Colby CEO

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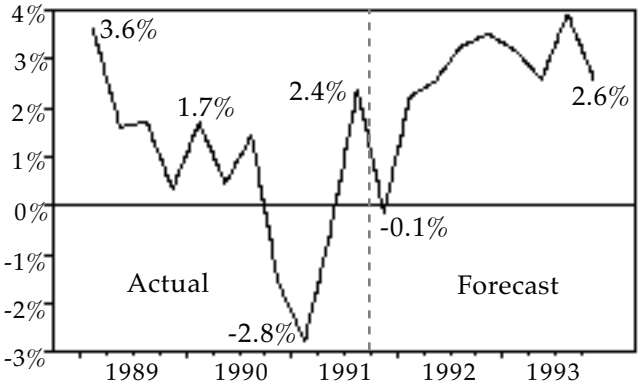
Three Years Old!

With this issue the *Colby Economic Outlook* celebrates its third anniversary of providing an assessment of current economic conditions and forecasts of economic indicators for the U.S. and Maine economies. The *CEO* represents the final product of work by the students of Economics 493, an annual Senior Seminar in Economic Forecasting under the direction of Michael Donihue, Assistant Professor of Economics at Colby College. In this issue of the *CEO* we take a look at a national economy struggling to recover from a recession and a Maine economy that seems to be "trollin' bottom." The forecasts presented in the *CEO* are based on results from the Colby Quarterly Econometric Model of the U.S. Economy (CQEM), a small macroeconometric model constructed and maintained as part of the ongoing activities of this seminar. This year's seminar nearly doubled the number of equations in the model and some of the new features of the model are highlighted in this report. Also included is a special report which looks at Gross Domestic Product as the "new" indicator of macroeconomic performance.

Annual Rate of Growth of Real GNP



1991: The Year of the Double Dip?

The current quarter may not qualify as a true "double dip" recession, but it's clear that the recovery has been put on hold. We are forecasting virtually no growth in real GNP in the current quarter following a reported 2.4% increase in the third quarter of 1991. Indeed earlier this summer the *CEO* announced that the recession was over and that we would see sustained, albeit sluggish, economic growth into 1993. The trough of the recession of 1990 - 91 came in the first quarter of this year with real output declining at an annual rate of 2.8%. As we stated a year ago, this recession seems to have been brought on, at least in part, by a collapse in consumer confidence. Consumer spending fueled much of the economic growth, averaging over 3% annually, during the last half of the 1980's. As early as 1989 some of the fuel in the engine started to burn out. When Iraq invaded Kuwait and oil prices temporarily jumped, that was all the excuse consumers needed to retrench and take a look at the debt they had accumulated during the 1980s. The war in the Persian Gulf may have given a brief boost to the patriotic

Inside The *CEO*

Co-Authors

Assistant Professor Michael Donihue

Paul Argiro, Mark Lombard, Kristen Russo
Derek Bettencourt, Brian Mulvey, Katherine Smith
Jill Collett, Jennifer Nehro, Ryan Strowger
Andrew Eldredge, Kristin Nixon, Stephen Vidic
Walker Fenton, Michele Rowell, Calbraith Wheaton
Brian Wiercinski, Aaron Zeisler

spirit of the nation but consumers remained pessimistic about the economy throughout 1991 and today most indices of consumer confidence stand at their lowest levels since the recession of 1981-82 when unemployment was almost 4 percentage points higher than it is today.

As this issue of the *CEO* goes to press, the Federal Reserve has announced a dramatic reduction in two key interest rates. The discount rate, at 3.5%, is now half what it was a year ago. This is the rate the Fed charges for loans it makes to member banks in trouble. The last time the discount rate was this low was the month Lyndon Johnson was elected President (November 1964)! And by setting the target for the Fed Funds rate at 4%, the Federal Reserve is pursuing a level not seen in nearly two decades. A lower Fed Funds rate makes it cheaper for banks to borrow from each other. These moves clearly indicate that the Fed views the economy at risk of a prolonged recession.

