EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL OF ECONOMIC ADVISERS
WASHINGTON, D.C. 20506

April 30, 1981

MEMORANDUM FOR: Jim Smith

FROM: Steve Brooks

SUBJECT: Additional assumptions used in forecasts with the Monetarist Models

The attached notes from Ahmad Al-Sammarie show the additional key assumptions used in forecasting the Carter baseline on the Monetarist models.

cc: MM, DM, DR

Claremont Model

Assumptions:

1. Monetary base is assumed to grow by 5-1/2% in 1982 (4th over 4th) and by 5% in 1983.

2. Real price of imported oil is to experience some decline in the rest of 81 and to gain by 1-1/2% in 82 and 83.

3. Federal taxes as a percent of GNP (exclusive of oil tax and withheld dividends) to increase from .216 in 81:1 to .218 in 81:4; .225 by 82:4; and .227 by 83:4.

4. Real Federal expenditures rise from $346 billion in 81:4 to $351 billion in 82:4 and $356 billion in 83:4.

1/22/81 SLOW MONEY, EXISTING LEGISLATION HARRIS

P<DOWN,INT 1980 TO 1983>MNY1B,%CH(MNY1B),MNY1BACT,%CH(MNY1BACT)

	M1-B Adjusted		M1-B Actual	
	MNY1B	%CH(MNY1B)	MNY1BACT	%CH(MNY1BACT)
1980:1	390.367	5.9	390.367	5.9
1980:2	387.900	-2.5	387.900	-2.5
1980:3	402.067	15.4	402.067	15.4
1980:4	412.967	11.3	412.967	11.3
1981:1	419.000	6.0	421.500	8.5
1981:2	425.100	6.0	430.200	8.5
1981:3	431.300	6.0	439.100	8.5
1981:4	437.600	6.0	448.100	8.5
1982:1	443.500	5.5	454.100	5.5
1982:2	449.500	5.5	460.200	5.5
1982:3	455.600	5.5	466.400	5.5
1982:4	461.700	5.5	472.700	5.5
1983:1	467.400	5.0	478.500	5.0
1983:2	473.100	5.0	484.400	5.0
1983:3	478.900	5.0	490.300	5.0
1983:4	484.800	5.0	496.300	5.0

?P<DOWN,INT 1980 TO 1983>ADDFACGNP,ADDFACPGNP

	Addfactors	
	ADDFACGNP GNP	ADDFACPGNP Deflator
1981:1	NA	NA
1981:2	0.000	2.000
1981:3	0.000	2.000
1981:4	0.000	2.000
1982:1	0.000	2.500
1982:2	0.000	2.500
1982:3	0.000	2.500
1982:4	0.000	1.500
1983:1	0.000	3.500
1983:2	0.000	3.500
1983:3	0.000	3.500
1983:4	0.000	3.500

?P<DOWN,INT 1981 TO 1983>GNP,%CH(GNP),PGNP,%CH(PGNP),GNP/2,%CH(GNP/2)

	GNP		GNP Deflator		Real GNP	
	GNP	%CH(GNP)	PGNP	%CH(PGNP)	GNP/2	%CH(GNP/2)
1981:1	2,826.8	14.9	1.8730	7.8	1,509.2	6.5
1981:2	2,907.4	11.9	1.9159	9.5	1,517.5	2.2
1981:3	2,972.5	9.3	1.9604	9.6	1,516.3	-0.3
1981:4	3,039.0	9.3	2.0032	9.0	1,517.1	0.2
1982:1	3,107.1	9.3	2.0469	9.0	1,518.0	0.2
1982:2	3,175.0	9.0	2.0921	9.1	1,517.6	-0.1
1982:3	3,242.8	8.8	2.1381	9.1	1,516.7	-0.3
1982:4	3,312.1	8.8	2.1854	9.1	1,515.6	-0.3
1983:1	3,382.7	8.8	2.2378	9.9	1,511.6	-1.0
1983:2	3,452.8	8.5	2.2878	9.2	1,509.2	-0.6
1983:3	3,522.3	8.3	2.3383	9.1	1,506.4	-0.8
1983:4	3,593.1	8.3	2.3892	9.0	1,503.9	-0.7

22/81 FAST MONEY, EXISTING LEGISLATION

HARRIS

?P<DOWN,INT 1980 TO 1983>MNY1B,%CH(MNY1B),MNY1BACT,%CH(MNY1BACT)

	M1-B Adjusted MNY1B	%CH(MNY1B)	M1-B Actual MNY1BACT	%CH(MNY1BACT)
1980:1	390.367	5.9	390.367	5.9
1980:2	387.900	-2.5	387.900	-2.5
1980:3	402.067	15.4	402.067	15.4
1980:4	412.967	11.3	412.967	11.3
1981:1	419.000	6.0	421.500	8.5
1981:2	425.100	6.0	430.200	8.5
1981:3	431.300	6.0	439.100	8.5
1981:4	437.600	6.0	448.100	8.5
1982:1	446.600	8.5	457.300	8.5
1982:2	455.800	8.5	466.700	8.5
1982:3	465.200	8.5	476.300	8.5
1982:4	474.800	8.5	486.100	8.5
1983:1	484.600	8.5	496.100	8.5
1983:2	494.600	8.5	506.300	8.5
1983:3	504.800	8.5	516.700	8.5
1983:4	515.200	8.5	527.300	8.5

?P<DOWN,INT 1981 TO 1983>ADDFACGNP,ADDFACPGNP

	Add factors ADDFACGNP GNP	ADDFACPGNP Deflator
1981:1	NA	NA
1981:2	0.000	2.000
1981:3	0.000	2.000
1981:4	0.000	2.000
1982:1	0.000	2.500
1982:2	0.000	2.500
1982:3	0.000	2.500
1982:4	0.000	1.500
1983:1	0.000	3.500
1983:2	0.000	3.500
1983:3	0.000	3.500
1983:4	0.000	3.500

?P<DOWN,INT 1981 TO 1983>GNP,%CH(GNP),PGNP,%CH(PGNP),GNP72,%CH(GNP72)

