KK)) 260,255,255•                              JUP17800
C     REJECT K=I+1                                                       JUP17810
  255 L = K1                                                             JUP17820
      NNP(J + 1) = KK                                                    JUP17830
      GOTO 125                                                           JUP17840
C     REJECT KK=I+3                                                      JUP17850
  260 L = KK                                                             JUP17860
      NNP(J + 1) = K1                                                    JUP17870
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      CALL CONVR(L,JYR,JMO,KYR)                                          JUP17880
      IF(IPR .GT. 0) WRITE(LW1,10)L,JYR,JMO,ARAY(L)                      JUP17890
      I = I + 2                                                          JUP17900
      NP(I) = NNP(J)                                                     JUP17910
      NP(I + 1) = NNP(J + 1)                                             JUP17920
      GOTO 80                                                            JUP17930
  265 NNP(1) = NP(I+1)                                                   JUP17940
      NNP(2) = NP(I+2)                                                   JUP17950
      II = 2                                                             JUP17960
      J = 2                                                              JUP17970
      IF (NP(I+3) - (NP(I+1)+NDIFF)) 266,270,270                         JUP17980
  270 I = I+2                                                            JUP17990
      GO TO 380                                                          JUP18000
  266 K1 = NP(I+1)                                                       JUP18010
      KK = NP(I+3)                                                       JUP18020
      IF (ARAY(K1)-ARAY(KK)) 180,267,267                                 JUP18030
C-----REJECT EARLY TROUGH                                                JUP18040
  267 I = I+2                                                            JUP18050
      GO TO 75                                                           JUP18060
  275 IF (I - MM) 280,335,335                                            JUP18070
  280 IF (MM - I - 2) 285,290,80                                         JUP18080
C     I=MM-1                                                             JUP18100
  285 NNP(J + 1) = NP(I + 1)                                             JUP18110
      GOTO 325                                                           JUP18120
C     I=MM-2                                                             JUP18140
  290 IF (NP(I + 2) - (NP(I) + NDIFF)) 95,295,295                        JUP18150
  295 NNP(J + 2) = NP(I + 2)                                             JUP18160
      GOTO 285                                                           JUP18170
C     I=MM-3                                                             JUP18190
  300 NNP(J) = NP(I + 2)                                                 JUP18200
      GOTO 205                                                           JUP18210
  305 NNP(J) = NP(I)                                                     JUP18220
  310 IF (I - MM + 3) 315,315,275                                        JUP18230
  315 IF (NP(I + 3) - (NP(I + 1) + NDIFF)) 365,320,320                   JUP18240
  320 NNP(J + 1) = NP(I + 1)                                             JUP18250
  325 J = J + 2                                                          JUP18260
      I = I + 2                                                          JUP18270
      IF (I - MM + 1) 80,330,335                                         JUP18280
  330 NNP(J) = NP(I)                                                     JUP18290
      NNP(J + 1) = NP(I + 1)                                             JUP18300
      J = J + 1                                                          JUP18310
  335 JJ = J                                                             JUP18320
  340 IF (NNP(JJ)) 350,345,350                                           JUP18330
  345 JJ = JJ - 1                                                        JUP18340
      GOTO 340                                                           JUP18350
  350 MM = JJ                                                            JUP18360
      IF (MM - M) 355,485,485                                            JUP18370
  355 DO 360 I=1,MM                                                      JUP18380
  360 NP(I) = NNP(I)                                                     JUP18390