While the actions today by the Fed are not explicitly incorporated in the forecasts presented here, our current outlook is consistent with what we can reasonably expect to happen as a result of the Fed's actions. Lower interest rates should stimulate investment which will lead to growth in aggregate output. Lower interest rates will also reduced the demand for foreign investment in this country which should put downward pressure on the exchange value of the dollar. This means that imports will become more expensive and export demand should rise thereby improving the overall balance of trade. Expansionary monetary policy also comes at the cost of rising prices however, and we don't think that the Fed will allow the discount rate to stay this low for very long. Indeed these actions seem designed more to rejuvenate confidence in the economy, and offset the recent announcements by IBM and GM, than to provide any sort of "shock therapy" since we are only just beginning to see the results of expansionary policies the Fed has been pursuing for the past 12 months and are unlikely to realize the full impact of today's reductions for several months to come. This, coupled with the evidence presented on page 3 that our recent track record indicates that the *CEO* is somewhat optimistic anyway, leads us to the conclusion that the Fed's actions today are probably temporary in nature and the outlook presented here remains our best prediction of the future.

Forecast Summary: A False Start...

...at least that's what the reported growth of 2.4% in real GNP last quarter now appears to have been. Most economists now mark the first month of the recession as July 1990. By October the signs that the economy was slowing down became clear to the Fed and the Fed Funds rate began to fall, but it wasn't until December that the Fed first lowered the discount rate. The market for new housing began deteriorating as early as January 1990 and housing starts today remain below their levels of September 1990. And yet the unemployment rate has risen by only one and one-half percentage points since the recession began. So why all the talk about tax cuts in Washington, and rumors that the Fed will soon reduce interest rates again?

One reason is certainly election-year politics --- at least on the fiscal policy side. More importantly however, is the apparent collapse in consumer and business confidence in the economy. The recent announcements of massive layoffs by IBM and the plant closings forthcoming at General Motors only add to the malaise. Thus the apparent feeling in Washington is that recent speculation of a double-dip recession is likely to become a self-fulfilling prophesy. Consumers and firms, by retrenching and forgoing purchases are bringing on the hard times they sought to avoid in the first place.

Our view however, is that further stimulus by either the Fed or Congress is both unwarranted and ill advised. Any action which would increase the Federal budget deficit any further will do more long term damage to the prospects for economic growth in this country than to justify the relatively meager short-term gains. And by the time it was put in place, chances are the recovery would already be under way. It is possible that the Fed could do more to help instill confidence in the economy, but until banks start passing along the benefits of the Fed's actions of the past 12 months, there will be no recovery.

We believe the recovery is indeed underway and that the lack of growth in the current quarter is just a short-term set back. Growth will not be robust but it should be sustainable into 1993. We predict that real GNP will grow by just under 2% in 1992 and by 3.2% in 1993. Consumers are unlikely to return to their spending ways of the 1980's so the majority of this growth will be fueled by the response of firms to lower interest rates and in expenditures on consumer durables. Foreign interest rates are forecast to decline only slightly during 1992 before returning to their current levels by the end of 1993. The trade deficit should narrow slightly, thanks to a dollar which will lose 4.3% in value in 1992 and an additional 3.6% in 1993. Auto sales should stop their downward slide early in 1992 but not show any significant growth before 1993. Mortgage rates are predicted to fall by just over a full percentage point over the forecast horizon which should help support a recovery in housing starts. Refinancing will also add money to the pockets of consumers and should help bolster consumer spending. Unemployment should not rise much above it's current levels and fall throughout the forecast horizon as the recovery takes hold. We are predicting an increase in the rate of inflation of at least a full percentage point during the next 8 quarters.

Forecast Accuracy: 90QIV - 91QIII

One of the most important jobs of any forecaster is to evaluate the accuracy of your forecasts after the fact, i.e., once the actual data corresponding to your forecast horizon becomes available. We now turn to an assessment of the forecasts made by the *CEO* last December.

December 1990 represented the fourth month of the Iraqi occupation of Kuwait. The forecasts published in last year's *CEO* were based on the belief that there would be a negotiated settlement to the Persian Gulf crisis sometime in the first quarter of 1991. Just in case, the *CEO* also included an alternative forecast simulating the impact on the economy of a brief but bloody war. According to the war scenario, the conflict would last two months, oil prices would temporarily jump to $65 per barrel, and Kuwait would sustain only moderate damage to its oil fields.