	GNP GNP	%CH(GNP)	GNP Deflator PGNP	%CH(PGNP)	Real GNP GNP72	%CH(GNP72)
1981:1	2,826.8	14.9	1.8730	7.8	1,509.2	6.5
1981:2	2,907.4	11.9	1.9159	9.5	1,517.5	2.2
1981:3	2,972.5	9.3	1.9604	9.6	1,516.3	-0.3
1981:4	3,039.0	9.3	2.0032	9.0	1,517.1	0.2
1982:1	3,107.1	9.3	2.0469	9.0	1,518.0	0.2
1982:2	3,185.8	10.5	2.0921	9.1	1,522.8	1.3
1982:3	3,275.8	11.8	2.1399	9.5	1,530.8	2.1
1982:4	3,368.5	11.8	2.1910	9.9	1,537.4	1.7
1983:1	3,463.8	11.8	2.2493	11.1	1,540.0	0.7
1983:2	3,561.9	11.8	2.3073	10.7	1,543.7	1.0
1983:3	3,662.7	11.8	2.3685	11.0	1,546.4	0.7
1983:4	3,766.4	11.8	2.4331	11.4	1,548.0	0.4

Would you like to see the forecasts from this scenario <Y>: N

Do you wish to see the scenario assumptions for any of the exogenous variables <Y>: Y

Enter the mnemonics for the exogenous variables you wish to see (Enter ALL to see the assumptions for all the variables) <ALL>:

CITIBANK
FASTER MONEY
GROWTH

USER NUMBER: 2
Scenario Assumptions for 1981:2 - 1983:4

	81:1	81:2	81:3	81:4	82:1	82:2	82:3	82:4	83:1	83:2	83:3	83:4
M1B (annual rate of change)		9.60	9.60	9.60	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50
High employment budget expenditure(ratio*100)		22.69	23.08	22.89	22.64	22.47	22.67	22.59	22.54	22.38	22.24	22.10
Industrial distruptions		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Potential real income (annual rate of change)		2.90	2.90	2.90	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Real OPEC oil prices (annual rate of change)		1.10	1.60	-1.10	2.20	1.80	2.30	1.40	1.40	1.50	1.50	1.70
Trend velocity (annual rate of change)		4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03
Real domestic farm prices(annual rate of chg)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Credit controls variable		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Federal Reserve M1B growth targets		7.25	7.25	7.25	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50

Would you like to see the historical data for any of the exogenous variables <Y>:

...om this scenario <Y>: N

... scenario assumptions for any of the
... variables <Y>: Y

Enter the mnemonics for the exogenous variables you wish to see
(Enter ALL to see the assumptions for all the variables) <ALL>:

CITIBANK
BASELINE--
TARGET GROWTH
IN MONEY

USER NUMBER: 1
Scenario Assumptions for 1981:2 - 1983:4

	81:1	81:2	81:3	81:4	82:1	82:2	82:3	82:4	83:1	83:2	83:3	83:4
M1B (annual rate of change)		8.00	8.00	8.00	5.50	5.50	5.50	5.50	5.00	5.00	5.00	5.00
High employment budget expenditure(ratio*100)		22.69	23.08	22.89	22.64	22.47	22.67	22.59	22.54	22.38	22.24	22.10
Industrial distruptions		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Potential real income (annual rate of change)		2.90	2.90	2.90	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Real OPEC oil prices (annual rate of change)		1.10	1.60	-1.10	2.20	1.80	2.30	1.40	1.40	1.50	1.50	1.70
Trend velocity (annual rate of change)		4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03
Real domestic farm prices(annual rate of chg)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Credit controls variable		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Federal Reserve M1B growth targets		4.75	4.75	4.75	5.50	5.50	5.50	5.50	5.00	5.00	5.00	5.00

Would you like to see the historical data
for any of the exogenous variables <Y>: N

Do you wish to change any of the assumptions
including the current quarter forecast <Y>: Y

THE FOLLOWING ASSUMPTIONS WILL BE INCORPORATED INTO USER SCENARIO NUMBER: 1
AND WILL BE REFERRED TO AS USER SCENARIO NUMBER: 2

Would you like to change any of the exogenous variables <Y>: Y

Do you wish to assume the Fed will announce and attempt to meet
monetary growth targets for M1B <Y>: Y

EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL OF ECONOMIC ADVISERS
WASHINGTON, D.C. 20506

April 30, 1981

MEMORANDUM FOR: Jim Smith

FROM: Steve Brooks

SUBJECT: Key Forecast Assumptions

1. Budget Outlays

The attached table shows NIPA budget outlays through the fourth quarter of 1983. They include the recent preliminary estimates by BEA for the first quarter of 1981. Other than that they are based on the NIPA translation of the March budget extend through 1983 by OMB.

2. Tax Policy Assumptions

A. Personal Tax Rate Reduction

The personal tax reduction should be captured as (cumulative) rate changes of 10 percent in the third quarter of 1981, 15 percent in the first quarter of 1982, 25 percent in the first quarter of 1983.

B. Capital Cost Recovery

The depreciation proposals should yield a $3.1 billion reduction in corporate taxes (NIPA) in calendar 1981, (starting in the first quarter) a $9.4 billion reduction in 1982, and $18 billion in 1983. The ITC change should be enough to yield roughly $1 billion at an annual rate in 1981. This will capture both the statutory ITC adjustment as well as the research and development changes. The tax lives of equipment and structures should be reduced by approximately 25 percent in the first quarter of 1981. (Note that this one-step adjustment in tax lives abstracts from the phase-in schedule of the depreciation proposals.)

3. Monetary Policy

As in the previous solution exercise the upper ends of the target ranges are assumed. The following table shows the targets.

	1981		1982	1983
	W/NOWS	W/O NOWS		
M-1A	-4 1/2 to -2	3 to 5 1/2	5	4 1/2
M-1B	6 to 8 1/2	3 1/2 to 6	5 1/2	5
M2	6 to 9	6 to 9	8 1/2	8
M3	6 1/2 to 9 1/2	6 1/2 to 9 1/2	9	8 1/2

4. Food and Energy Prices

World oil prices are assumed to be constant in nominal terms during the remainder of 1981. Thereafter the real price is assumed to grow at an annual rate of 1-1/2 percent.

Food prices are assumed to be constant in real terms.