      M = MM                                                             JUP18400
      RETURN                                                             JUP18410
C     DO 1850 FROM SCRATED, I+1 TOO CLOSE TO I+3,BUT I TO I+2 OK,        JUP18420
  365 K1 = NP(I + 1)                                                     JUP18430
      KK = NP(I + 3)                                                     JUP18440
      IF (ARAY(K1) - ARAY(KK)) 370,405,405                               JUP18450
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  370 NNP(J + 1) = K1                                                    JUP18460
      CALL CONVR(KK,JYR,JMO,KYR)                                         JUP18470
      IF(IPR .GT. 0) WRITE(LW1,15)KK,JYR,JMO,ARAY(KK),NDIFF              JUP18480
      IF (I - MM + 3) 385,375,385                                        JUP18500
  375 NNP(J + 2) = NP(I + 2)                                             JUP18510
      I = I + 2                                                          JUP18520
      J = J + 2                                                          JUP18530
  380 IF (I - MM + 1) 80,335,335                                         JUP18540
C     DISTANCES NEED NO BE CHECKED                                       JUP18550
C     TEST ADJACENT PEAKS                                                JUP18560
  385 K1 = NP(I + 2)                                                     JUP18580
      KK = NP(I + 4)                                                     JUP18590
      IF (ARAY(K1) - ARAY(KK)) 390,390,395                               JUP18600
  390 NNP(J + 2) = NP(I + 4)                                             JUP18610
      L = K1                                                             JUP18620
      GOTO 400                                                           JUP18630
  395 NNP(J + 2) = NP(I + 2)                                             JUP18640
      L = KK                                                             JUP18650
  400 CALL CONVR(L,JYR,JMO,KYR)                                          JUP18660
      IF(IPR .GT. 0) WRITE(LW1,20)L,JYR,JMO,ARAY(L)                      JUP18670
      I = I + 2                                                          JUP18680
      NP(I) = NNP(J)                                                     JUP18690
      NP(I + 1) = NNP(J + 1)                                             JUP18700
      NP(I + 2) = NNP(J + 2)                                             JUP18710
      GOTO 310                                                           JUP18720
  405 NNP(J + 1) = NP(I + 3)                                             JUP18730
      CALL CONVR(K1,JYR,JMO,KYR)                                         JUP18740
      IF(IPR .GT. 0) WRITE(LW1,15)K1,JYR,JMO,ARAY(K1),NDIFF              JUP18750
      IF (I - MM + 3) 410,420,420                                        JUP18760
C     CHECK PEAK DISTANCE,I+2 AND I+4                                    JUP18780
  410 IF (NP(I + 4) - (NP(I + 2) + NDIFF)) 435,415,415                   JUP18790
  415 NNP(J + 2) = NP(I + 4)                                             JUP18800
C     OK,USE ADJACINT PEAKS                                              JUP18810
  420 K1 = NNP(J)                                                        JUP18820
      KK = NP(I + 2)                                                     JUP18830
      IF (ARAY(K1) - ARAY(KK)) 425,425,430                               JUP18840
  425 NNP(J) = KK                                                        JUP18850
      L = K1                                                             JUP18860
      GOTO 400                                                           JUP18870
  430 L = KK                                                             JUP18880
      GOTO 400                                                           JUP18890
C     CHECK PEAKS,I+2 AND I+4                                            JUP18900
  435 K1 = NP(I + 2)                                                     JUP18910
      KK = NP(I + 4)                                                     JUP18920
      IF (ARAY(K1) - ARAY(KK)) 440,440,445                               JUP18930
  440 NNP(J + 2) = NP(I + 4)                                             JUP18940
      L = K1                                                             JUP18950
      GOTO 400                                                           JUP18960
C     TROUBLE,REJECT I+4                                                 JUP18980
  445 NNP(J + 2) = NP(I + 2)                                             JUP18990
      CALL CONVR(KK,JYR,JMO,KYR)                                         JUP19000