Such is the business of forecasting. The U.S. indeed went to war with Iraq. It was brief, just 100 hours, and bloody, but only for the Iraqi's. Thanks to a glut of world oil and the effectiveness of the U.S. troops, oil prices never approached the $65 per barrel level, despite very heavy damage to Kuwaiti oil fields. To some extent the *CEO* was correct in that the war had little effect on economic performance in this country.

The table at the top of the next column provides an overview of how the "negotiated settlement" scenario performed given the actual data as we now know it. The mean error statistics represent an estimate of the bias of the forecast and the root mean squared error (RMSE) statistics give an estimate of the precision of the forecast. Due to historical data revisions, forecast errors for some of the variables were computed on a quarterly change basis.

The average error for changes in real GNP over the four quarters 1990QIV - 1991QIII was $17.6 billion (1982 dollars) indicating that the *CEO* was somewhat optimistic about the first half of 1991. That's quite good considering that the *CEO* was forecasting a turning point in the business cycle at that time. The biggest errors came in the area of personal consumption expenditures, as consumer sentiment was forecast to improve during the first half of 1991, and investment, as firms were expected to respond to the stimulative actions just then underway by the Fed. Forecasts of inflation and interest rates were very near the mark while the *CEO* underestimated the amount of unemployment which would occur. The dollar did not depreciate as much as the *CEO* predicted it would, due in part to the Persian Gulf War as investors sought a safe haven in the dollar. Finally, the *CEO* significantly over predicted the stimulative effects of the Fed as the rate of growth of M2 actually declined in 91QIII by .5% rather than increasing at an annual rate of 5.7% as originally forecast by the *CEO*.

Variable	Units	Mean Error	RMSE
Gross National Product*	(Bil '82 $s)	17.6	19.2
Pers Consumption Exp*	(Bil '82 $s)	6.4	16.5
Nondurable Goods*	(Bil '82 $s)	5.7	10.0
Durable Goods*	(Bil '82 $s)	2.3	6.2
Services*	(Bil '82 $s)	-1.7	2.6
Fixed Investment*	(Bil '82 $s)	5.7	16.1
Nonresidential*	(Bil '82 $s)	-0.1	10.6
Residential*	(Bil '82 $s)	5.8	8.6
Government Purchases*	(Bil '82 $s)	0.2	12.6
Net Exports*	(Bil '82 $s)	2.5	28.1
Exports*	(Bil '82 $s)	1.5	10.3
Imports*	(Bil '82 $s)	-1.0	20.2
Disposable Income*	(Bil '82 $s)	4.1	12.0
Civ Unemployment Rate	(%)	-0.5	0.6
CPI Inflation	(%,A.R.)	0.2	1.8
3 Month T-Bill Rate	(%)	0.4	0.5
Fed Funds Rate	(%)	0.6	0.8
Aaa Corporate Bond Rate	(%)	0.1	0.1
Exchange Value of the $	(3/73=100)	-8.3	10.3
Money Supply: M2	(Bil $s)	46.8	54.6

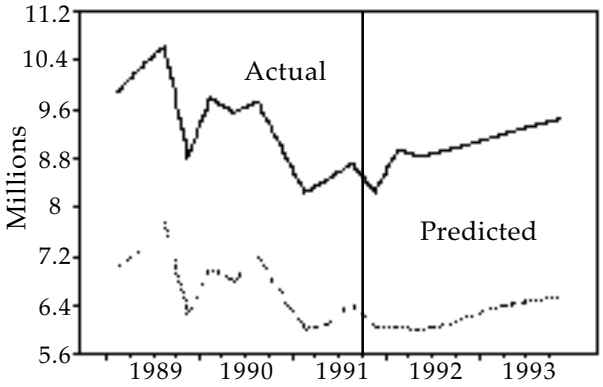
**Errors computed from quarterly changes*

New Features of the Colby Model

The Colby Quarterly Econometric Model of the U.S. Economy is a simplified model of real gross national product and its major components. This semester, all of the equations in the previous version of the model were updated and 22 new behavioral equations were added bringing the total to 43. Of the 76 variables in the model, 15 are exogenously determined.