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April 30, 1981

MEMORANDUM FOR: Jim Smith

FROM: Steve Brooks

SUBJECT: Addendum to Carter Baseline Forecast Assumptions

The Carter baseline assumptions were modified slightly from those shown in my earlier note. There were two changes:

1. The marriage penalty, not shown in the original note was assumed to be worth $2.5 billion starting in the first quarter of 1982 and jumping to $5.0 billion in the first quarter of 1983.

2. The energy price assumption was altered due to the current glut in world oil markets. We assumed a flat nominal world oil price through the fourth quarter of 1981. Thereafter real world oil prices were assumed to grow at an annual rate of 1-1/2 percent.

cc: DM, MM, DR

EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL OF ECONOMIC ADVISERS
WASHINGTON, D.C. 20506

April 30, 1981

MEMORANDUM FOR: Jim Smith

FROM: Steve Brooks

SUBJECT: Revised Budget Assumptions

The table of NIPA Reagan budget outlays in my original assumptions memo did not include the $29.8 target outlay reduction for fiscal year 1983. I have adjusted OMB's outlays to account for these targeted cuts in the following way:

Distribution of Target Outlay Cut (billions of dollars, fiscal year)	1983
Target Outlay cut (-) (Unified Budget)	-29.8
Excluded	-6.1
NIA outlay cut (-)	-23.7
Defense Purchases	-4.0
Nondefense Purchases	-3.5
Foreign Transfers	-1.0
Domestic Transfers	-7.0
Grants	-5.3
Net Subsidies	-2.9
Net Interest	0.0

The quarterly pattern can be found on the attached table.

NIA FEDERAL SECTOR - MARCH BUDGET REVISIONS
($ billions; SAAR)

	81-1	81-2	81-3	81-4	82-1	82-2	82-3	82-4	83-1	83-2	83-3	83-4
Defense Purchases	144.9	149.5	156.3	165.2	170.4	175.4	180.4	191.1	202.2	208.9	216.2	225.7
Nondefense Purchases	74.8	66.1	62.2	68.9	73.3	72.8	72.2	71.0	70.0	69.0	68.0	67.0
Transfers - foreign	5.0	4.9	5.0	5.3	5.5	5.7	5.9	5.1	5.1	5.1	5.1	5.1
Transfers - domestic	266.7	274.9	296.3	293.0	291.8	294.7	308.9	310.0	311.0	312.0	326.0	329.0
Grants	88.8	89.7	86.1	81.8	80.4	80.3	79.6	79.0	78.5	78.0	77.0	78.0
Subsidies less C.S.	12.1	11.7	11.0	10.5	10.5	11.1	11.4	10.0	9.0	8.0	7.0	7.0
Net interest paid	68.0	69.0	69.5	69.7	69.2	69.4	69.6	70.5	70.1	70.0	69.8	69.6
Total Federal Expenditures	660.3	666.9	686.7	694.4	701.1	709.4	728.0	736.7	745.9	751.0	769.1	781.4

EXECUTIVE OFFICE OF THE PRESIDENT
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WASHINGTON, D.C. 20506

April 24, 1981

MEMORANDUM FOR: Murray L. Weidenbaum

FROM: Steve Brooks and Bob Turner

SUBJECT: The Gramm-Latta Budget Compromise

The Gramm-Latta (G-L) budget compromise is essentially the Administration's budget with minor (and a few major) adjustments. The following table shows the overall numbers, (additional detail can be found on the attached table).

Alternative Budgets

Fiscal year, billions of dollars

1982

	Receipts	Outlays	Deficits
Administration	650.3	695.3	-45.0
House Budget Committee*	688.9	714.6	-25.7
Gramm-Latta	650.3	689.2	-38.9

*Uses different economic assumptions than the other two budgets.

The key points are these: The G-L budget

- adopts the Administration's economic assumptions. These show lower interest rates, lower real growth, and higher inflation than the HBC alternative.
- cuts $3 billion in outlays by removing the Strategic Petroleum Reserve (SPR) purchases from the budget. Under G-L, SPR outlays would be "privately financed." (This compares with the rest of the budget deficit which, by contrast, is privately financed... but never mind).

- o would cut mass transit outlays by $130 million.

- o essentially accepts the HBC fraud and abuse (F&A) estimates. The new code words for (F&A) by the way are "improved administrative practices." These cuts would lower Education outlays by $130 million, Health outlays by $100 million, Income Security by $200 million, Allowances (debt collection) by $1,710 million.

- o picks up $1.5 billion in undistributed off-setting receipts due to settlement of the pending oil-pricing overcharge cases.

- o would increase outlays modestly in several key areas. EDA grants would be $12 million higher, vocational education would get $15 million more, and Veterans would receive $400 million more than under the Administration's budget.

On balance the budget is basically the Administration's but with the SPR removed and with HBC fraud and abuse estimates.

cc: BN, JB, AW, DM, MM, DR, SN

Comparison of HBC and Gramm-Latta Outlays, FY82

(billions of dollars)

	HBC	Gramm-Latta
Total Outlays	714.6	689.2
050 - National Defense	189.8	188.8
150 - International Affairs	11.2	11.20
250 - General Science, space, and Technology	7.1	6.9
270 - Energy	6.9	4.2
300 - Natural Resources and Environment	12.4	11.9
350 - Agriculture	5.1	4.4
370 - Commerce and housing credit	4.3	3.1
400 - Transportation	21.1	19.7
450 - Community and regional development	9.5	8.1
500 - Education, training, employment and social services	29.4	25.7
550 - Health	74.5	73.3
600 - Income Security	247.7	241.2
700 - Veterans benefits and services	24.1	24.0
750 - Administration of justice	4.6	4.4
800 - General government	4.9	5.0
850 - General purpose fiscal assistance	6.2	6.4
900 - Interest	90.1	82.2
920 - Allowances	.7	.7
950 - Undistributed offsetting receipts	-34.6	-32.0

EXECUTIVE OFFICE OF THE PRESIDENT

COUNCIL OF ECONOMIC ADVISERS

WASHINGTON, D.C. 20506

April 16, 1981

Dear Carol:

Thanks for sending over your budget materials. I apologize for the data error. Your statistician is, of course, correct about the 1976 numbers as I have since discovered. I am sorry for the confusion.