      IF(IPR .GT. 0) WRITE(LW1,5)KK,JYR,JMO,ARAY(KK),NDIFF               JUP19010
C     TEST DOUBLE PEAKS, J AND I+2                                       JUP19030
      K1 = NNP(J)                                                        JUP19040
      KK = NP(I + 2)                                                     JUP19050
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      IF (ARAY(K1) - ARAY(KK)) 450,450,455                              JUP19060
  450 NP(J) = KK                                                        JUP19070
      L = K1                                                            JUP19080
      GOTO 460                                                          JUP19090
  455 L = KK                                                            JUP19100
  460 CALL CONVR(L,JYR,JMO,KYR)                                         JUP19110
      IF(IPR .GT. 0) WRITE(LW1,25)L,JYR,JMO,ARAY(L)                     JUP19120
C     TEST DOUBLE TROUGHS, I+3 AND I+5                                  JUP19140
      K1 = NP(I + 3)                                                    JUP19150
      KK = NP(I + 5)                                                    JUP19160
      IF (ARAY(K1) - ARAY(KK)) 470,465,465                              JUP19170
  465 L = K1                                                            JUP19180
      NNP(J + 1) = KK                                                   JUP19190
      GOTO 475                                                          JUP19200
  470 L = KK                                                            JUP19210
      NNP(J + 1) = K1                                                   JUP19220
  475 CALL CONVR(L,JYR,JMO,KYR)                                         JUP19230
      IF(IPR .GT. 0) WRITE(LW1,10)L,JYR,JMO,ARAY(L)                     JUP19240
C     TEST DISTANCES                                                    JUP19260
      I = I + 4                                                         JUP19270
      IF (I - MM + 2) 285,480,480                                       JUP19280
  480 NP(I) = NNP(J)                                                    JUP19290
      NP(I + 1) = NNP(J + 1)                                            JUP19300
      NP(I - 1) = NNP(J - 1)                                            JUP19310
      GOTO 80                                                           JUP19320
  485 NOE = 99                                                          JUP19330
      RETURN                                                            JUP19340
      END                                                               JUP19350
      SUBROUTINE BAR(T,ICH)                                             JUP19360
C     THIS ROUTINE COMPUTES X-BAR THRU CBAR                             JUP19380
      COMMON /GIO/LR1,LR2,LW1,LWP                                       JUP19400
      COMMON /GOG/NS,N,KYR,KMO,NFOR,IPR,NCHRT,IRD,NDTR,INV,LOG,MCD,     JUP19410
     1ITERM,NDIFF,LTP /TIT/TITLE(20),SER(2),JTSE(10)                    JUP19420
      COMMON /GAR/XMON(660),OBS(660),WMA(674),W(674),WMD(674)           JUP19430
      COMMON /GBAR/ITNN(4)                                              JUP19440
      DIMENSION T(1),II(11),IT(4),ITA(2),ITT(4),ITN(4)                  JUP19460
      DATA IT/4HT = ,4HFIRS,4HT TR,4HEND)/,ITA/4HFINA,4HL TR/           JUP19480
      DATA ITN/4H    ,1H(,1H ,1H*/                                      JUP19490
C     TITLE PREPARATION                                                 JUP19510
      NF = 11                                                           JUP19530
      IPS = 1                                                           JUP19540
      DO 10 I = 1,4                                                     JUP19550
   10 ITNN(I) = ITN(I)                                                  JUP19560
      IF(NFOR .EQ. 2) NF = 3                                            JUP19570
      IF(NDTR .EQ. 1) GO TO 21                                          JUP19580
      DO 20 I = 1,4                                                     JUP19590
   20 ITT(I) = IT(I)                                                    JUP19600
      IPAR = ITN(2)                                                     JUP19610
      IF(ICH .EQ. 1)  GO TO 1                                           JUP19620
      ITT(2) = ITA(1)                                                   JUP19630
      ITT(3) = ITA(2)                                                   JUP19640
      GO TO 1                                                           JUP19650
   21 DO 22 I = 1,4                                                     JUP19660