The CQEM contains equations which model personal consumption expenditures of durables, nondurables, and services; and inflation as measured by the consumer price index, implicit price deflators for the three areas of personal consumption expenditures, and the GNP deflator. There are also equations for predicting gasoline prices, automobile sales and housing starts. The labor sector of the model predicts the unemployment rate, the female labor force participation rate, wage rates, and output per hour. Consumer sentiment is now modeled explicitly, as are various measures of expenditures and employment in the health care industry. Also new are equations for real and nominal government purchases. The monetary sector of the model includes six interest rate equations and two equations for the money supply. Real imports, import and export price deflators, and the exchange rate are each modeled separately and make up the foreign sector of the model.

New Automobile Sales



In 1991, the automobile industry has seen some of the worst sales of the past several years. This autumn, both Ford Motor Co. and General Motor Corp. announced plant closings and layoffs in light of a receding North American sales market. Even Japanese auto makers, who have been traditionally unaffected by poor U.S. sales, have had some of the worst loses in the past decade -- reporting quarterly sales declines of between 5.0% and 8.6% over the second quarter of 1990 to the first quarter of 1991. Our forecast indicates that total new automobile sales will continue to see a decline from the 1991QIII seasonally-adjusted level of 8.73 million autos, to a fourth quarter level of 8.26 million. However, sales should show a significant improvement in the first quarter of next year to a level of 8.95 million autos and continue to grow at a moderate 0.8% to 1.4% quarterly rate. Domestic auto makers will continue to see poor sales half way into next year, primarily a result of weak growth in consumer spending and confidence, in addition to declines in outstanding credit this past year. But after the second quarter of next year, domestic auto makers can expect much better sales increases -- 1.2% to 2.0% per quarter, largely due to current efforts to increase the availability of credit and to stimulate spending. Foreign auto makers, on the other hand, can expect their import share to remain stable in 1992 and 1993, fluctuating between sales of 2.8 and 2.9 million autos per quarter.

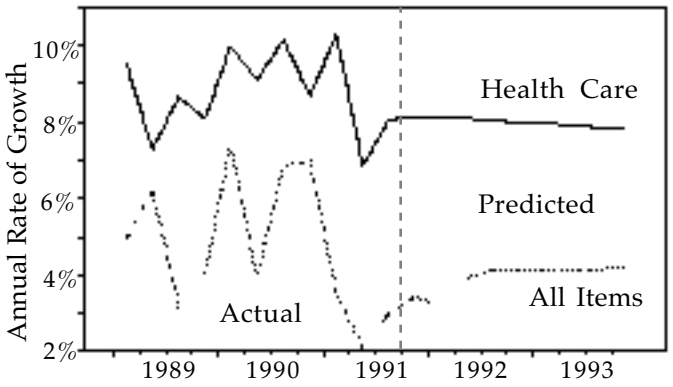
Health Care

One of the most import issues for the 1990s will undoubtedly be health care. Already destined to be a major political issue in 1992, cries for some sort of reform in the health insurance industry can be heard from both firms and labor. Whether that reform results in a national health insurance policy or simply increased regulation will be the subject of intensive debate in the coming months. With the issue of the *CEO*, we begin building a health care sector into the CQEM.

Personal consumption expenditures on medical care services accounted for 7.2% of total after-tax income in 1970. In 1991, we predict that 11% of disposable personal income in this country will have been spent on health care. Our forecast is for personal consumption expenditures on health services to grow by 10.5% in 1992, and by 7.6% in 1992.

There were 3.8 million health service employees in 1974. In 1991, a recession year, we are estimating that there were over 8.2 million workers in this industry. We are predicting continued growth of 4.2% in 1992 and an additional 184 thousand jobs in 1993.

CPI Inflation



The cost of health care in this country has historically risen at a rate two to five percentage points above the general price level. We are predicting that this gap will persist, but narrow slightly in 1992 and 1993, with health care costs rising at an average annual rate of 8% throughout the forecast horizon.