As to the choice of an index, I disagree with your statistician. Neither the personal consumption deflator (PCD) nor the CPI is a good index for this purpose -- I think we would all agree on that -- however, the PCD is far better. Here follows a brief and incomplete lesson on indexes.

In general, the many individual prices that make up each of the indexes are all measured identically. That is, the prices for a gallon of milk, a loaf of bread, a pair of shoes, etc., are the same in all these indexes. The indexes differ because of the different ways in which the individual prices are combined, "weighted", and aggregated. If all prices (food, clothing, energy, etc.) are rising at the same rate, then these different ways of aggregating prices will have only a minor influence on the relative growth rates of the alternative overall indexes. (Paul, who knows the difference between fixed- and variable-weight indexes, may disagree here. But tell him that when there are no shifts in relative prices fixed- and variable-weight indexes move very closely.) Problems arise when there are dramatic changes in the inflation rates of one or two items. When this happens, the ways in which the indexes are constructed are very important in determining the overall inflation rates.

Now as it turns out the CPI has one huge "glitch" in it due to the special way it measures housing prices. (It is, by the way, a well known problem, and the Bureau of Labor Statistics is working on ways to fix it). The details are confusing, but what basically happens is that the CPI assumes everyone buys a house each month! And this is no small matter because this particular item (home purchase, finance,

insurance, and taxes) accounts for over 20 percent of the CPI. When mortgage interest rates and house prices go through the roof, as they have recently, the CPI does crazy things. The PCD treats housing prices far more sensibly and therefore avoids this problem. That is why I used it instead of the CPI.

Using Paul's correct budget numbers (deflated by the PCD) we see a $20 dollar per individual decline in AFDC since 1976. My (incorrect) data had shown a pretty sizeable gain. By the way, I am told that 26 states actually index their benefits for inflation. Is this correct? The corrected food stamp data still show a real gain since 1976. I still do not think the data paints a picture of a drastic reversal since 1976. Furthermore, real AFDC and food stamps combined are virtually the same in 1980 as in 1976, and that does not even count the earned income credit, SSI, and housing aid etc.

The Times article correctly notes the perverse impact on work incentives from some of these proposals. This is a very serious criticism given the much-discussed "supply-side" leanings of the Administration.

This whole argument obviously comes down to a question of priorities. We have entered a period in which, for important macroeconomic, political, and sociological reasons, (most of which I fundamentally agree with) the government's role, size, and scope will stop expanding and may reduced slightly. I think that the government should reduce its role in most areas to minimum reasonable levels and eliminate it in many others. On the other hand, we have responsibilites to support those in need.

As I said in my letter these cuts will force hardships to some degree. Today's (4/16/81) Post ran an article describing a Congressional Budget Office study which noted that many (20 million?) would lose government benefits. Why was this so surprising? Of course many will lose benefits. But what is the "correct" level? Should real benefits per individual be at 1976 levels? 1978 levels? 1974 levels? Were we a less humane, less caring country five years ago? Your view is that today's benefits are too low and ought to be increased. My view is that we are giving away, in general aid benefits, much more now than we did 10 years ago and maybe we should hold the line or cut back slightly so that other needs can be satisfied. However, I am not sufficiently confident to know how much is enough. The aggregate data do not look so bad to me, but I'm sure they miss a lot. You know the horror stories and I do not.

Is there any chance for me to see some case histories? Do you have a re-education program for an unreconstructed right winger? Anything like that would help me understand the dimension of the problem as you see it. We macroeconomists too often miss the trees. If you do, drop me a line or give me a call.

Thanks again for the material.

Best,

Steve

Stephen H. Brooks
Senior Staff Economist

Ms. Carol Golubock
Children's Defense Fund
1520 New Hampshire Avenue, NW
Washington, DC 20036

EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL OF ECONOMIC ADVISERS
WASHINGTON, D.C. 20506

April 15, 1981

Dear Ms. Stahl:

I am afraid I will be unable to accept your kind invitation.

I enjoyed our brief phone conversation and I hope that you continue your interest and studies in economics.

I have enclosed some material on the Reagan Economic Program that I thought would be of interest.

Sincerely yours,

Stephen H. Brooks

Stephen H. Brooks
Senior Staff Economist

Ms. Alice A. Stahl
Holyoke Community College
303 Homestead Avenue
Holyoke, MA 01040

EXECUTIVE OFFICE OF THE PRESIDENT

COUNCIL OF ECONOMIC ADVISERS

WASHINGTON, D.C. 20506

April 3, 1981

MEMORANDUM FOR: Murray L. Weidenbaum

FROM: Steve Brooks

SUBJECT: The JEC Study of the President's Proposals

The study (attached) describes a single simulation exercise on the DRI model. The basic point of the study is similar to that of the CBO report: growth is likely to be slower, inflation faster, interest rates higher, and deficits larger than estimated by the Administration.

The JEC simulation was based almost entirely on a simulation recently developed by DRI to analyze the program. (The second attached briefly summarizes the DRI simulation.) What the JEC did, according to the author of the memo, was to take that simulation and alter monetary policy enough so that M1-B growth fell at the mid-point of the target ranges. These were assumed to be 6%, 5.5%, 5.0%, 4.5% for the years 1981 to 1984.

The output from the simulation looks a bit odd in a number of respects:

- While the total tax estimates are pretty close to the Administration's estimates, the outlay answer is way off. FY 1983 outlays are put at $785 billion in the simulation versus the Administration's estimate of $732 billion. The differences in economic assumptions (especially interest and unemployment rates) do not look large enough to generate this outcome.

- The "yield-curve" is twisted (short rates much higher than long rates) for four straight years. This would be quite unusual if not perverse given traditional expectational phenomena.

- With short-term rates above 16 percent through most of the simulation, we still have car sales averaging above 10 million units per year and housing starts around 1.8 million units per year.

- Federal government net subsidies are negative for the year 1984. It's possible although not likely. Moreover it certain is not part of the Administration's proposals.

The simulation can be easily criticized in these and other technical ways. I think, however, that even a very clean simulation on the DRI model would show qualitatively similar results for the usual trinity of economic variables: growth (less), inflation (more), and deficits (larger).