   22 ITT(I) = ITN(1)                                                   JUP19670
      IPAR = ITN(3)                                                     JUP19680
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```
      IPS = 0                                                          JUP19690
    1 DO 2 I = 1,NF                                                    JUP19700
    2 II(I) = I                                                        JUP19710
      WRITE(LW1,100) TITLE                                             JUP19720
  100 FORMAT(1H1,20A4/)                                                JUP19730
      WRITE(LW1,101) IPAR,(ITT(I),I=1,4),SER                           JUP19740
  101 FORMAT(1X,'SUMMARY MEASURES OF THE SERIES. AVERAGE OF THE ABS. PERJUP19750
     1CENT CHANGE OVER X PERIODS FOR : ',A1,4A4,6X,A4,A1,/)            JUP19760
      WRITE(LW1,102) (II(I) ,I=1,NF)                                   JUP19770
  102 FORMAT(2X,1HX,11(8X,I2))                                         JUP19780
      IF(NDTR .NE. 1) CALL CBAR(XMON,1,IPS)                            JUP19800
      CALL CBAR(OBS,2,IPS)                                             JUP19810
      IF(NDTR .NE. 1) CALL CBAR(T,3,0)                                 JUP19820
      CALL SPECV (OBS,W,WMA)                                           JUP19830
      IF (NFOR .EQ. 2) CALL QTR(W)                                     JUP19840
      CALL CBAR (W,4,IPS)                                              JUP19850
      DO 3 I = KMO,N                                                   JUP19860
      WMD(I) = OBS(I)/W(I)                                             JUP19870
      IF(IRD .NE. 0) WMD(I) = OBS(I) -W(I)                             JUP19880
    3 CONTINUE                                                         JUP19890
      CALL CBAR(WMD,5,0)                                               JUP19900
      IF(NDTR .EQ. 1) GO TO 30                                         JUP19910
      WRITE(LW1,103)                                                   JUP19920
  103 FORMAT(/)                                                        JUP19930
      WRITE(LW1,104) ITN(4)                                            JUP19940
  104 FORMAT(1X,A1,' C IS TREND-ADJUSTED.')                            JUP19950
   30 NN = N + 14                                                      JUP19960
      DO 4 I = KMO,NN                                                  JUP19970
      W(I) = 0.                                                        JUP19980
      WMA(I) = 0.                                                      JUP19990
    4 WMD(I) = 0.                                                      JUP20000
      RETURN                                                           JUP20010
      END                                                              JUP20020
      SUBROUTINE TITPR(ICH)                                            JUP20030
      DIMENSION JTPR(10),JTDI(10),JTTF(4),JTRD(10)                     JUP20050
C     THIS ROUTINE PREPARES THE TITLES FOR THE OUTPUT.                 JUP20070
      COMMON /GOG/NS,N,KYR,KMO,NFOR,IPR,NCHRT,IRD,NDTR,INV,LOG,MCD,    JUP20090
     1ITERM,NDIFF,LTP /TIT/TITLE(20),SER(2),JTSE(10)                   JUP20100
      DATA JTPR/4HOF T,4HHE R,4HATIO,4H TO ,4HFIRS,4HT TR,4HEND ,      JUP20120
     14H(INV,4HERTE,4HD)  /                                            JUP20130
      DATA JTDI/4HOF T,4HHE D,4HIFF.,4H WIT,4HH FI,4HRST ,4HTREN,      JUP20140
     14HD (I,4HNVER,4HTED)/                                            JUP20150
      DATA JTRD/4HOF T,4HHE R,4HAW D,4HATA ,4H(INV,4HERTE,4HD)  ,      JUP20160
     14H    ,4H    ,4H    /                                           JUP20170
      DATA JTTF/4HFINA,4HL TR,4HNAL ,4HD   /,JBL/4H    /              JUP20180
      IF(NDTR .EQ. 1) GO TO 40                                         JUP20200
      IF(ICH .EQ. 2) GO TO 20                                          JUP20210
      IF(IRD .NE. 0) GO TO 10                                          JUP20220
      DO 1 I = 1,10                                                    JUP20230
    1 JTSE(I) = JTPR(I)                                                JUP20240
      IF(INV .NE. 0) GO TO 99                                          JUP20250
      DO 2 I = 8,10                                                    JUP20260
    2 JTSE(I) = JBL                                                    JUP20270
      GO TO 99                                                         JUP20280
   10 DO 11 I = 1,10                                                   JUP20290