Labor & Productivity

Since the last recession in this country in 1982, the civilian unemployment rate had been steadily falling. In the first month of 1990 the unemployment rate stood at a seasonally adjusted level of 5.3%. By the end of the year, unemployment had jumped a full percentage point. For the last eight months the rate has been hovering near its current level of 6.8%. Our forecast calls for the unemployment rate to remain near this level into the summer of 1992 when we begin to see some improvement as the unemployment rate falls to 6.4% by the end of the year and then continuing to fall as the recovery takes hold ending 1993 at 5.8% --- still above it's pre-recession levels of early 1990.

The female labor force participation rate has shown steady upward growth since the late 1940's, although it does exhibit cyclical changes with the business cycle. The rate has slowed with the current recession beginning in 1989, where it remained constant at around 57% until last month. We are predicting that by the end of 1993 the female labor force participation rate will rise to 57.8%.

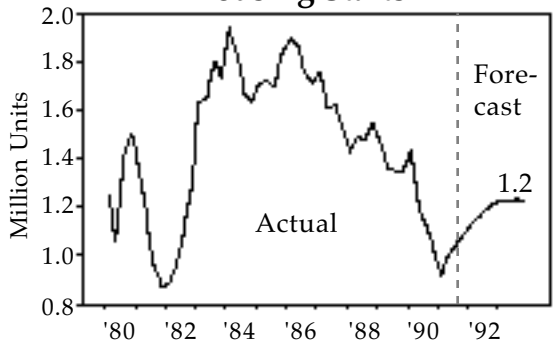
Productivity gains, measured by the rate of growth of output per hour in the nonfarm business sector, was

approximately 1% for the decade of the 1980's. This is smaller than the growth rate in previous decades and has been a source of concern among economists and policy makers during recent years. We are predicting that this slow growth in productivity will continue as the economy recovers, rising by 1.5% next year and by 1.1% in 1993.

Investment & Housing Starts

Investment spending has been slow in responding to the expansionary policy actions the Fed has been pursuing for the last 12 months. Banks say that businesses are being cautious about investing in new plant and equipment due to the slowdown in consumer spending. Businesses complain of a credit crunch as banks become more selective in deciding who gets loans and at what rates. Our forecast is that the credit crunch will end soon and total investment in 1992 will help lead the economy out of the recovery, increasing by 6.3% over 1991 and by an additional 7.4% in 1993. Residential investment will contribute to most of this gain, increasing by just under 6% next year, and by 4% in 1993. Nonresidential investment will show only a moderate increase next year, posting a gain of 1.14% over 1991, but should grow by 3.5% in 1993.

Housing Starts

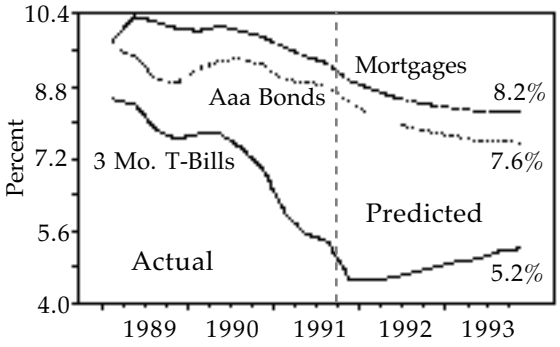


New housing typically helps stimulate consumer spending and fuels a recovery following a downturn in the business cycle. Not this time. The bottom fell out of the market for new houses beginning in early 1990. While the first quarter of this year saw the market hit bottom, it was above the low reached at the end of 1981 when the economy was last in a recession. According to our forecast however, 1991 will go on record as the worst year for housing starts since WWII.

Monetary Policy: What's the Matter With M2 ?

With Congress and the Administration hamstrung by a federal deficit that won't go away, the Fed has taken it upon itself to guide the economy through the current recession. Ever mindful of the threat of over stimulating and causing inflation, the Fed began taking cautious, "baby steps" in the fall of 1990. Since then the Fed has been chipping away at the discount rate and the Fed Funds rate in an attempt to get banks to make credit more readily available to business and individuals. With rumors of further actions in the offering, we are forecasting (just as we did a year ago) that the Fed actions will [finally] take hold and businesses will respond.