A SIMULATION OF THE ECONOMIC EFFECTS OF PRESIDENT REAGAN'S FISCAL AND MONETARY PROPOSALS, 1981-1984

A Staff Study

Prepared For The Use Of The

JOINT ECONOMIC COMMITTEE

CONGRESS OF THE UNITED STATES

A Simulation of the Economic Effects of President Reagan's Fiscal and Monetary Proposals, 1981-1984

By Richard F. Kaufman* 224-0377

A simulation of the U.S. economy through 1984, based on full adoption of President Reagan's fiscal and monetary policies, shows a major upsurge in Federal deficits to the $100 billion level by the end of the period, and little or no improvement in most other respects. Real growth, after a significant increase in 1982, levels off and then declines slightly. Inflation, measured by the consumer and producer price indices, declines somewhat but core inflation stays about the same. Unemployment and interest rates also are unchanged.

The simulation was done to examine the economic effects of the Administration's proposals assuming they are fully adopted and implemented without modification. The results of the exercise differ from the private forecasts reported to date in several respects. Most of the forecasts assume the Reagan program will be substantially modified by Congress. For example, it is commonly assumed that only part of the President's tax package will be enacted along with most but not all of the budget cuts. The forecasts also generally assume a less restrictive monetary policy

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than that advocated by the President. Further, most forecasts examine the effects of the Administration's proposals through 1983. The present simulation extends the examination for one additional year.

The simulation assumes all the tax and expenditure policy initiatives proposed by President Reagan are adopted by Congress. The nondefense expenditure reductions and the defense expenditure increases proposed in the March 10, 1981 budget revisions were incorporated into the simulation. All of the President's tax proposals were also used. They are: a 10 percent across-the-board cut in personal tax rates beginning July 1, 1981 and additional 10 percent cuts for each of the following two years, and an investment tax incentive reduction along the lines of the Jones-Conable (10-5-3) proposal, retroactive to January 1, 1981.

Finally, the simulation assumes achievement of the monetary targets for 1981 announced by the Federal Reserve Board and reductions in the rate of growth of the money supply for the years 1982-1984 in accordance with the President's message to Congress, A Program for Economic Recovery, delivered on February 18, 1981. In his message the President said that the Administration's economic scenario "assumes that the growth rates of money and credit are steadily reduced from the 1980 levels to one-half of those levels by 1986." The simulation was performed with the Data Resources, Inc. model of the U.S. economy. The results are summarized in Table 1.

It can be seen from an examination of Table 1 that the major result of the Administration's fiscal and monetary policies is a weak recovery from the slump in 1980 and increasingly higher Federal deficits. On a National Income Accounts (NIA) basis, the deficit reaches $111.5 billion in 1984. The deficit in the unified budget is slightly lower, $109.6 billion in 1984. The latter figure, along with a breakdown of Federal receipts and expenditures are contained in Table 2.

The growth rate of GNP rises from 1.5 percent to 3 percent in 1982, but then declines slightly to 2.8 percent in 1984. While the growth of the CPI goes down from 11.5 percent to 7.8 percent, and the PPI goes down from an annual rate of increase of 9.3 percent to 7.9 percent, the core inflation rate stays at about the same level throughout the period and ends up at 9.2 percent. Similarly, the present high rate of unemployment changes only slightly and is at 7.3 percent in 1984.

The loss in potential growth and production of the full Reagan program is illustrated when this simulation is compared with one based on similar tax and spending reductions but with a less restrictive monetary policy. Table 3 shows the results of such a comparison. The GNP growth rate is 3.2 percent in 1984 with the less restrictive monetary policy compared to 2.8 percent with the full Reagan program. The rate of growth of industrial production and the level of business investment are also significantly higher when the Reagan program is modified by reducing the

degree of monetary restraint. The core inflation rates are virtually the same but unemployment is slightly lower in the modified program, due to the faster growth of the economy. These differences can be seen in Table 3.

This comparison and comparisons with other simulations points to the tighter monetary policy as the explanation for the more disappointing results of the full Reagan program. President Reagan's supply-side tax and expenditure programs are intended to influence the composition of the economy by encouraging greater investment which, in turn, will lead to higher growth rates. But the exceptionally restrictive monetary policy keeps interest rates high, which discourages borrowing and investment. The rate of growth of industrial production falls from 5.7 percent in 1982 to 3.1 percent in 1984. In 1984, capital formation as a percentage of GNP is virtually the same as in 1981.

Although the savings rate increases significantly (it rises from 4.9 percent in 1981 to 7.2 percent in 1984), the growth rate for investment and industrial production remain relatively low. Housing starts increase modestly while auto sales stay about the same during the four years. The savings rate increase results from the combination of high inflation, high interest rate, and high unemployment which hold down consumption and final sales.

This simulation is not intended as a forecast or a prediction of what will happen in the next four years. It is intended only to test how specific variables, in this

case the Administration's fiscal and monetary policies, will influence the economy under certain circumstances. In order to do the analysis, it was assumed that there would be no external shocks to the economy such as a major oil price increase or supply disruption. In view of the experience of the past several years, the assumption that there will be no shocks is probably unrealistic. Any major shock would undoubtedly worsen the picture presented here. There was also no attempt to assess the psychological consequences of high and rising Federal deficits. In the recent past the Government's failure to bring deficit spending under control has had serious and unpleasant effects on the bond markets and elsewhere in the economy. A public perception that deficits are rising could worsen the picture or lead to sudden changes in government policy.

One conclusion to be drawn from the simulation is that the Administration's fiscal and monetary policies are working at cross purposes. The effects of the large tax cuts exceed the revenue gains that result from economic growth. Stated another way, the economy does not grow fast enough to offset the revenue losses from the tax cuts. The highly restrictive monetary policy slows growth and offsets the stimulative effects of the tax changes.

It is interesting to note that economic policy spokesmen for the Administration are divided on the question of the relative effects of the proposed fiscal and monetary policies. In recent testimony before the Senate Finance Committee, Norman Ture, Treasury Under Secretary-designate

for Tax and Economic Affairs, and Beryl Sprinkel, Treasury Under Secretary-designate for Monetary Affairs, offered contrasting assessments. Mr. Ture said the tax cut proposals would have "a very strong expansionary impact," while Mr. Sprinkel said the tight monetary policy will cause "a slowdown in economic activity." In a sense, both are right. However, according to this analysis, the tight monetary policy overpowers the tax cuts, at least for the short term.