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   11 JTSE(I) = JTDI(I)                                                    JUP20300
      IF(INV .NE. 0) GO TO 99                                              JUP20310
      JTSE(8) = JTTF(4)                                                    JUP20320
      JTSE(9) = JBL                                                        JUP20330
      JTSE(10) = JBL                                                       JUP20340
      GO TO 99                                                             JUP20350
   20 IF(IRD .NE. 0) GO TO 30                                              JUP20360
      JTSE(5) = JTTF(1)                                                    JUP20370
      JTSE(6) = JTTF(2)                                                    JUP20380
      GO TO 99                                                             JUP20390
   30 JTSE(6) = JTTF(3)                                                    JUP20400
      GO TO 99                                                             JUP20410
   40 DO 41 I = 1,10                                                       JUP20420
   41 JTSE(I) = JTRD(I)                                                    JUP20430
      IF(INV .NE. 0) GO TO 99                                              JUP20440
      DO 42 I = 5,7                                                        JUP20450
   42 JTSE(I) = JBL                                                        JUP20460
   99 RETURN                                                               JUP20470
      END                                                                  JUP20480
      SUBROUTINE CBAR (X,ID,IPS)                                           JUP20490
C     THIS ROUTINE COMPUTES AND PRINT THE AVG. ABS. % CHANGE OF X          JUP20510
      COMMON /GIO/LR1,LR2,LW1,LWP                                          JUP20530
      COMMON /GOG/NS,N,KYR,KMO,NFOR,IPR,NCHRT,IRD,NDTR,INV,LOG,MCD,        JUP20540
     1ITERM,NDIFF,LTP                                                      JUP20550
      COMMON /GBAR/ITNN(4)                                                 JUP20560
      DIMENSION X(1),AV(11),IBA(5),IBA1(5)                                 JUP20580
      DATA IBA/3HTCI,3H CI,3H  T,3H  C,3H  I/                              JUP20600
      DATA IBA1/3H___,3H __,3H  _,3H  _,3H  _/                             JUP20610
      IWS = ITNN(4)                                                        JUP20630
      IF(IPS .EQ. 0) IWS = ITNN(3)                                         JUP20640
      NK = N                                                               JUP20650
      NF = 11                                                              JUP20660
      NQ = 1                                                               JUP20670
      IF(NFOR .NE. 2) GO TO 1                                              JUP20680
      NK = FLOAT(N)/3.                                                     JUP20690
      NF = 3                                                               JUP20700
      NQ = 3                                                               JUP20710
    1 DO 3 I = 1,NF                                                        JUP20720
      NK = NK -1                                                           JUP20730
      PNK = NK                                                             JUP20740
      IS = (I-1)*NQ+1                                                      JUP20750
      IS1 = IS + NQ                                                        JUP20760
      AV(I) = 0.                                                           JUP20770
      DO 2 J = IS1,N,NQ                                                    JUP20780
      IF(X(J-IS) .EQ. 0.) GO TO 21                                         JUP20790
      AV(I) = AV(I) + 100.*ABS((X(J) - X(J-IS))/X(J-IS))                   JUP20800
      GO TO 2                                                              JUP20810
   21 PNK = PNK - 1.                                                       JUP20820
    2 CONTINUE                                                             JUP20830
    3 AV(I) = AV(I)/PNK                                                    JUP20840
      WRITE(LW1,101) IBA1(ID),IWS                                          JUP20860
  101 FORMAT(1X,A3,1X,A1)                                                  JUP20870
      WRITE(LW1,102) IBA(ID),(AV(I),I=1,NF)                                JUP20880
  102 FORMAT(1X,A3,1X,11F10.2)                                             JUP20890
      RETURN                                                               JUP20900
      END                                                                  JUP20910
```