Selected Interest Rates



This year's edition of the CQEM includes three new interest rate forecasts, one for 30 year T-Bills, one for home mortgages and another for foreign interest rates. We are predicting that next year will see all rates fall to levels lower than any seen during the 1980's. Long term rates should decline throughout the forecast horizon, while short term rates are predicted to turn up slightly in 1993.

One thing that has troubled observers of the economy is the weakness of M2, the Federal Reserve's key monetary aggregate. Consisting of M1, small time and savings deposits, some overnight bank liabilities, and most money market mutual fund shares, M2 experienced negative growth for the first time in 33 years of the current series. M2 grew at negative 0.5% in 1991QIII even though the Fed has made attempts at boosting the monetary aggregate. The question remains, with all the Fed's intervention, why did M2 fail to respond positively?

A good reason for this sluggish growth in M2 may be related to the so-called credit crunch. Large banks, in their attempt to down-size, are trying to unload their assets which includes: refusing to renew maturing loans; demanding repayment of existing loans; and selling assets to the non-bank public. But when a bank decides to down-size, they must also shed deposits as well as assets. When consumers see low deposit rates, higher service fees, and the like, they invest their money in the stock market and other non-bank activities, funds which are not included in M2. Also, because of the banks' new capital requirements (a result of the savings and loan catastrophe) credit-worthy firms are having trouble obtaining funds in this current banking environment. M2 is not growing at the Federal Reserve's expected level of approximately 2.5%. Sluggish M2 growth, activity

below GNP growth, could result in higher unemployment. Should we be concerned? That depends.

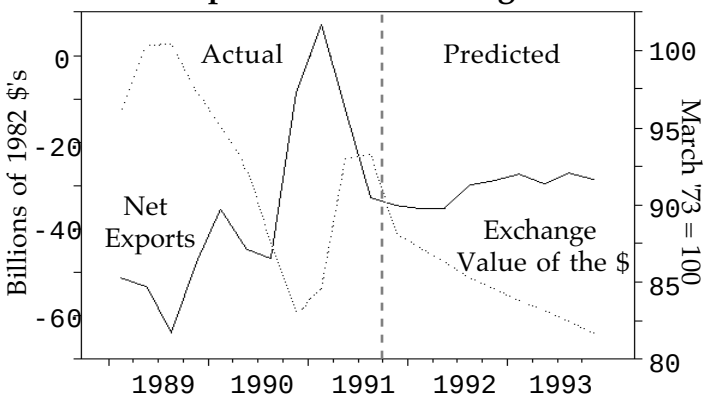
Some say M2 is not an accurate gauge of economic activity. Unfortunately, broader gauges which have been suggested, like liquidity and total non-financial debt, are telling the same story as M2. Others feel that the weakness lies in the definition of M2. Although the M1 component and the small accounts portion are related to economic activity, time deposits behave differently. This is mainly because time deposits cannot be readily converted into M1 or small accounts, where they can be spent.

Whatever gauge one uses to assess Federal Reserve policy, the ultimate test is economic performance. The Fed can cut the discount rate or the federal funds rate, but it can't make banks loan or consumers spend. Possible long run problems could emerge from Federal Reserve intervention (or lack thereof). Over stimulating the economy could lead to inflation in the near future while lack of stimulation could lead to unemployment and a slower recovery. The evidence would suggest that the Fed has stimulated enough and now they must wait for the economy to catch up with their monetary policy.

The Foreign Sector

Last year the *CEO* was predicting a trade surplus by the end of 1992. It now seems clear that this won't happen due primarily to the strengthening of the dollar which occurred during 1991. More recently, the dollar has begun to slide and the recent declines in domestic interest rates relative to foreign rates should contribute to further declines during the next two years. We are predicting that the dollar will lose 4.3% of it's value on a trade-weighted basis relative to other currencies in 1992 and another 3.5% in 1993. This will lead to an improvement in the overall balance of trade, but we are forecasting a continuation of the trade deficit through 1993.

Net Exports & The Exchange Rate



Real exports are forecast to rise by about 5 and one-half percent in both 1992 and 1993. Imports will benefit from the recovery and a projected inflation rate of just over 2% next year so that 1992 will see a 7.5% rise in imports. This growth will subside in 1993 to just over 4.5% due to the continued decline in the value of the dollar and a forecasted rate of price inflationfor imports of 5.2%.