A second conclusion concerns inflation. The flatness of the economy contributes to a modest lowering of the CPI but core inflation stays the same. This is because the core rate of inflation, composed mostly of labor and capital costs, moves much more slowly than the CPI, which contains more volatile components. The core rate typically changes only after a significant lag following changes in the CPI. To bring about a reduction in core inflation over the short term, measures would be necessary to slow down the wage spiral, rising capital costs, or both.

Table 1. EFFECTS OF REAGAN FISCAL AND MONETARY POLICIES - 1981-1984

	Years			
	1981	1982	1983	1984
GNP and Its Components Billions of Dollars - SAAR				
Total Consumption	1894.9	2119.2	2356.2	2615.3
Nonres. Fixed Investment	320.1	363.9	409.1	460.3
Res. Fixed Investment	113.9	149.4	168.9	190.5
Inventory Investment	-3.9	13.0	31.6	29.0
Net Exports	17.8	14.3	16.6	13.7
Federal Purchases	226.4	257.6	286.2	324.8
State and Local Govt. Purchases	367.1	403.8	443.1	490.1
Gross National Product	2936.3	3321.1	3711.7	4123.7
Real GNP (1972 Dollars)	1503.6	1549.4	1594.6	1639.9
Prices and Wages - Annual Rates of Change				
Implicit Price Deflator	10.1	9.8	8.6	8.0
CPI - All Urban Consumers	11.5	10.1	8.6	7.8
Producer Price Index - Finished Goods	9.3	10.5	8.8	7.9
Compensation per Hour	10.5	10.0	10.0	9.7
Core Inflation	9.1	9.0	9.2	9.2
Production and Other Key Measures				
Industrial Production (1967=1.000)	1.544	1.632	1.678	1.730
Annual Rate of Change	5.0	5.7	2.8	3.1
Housing Starts (Mil. Units)	1.432	1.799	1.708	1.875
Retail Unit Car Sales (Mil. Units)	9.6	10.4	10.1	10.2
Unemployment Rate (%)	7.4	7.0	7.2	7.3
Federal Budget Surplus (NIA)	-60.5	-58.3	-80.6	-111.5
Money and Interest Rates				
Money Supply (M-1B)	438.7	462.0	485.1	507.0
Annual Rate of Change	6.2	5.3	5.0	4.5
New AA Corp. Utility Rate (%)	13.10	13.42	12.76	12.36
New High-Grade Corp. Bond Rate (%)	12.72	12.91	12.20	11.82
Federal Funds Rate (%)	14.24	17.01	15.92	18.47
Prime Rate (%)	15.28	16.49	16.02	15.87
Incomes - Billions of Dollars				
Personal Income	2420.2	2715.3	3018.2	3347.5
Real Disposable Income (%Ch)	1.8	3.7	3.7	3.0
Saving Rate (%)	4.9	6.1	7.2	7.2
Profits Before Tax	262.8	291.4	305.0	302.8
Profits After Tax	175.5	194.1	204.9	206.0
Four-Qtr. Percent Change	6.9	10.6	5.6	0.5
Composition of Real GNP - Annual Rates of Change				
Gross National Product	1.5	3.0	2.9	2.8
Final Sales	1.5	2.6	2.5	3.0
Total Consumption	2.7	2.3	2.6	3.0
Nonres. Fixed Investment	-0.2	3.5	3.6	4.6
Equipment	0.0	3.3	3.7	4.7
Nonres. Construction	-0.8	3.9	3.3	4.3
Res. Fixed Investment	-0.2	15.9	2.7	3.3
Exports	-1.2	4.5	5.0	3.8
Imports	1.9	6.6	4.5	6.0
Federal Government	1.3	3.4	1.6	3.9
State and Local Governments	-0.3	0.0	0.4	1.8

TABLE 2

EFFECTS ON FEDERAL RECEIPTS AND EXPENDITURES, 1981-1984

	Years			
	1981	1982	1983	1984
Federal Government Receipts.....	622.8	684.7	730.4	794.2
Annual Rate of Change.....	15.4	9.9	6.7	8.7
Personal Tax and Nontax Receipts.....	283.8	295.2	300.4	329.1
Corporate Profits Tax Accruals.....	71.8	79.6	82.0	78.8
Indirect Bus. Tax and Nontax Accruals....	61.8	79.1	85.4	94.2
"Windfall Profits" Tax Revenues.....	29.9	41.9	44.3	49.5
Gasoline Tax Revenues.....	3.9	3.8	3.8	3.7
Contributions for Social Insurance.....	205.4	230.9	262.5	292.1
Receipts as a % of GNP.....	21.2	20.6	19.7	19.3
Federal Government Expenditures.....	683.4	743.0	811.0	905.7
Annual Rate of Change.....	13.6	8.7	9.1	11.7
Purchases of Goods and Services.....	226.4	257.6	286.2	324.8
National Defense.....	156.8	181.7	209.5	242.0
Other.....	69.6	76.0	76.6	82.8
Transfer Payments.....	287.0	317.8	351.4	385.1
to Persons.....	282.2	312.5	346.0	379.3
to Foreigners (Net).....	4.7	5.3	5.4	5.8
Grants-in-Aid to State and Local Governments.....	87.9	83.5	82.2	91.4
Net Interest Paid.....	69.7	80.5	90.0	104.8
Subsidies less Current Surplus of Government Enterprises.....	12.3	3.5	0.4	-0.4
Wage Accruals less Disbursements.....	0.0	0.0	0.0	0.0
Expenditures as a % of GNP.....	23.3	22.4	21.8	22.0
National Income and Product Accounts Surplus or Deficit (-).....	-60.5	-58.3	-80.6	-111.5
Unified Budget (Quarters - NSAQR, Fiscal Years - AR)				
Receipts.....	593.0	663.8	713.2	764.5
Outlays.....	661.7	722.3	785.0	874.0
Surplus of Deficit (-).....	-68.7	-58.5	-71.8	-109.6

TABLE 3

COMPARISON OF FULL REAGAN PROGRAM AND
MODIFIED REAGAN PROGRAM, 1984

	GNP	Core Inflation	Unemployment
Full Reagan Program	2.8	9.2	7.3
Modified Reagan Program	3.2	9.3	7.1

NOTE OF REAGANPOL032481 March 24, 1981

REAGANPOL032481 is an alternative simulation based on CONTROL022481 but with the assumed tax and expenditure policy changes proposed by President Reagan in his March 10, 1981 budget revisions. The unified budget totals in the REAGANPOL032481 simulation are compared to Reagan's calculations in the following table.

	FISCAL 1981			FISCAL 1982		
	REAGAN	DRI	DIFF.	REAGAN	DRI	DIFF.
RECEIPTS	600.3	598.2	- 2.1	650.3	662.5	12.2
OUTLAYS	655.2	655.8	0.6	695.3	695.1	- 0.2
DEFICIT	-54.9	-57.6	- 2.7	-45.0	-32.6	-12.4
ADDENDUM:						
NOPOLICY BASELINE						
RECEIPTS	609.0	606.0	- 3.0	701.6	703.2	1.6
OUTLAYS	659.8	659.3	- 0.5	736.5	731.7	- 4.8

	REAGAN	DRI	DIFF.
RECEIPTS	709.1	711.6	2.5
OUTLAYS	732.0	729.1	- 2.9
DEFICIT	-22.9	-17.6	- 5.3
ADDENDUM:			
NOPOLICY BASELINE			
RECEIPTS	806.3	785.7	-20.6
OUTLAYS	806.5	798.3	- 8.2

The estimates differ due to different economic assumptions and assumptions concerning the outlay base to be cut. In fiscal 1983, for example, nopolicy outlays differ by $8.2 billion.

The expenditure changes from NOPOLICY032481 are detailed in the following table. The distribution was constructed by translating the specific changes in Reagan's proposal into National Income and Product Account categories.

NOTE OF REAGANPOL032481 March 24, 1981

	FISCAL 1981	FISCAL 1982	FISCAL 1983
DEFENSE PURCHASES (GFML)	2.8	11.0	24.9
TOTAL REDUCTIONS	-6.4	-48.6	-97.0
NONDEFENSE PURCHASES (GFO)	-1.9	-11.1	-24.5
TRANSFERS TO PERSONS (&VGF@PER)	-1.3	-16.3	-31.4
GRANTS-IN-AID (VAIDGF@SL)	-1.2	-10.4	-16.1
NETSUBSIDIES (SUB@SRPGF)	-0.2	- 3.6	- 7.3
LOANS (GEXPFUNDIADJ)	-1.8	- 7.2	-17.7

Other affected variables include DODPCAUS AND PAYGFEXO. Prime defense contracts (DODPCAUS) are up consistent with higher defense purchases. Pay increases (PAYGFEXO), will be lower, consistent with the desire to reduce civilian spending.

The tax changes in REAGAN032481 consist of:

. A 10% reduction in personal tax rates beginning on July 1, with an additional 5% cut on January 1, 1982 and a 10% cut on January 1, 1983. The final 5% cut to meet the Kemp-Roth goal of a 30% reduction in tax rates is made on January 1, 1984. The static revenue losses are $15 billion in 1981, $50 billion in 1982, and $91 billion in 1983.

. An investment tax incentive package retroactive to January 1, 1981, is similar to the Jones-Conable (10-5-3) proposal. The average effective lifetimes of equipment and structures are reduced to 4.65 years and 13.4 years respectively by 1986. The changes are phased in smoothly from current law levels. The static revenue losses are $1 billion in 1981, $2 billion in 1982, and $9 billion in 1983.

. An increase in the effective investment tax credit for equipment to 9.1% beginning in 1981:1. The static revenue loss is $1 billion in all three years.

To reconstruct the changes made, execute the following commands in the MODEL program.

```
LOAD REAGANPOL032481
CMP NOPOLICY032481, DELTAICNR1, DELTAICNR2, DELTAICNR3, DELTAIPDENR1,
DELTAIPDENR2, DELTAIPDENR3, DODPCAUS, GEXPFUNIADJ, GFMLEXO, GFOEXO,
ICNRLIFETIME, IPDENRLIFETIME, PAYGFEXO, &RTPGF, SUB@SRPGF,
VAIDGF@SLEXO, &VGF@PER.
```

EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL OF ECONOMIC ADVISERS
WASHINGTON, D.C. 20506

April 1, 1981

MEMORANDUM FOR: Jim Burnham

FROM: Steve Brooks

SUBJECT: Whittaker Letter

This is a belated memo discussing the letter from Bob Whittaker on the EDA/ITA Export Trade Program.

I am not familiar with the program details or the proposed budget cuts. Nevertheless I found the comments by Harold E. Wills (in his attached letter) somewhat unpersuasive. As I understand it, nine local offices have been established which collect information on export sales. Some office-to-office referral activity was also noted in the Wills letter.

The fact that an export sale took place in which a local EDA office had some role does not imply that the EDA office was responsible for the sale. The examples cited in the Wills letter were all cases of international buyers contacting local EDA offices within the U.S. These offices apparently provided information and guidance directing buyers to local merchants.

It seems implausible that a potential foreign buyer who had the initiative to contact a local EDA office (indeed one in southeast Kansas), would not have sought other sources of information had the EDA office not existed. And that is the issue: Would these sales have taken place without the EDA Trade office? The Wills letter simply asserted that the answer was no. He presented no compelling evidence.

A more effective (and expensive) effort would concentrate sales activity abroad not here. But this is certainly not the desire of the Administration. This would merely duplicate sales activity which is the proper role of the private sector.

EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL OF ECONOMIC ADVISERS
WASHINGTON, D.C. 20506

April 24, 1981

MEMORANDUM FOR: Murray L. Weidenbaum
Jim Smith
Jerry Jordan

FROM: Stephen Brooks

SUBJECT: Measurement of Prospective Shifts in the Demand for Money

It has already become clear from the earliest T-3 exercises that the forecasts from the individual models are very heavily influenced by the assumed shifts in the demand for money. (This holds for all models, but it is especially true for the "Keynesian cluster" of models). Table 1 gives a sense of the problem. It shows the 1982 four-quarter growth rates in velocity, and the level and change of the Treasury bill rate under the various simulations done for the recent T-3 exercise. The velocity growth rates and interest rate levels are simply all over the map. In some cases a huge gain in velocity is associated with a big increase in the T-bill in some cases a decline.