Average short-term foreign interest rates are forecast to decline by roughly 89 basis points next year, compared with a predicted 72 basis point decline in domestic rates. Oil prices should remain stable throughout the forecast horizon, rising only slightly to $20/barrel in 1993.

GDP: The "New" Economic Indicator

As the *CEO* goes to press, official government statistics are in a state of disarray, just at a time when consumers and forecast users need timely and accurate information the most. The confusion is cause by two fundamental changes in the reporting of aggregate indicators of economic activity. The first change involves a rebenchmarking for real, or inflation-adjusted, Gross National Product and its components. The second involves a redefinition of these components to focus on Gross *Domestic* Product or GDP.

The rebenchmarking is necessary in order to make the estimates of real GNP more accurate in reflecting price changes which have taken place during the past decade, particularly in the areas of computers and consumer services. Previously, real GNP was reported in terms of 1982 dollars. In the future, real GNP will be reported using 1987 as the base year. This has important implications for how we view the most recent recession. On November 11, *The Wall Street Journal* reported that, in terms of 1987 dollars, growth of real GNP in the fourth quarter of 1990 was -3.08%, compared with a previously reported rate of decline of -1.73% in terms of 1982 dollars. By more accurately adjusting for inflation, the recession now appears to have been worse than originally reported.

By focusing on GDP rather than GNP we should get a more accurate picture of economic activity within our geographic borders. GDP measures the value of all goods and services produced in the U.S. regardless of who owns the capital and labor required to produce them. GNP, on the other hand, measures the value of final output produced only by factors of production which are owned by U.S. citizens. Some factors of production located in the U.S. are owned by foreign residents (e.g., a Mazda plant in Michigan). Income earned by those factors do not go to U.S. residents and therefore are not counted in GNP. Furthermore, some U.S. citizens own factors of production that are located in other countries (e.g., an American oil worker in Venezuela) and the income they earn does not generate any U.S. production, but is counted as part of GNP. Given the growing importance of international trade and the complexity of the global market for capital GDP is not only easier to measure, but should give a more accurate picture of economic performance in the U.S.

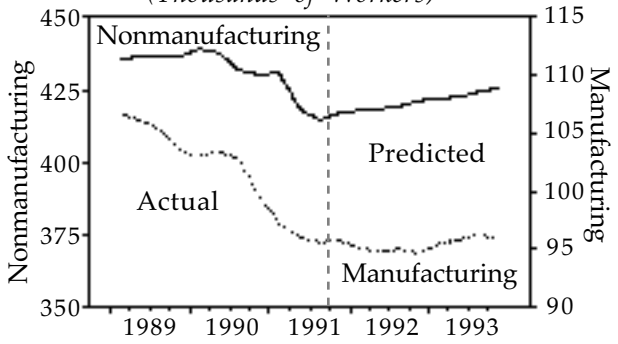
The Maine Economy: Trollin' Bottom

There's no doubt about it, Maine just like the rest of New England is experiencing hard economic times this winter. The only good news is that we seem to have hit bottom sometime in early Fall and it's now a waiting game for the recovery to begin. The bad news is, there probably won't be much of a recovery any time soon --- at least not in terms of the employment levels of the 1980's.

Total nonagricultural employment in Maine peaked in June of 1989. In fact employment remained fairly constant from the Fall of 1988 through the Spring of 1990, as the decade ended with nearly 30% more jobs in Maine than existed in 1980. The downturn in the state actually began a year before the nation as a whole officially slid into a recession. We are predicting that employment will begin to rise early in 1992, but the year as a whole will be about one-half of one percent below the total for 1991. 1993 should be the first year since 1989 to show an increase in total employment, but the gain will only be about 1%.

Nonagricultural Employment

(Thousands of Workers)



Like it or not, Maine is dependent on the economies of the other New England states and the nation as a whole. New England was lucky during the 1981-82 recession and fared much better than other parts of the nation. Unfortunately, the economy today is a lot different than it was in the 1980's. With large corporations like IBM and GM announcing major layoffs and plant closings, and paper companies in the state downsizing in order to compete more effectively, the region is undergoing a structural change which means that some of the jobs lost in this recession are likely to be gone forever.