The logic of the T-3 model exercise was to standardize assumptions across the various models as much as was feasible. But here we have a case where a very critical assumption -- the relationship among nominal demands, the money supply, and interest rates -- was virtually ignored.

While it may never be possible to get full agreement on how much the demand for money will shift, it would be useful to try to quantify the assumed shift that is embodied in each of the forecasts. Without a rough idea of this, the model results are very difficult to compare.

We, of course, know the financial-sector add-factors (that is, the equation's constant adjustments) that were used in each simulation, but for two reasons this information alone is insufficient to quantify the size of the assumed shift. First, the adjustments embody more than just shifts

in the demand for money: the equations may be performing badly on the historical data and may need adjustment for "drift"; the nationwide introduction of NOWs requires special adjustments to capture the reallocation among asset types. Each financial-sector's add-factors thus consists of some part drift adjustment, some part adjustment for institutional changes, and some part assumed shifts in the demand for money. Disentangling the pieces is very difficult.

Second, the structures of the financial sectors of the models differ considerably. In some models the shift would be captured as adjustments to several key short-term interest rates, in others as adjustments to the monetary aggregates themselves. Therefore, even if we knew how much of each add-factor was used to capture shifts, standardizing the results across models in a meaningful way would be impossible.

I propose the following simple solution. First we adopt a consensus money demand equation explaining M1-B. The key determinants would, for simplicity, be limited to nominal demands and a short-term interest rates. The equation would be estimated through 1980. This equation (with adjustments for the nationwide introduction of NOWs) would be used to forecast a consensus "no-shift" level of money demand over the forecast horizon using, on the left-hand side, the interest rate and income variables from each models simulation. This no-shift money demand for each models forecast would then be compared with the actual money demand to get a rough idea of the magnitude of the shift.

I have begun discussing this with the relevant macro jockeys. A technical discussion and some first estimates will be forthcoming soon. Comments please.

cc BN, JB, AW, DM, MM, DR

	Chase	Citibank	Claremont	DRI	Evans	Harris	MPS	Wharton
1982 QIV level, 3-month T-bills	11.3	9.6	7.6	13.5	9.7	n.a.	16.2	13.4
Change in 3-month T-bill rate, 1981QIV-1982QIV	-1.3	-4.7	-6.0	+0.8	+0.3	n.a.	-0.4	-0.5
% change in Velocity of M-1B, 1981QIV-1982QIV*	+6.9	+4.0	+1.4	+4.9	+6.3	+3.5	+4.6	+5.9

* Approximate.

Agenda For Discussion of Key Assumptions

1. Budget Outlays

The attached table details budget estimates from the January budget. They were extended by OMB through 1983.

2. Tax Assumption

Carter tax policy is assumed throughout. The pieces are these:

A. The "constant rate depreciation" consisting of corporate tax cuts of $6 billion in 1981, $12 billion in 1982, and $16 billion in 1983. Tax lives for equipment and structures (if available) should be reduced approximately 20 percent starting in the first quarter of 1981.

The revenue loss can be either captured by lowering corporate taxes or by increasing book depreciation by an appropriate amount.

B. The ITC should be raised by approximately one percentage point in the first quarter of 1981 to capture the changes embodied in the Carter program.

C. The payroll tax credit consists of $7 billion for corporations and $7 billion for individuals, starting in the first quarter of 1982. The value of these tax credits should grow by approximately 9-10 percent a year. The corporate piece should be captured as a reduction in profit taxes not as a reduction in payroll taxes. Similarly the personal portion should lower personal tax liabilities not personal social insurance contribution.

3. Monetary Policy

The upper ends of the target ranges are assumed throughout. These are as follows:

	1981		1982	1983
	W/NOWS	W/O NOWS		
M-1A	-4 1/2 to -2	3 to 5 1/2	5	4 1/2
M-1B	6 to 8 1/2	3 1/2 to 6	5 1/2	5
M2	6 to 9	6 to 9	8 1/2	8
M3	6 1/2 to 9 1/2	6 1/2 to 9 1/2	9	8 1/2

Note that if the model propritors' base solution already emobodies NOW accounts then the relevant upper limit for MIA in 1981 would be -2 percent; for M-1B, 8 1/2 percent. If NOWs are not specifically captured then the unadjusted upper limits should be used (5 1/2 percent for M/A and 6 percent for M1B). For the years 1982-1983 the unadjusted totals should be targeted.

4. Farm and energy prices

Farm and energy prices should be roughly constant in real terms.

4/14/81

FEDERAL EXPENDITURES, NIA BASIS, QUARTERLY

	1981:1	1981:2	1981:3	1981:4	1982:1	1982:2	1982:3	1982:4	1983:1	1983:2	1983:3	1983:4
PURCHASES OF GOODS AND SERVICES	215.1	220.6	226.0	238.1	245.7	252.3	258.6	273.9	282.1	289.4	296.2	306.5
DEFENSE	146.2	149.6	153.3	161.2	165.4	169.6	173.8	185.3	191.6	196.9	202.2	210.0
NON-DEFENSE	68.9	71.0	72.7	76.9	80.3	82.7	84.8	88.6	90.5	92.5	94.0	96.5
TRANSFER PAYMENTS	276.1	281.4	300.0	301.7	307.1	313.7	333.0	335.5	342.6	349.6	366.2	372.7
DOMESTIC	271.4	276.7	295.3	296.8	301.9	308.4	327.6	330.0	337.0	344.0	360.6	367.0
FOREIGN	4.7	4.7	4.7	4.9	5.2	5.3	5.4	5.5	5.6	5.6	5.6	5.7
GRANTS-IN-AID	88.6	90.5	93.2	93.7	94.4	95.2	95.1	100.0	104.0	107.0	109.0	111.0
NET INTEREST	65.9	73.0	75.0	75.1	75.1	75.1	75.1	74.4	73.4	72.0	71.4	71.3
SUBSIDIES	13.6	12.2	14.2	14.4	14.2	13.8	13.6	13.8	14.0	14.2	14.4	14.7
TOTAL	659.3	677.7	708.4	723.0	736.5	750.1	775.4	797.6	816.1	832.2	857.2	876.2

?