Our model of the Maine economy consists of seven forecasting equations and relies on inputs from the CQEM. Perhaps the single most important variable in the Maine model is the index of consumer sentiment. Just as it does for the nation, this variable represents the crux of the problem with the Maine economy. To the extent firms and consumers think the economy is in bad shape, they will continue to act cautiously in their spending and investment decisions thereby bringing on the hard times they seek to avoid. The move toward downsizing both nationally and in the region, as well as the budget debates in Augusta and Washington all add to the confusion about the future course of the economy.

After actually declining at the beginning of 1991, we are forecasting that personal income in Maine should rise in 1992 and 1993, posting increases of 1.8% and 2.7%, respectively. The unemployment rate in Maine is forecast to rise by just under one-half of one percent next year before declining by an almost equal amount in 1993. Retail sales in Maine are forecast to grow by 1.5% next year followed by a 2.2% gain in 1993.

Housing permits serve as an important leading indicator of economic activity in the state. New housing permits began rising this Fall and 1992 should show a 19% increase over 1990. 1993 should show about half as much growth.

Another new variable in the Maine model this year is total tax revenues. We are predicting that revenues for Fiscal Year 1992 will equal roughly $1.3 billion. The 1993 fiscal year should be a little better, amounting to $1.35 billion.

It is important to note some important caveats regarding our forecasts for the Maine economy. The first is that the historical data are subject to large revisions. For example, the government now estimates that total employment in the third quarter of 1990 (the last historical observation of last year's *CEO*) is nearly 2% higher than originally reported last December. Overall last year's forecast of the Maine economy held up pretty well however. Total employment was off by just 1.3% for the three quarters beginning in 90QIV while last year's forecast of personal income was off by only 1.2%.

Secondly, our forecasts do not include the forthcoming closings of Loring Air Force Base, scheduled to begin in 1994. These forecasts also do not explicitly take into account announced or anticipated layoffs at any of the paper companies in the state or at Bath Iron Works, although we have made some judgmental adjustments to reflect some job losses during the forecast horizon.

Finally, our estimates of total tax revenues do not include the sales tax increases that went into effect this year. These revenue projections should not be interpreted in terms of projected budget shortfalls, but rather as an indicator of the health of the state economy in general.

		Actual	Forecast									Percent Change	
Variable	**Units**	**91:Q3**	**91:Q4**	**92:Q1**	**92:Q2**	**92:Q3**	**92:Q4**	**93:Q1**	**93:Q2**	**93:Q3**	**93:Q4**	**1991-92**	**1992-93**
Total Employment	(Thousands)	510.6	512.9	513.0	513.2	514.4	515.7	517.5	518.7	520.6	521.9	-0.49%	1.09%
Nonmanufacturing	(Thousands)	415.0	417.1	417.9	418.5	419.5	421.0	422.0	422.8	424.3	426.0	-0.29%	1.10%
Manufacturing	(Thousands)	95.6	95.8	95.1	94.7	95.0	94.7	95.5	95.9	96.3	95.9	-1.36%	1.06%
Unemployment Rate	(%)	8.53	8.52	8.51	8.67	8.59	8.45	8.31	8.21	7.97	7.73	0.46	-0.50
Personal Income	(Billion $'s)	21.29	21.34	21.47	21.61	21.76	21.92	22.06	22.19	22.36	22.48	1.83%	2.69%
Retail Sales	(Million $'s)	644.24	709.58	707.03	703.51	711.74	709.77	716.36	718.35	725.10	733.87	1.46%	2.18%
Housing Permits	(Units)	267	279	294	305	314	322	328	333	341	343	19.36%	8.87%
												FY '92	**FY '93**
Total Tax Revenues	(Million $'s)	343.85	308.87	332.98	333.27	333.30	337.41	337.94	341.23	343.35	346.70	1,319.0	1,349.9

Input Assumptions for the Exogenous Variables in the Maine Model

Gross National Product	(Bill '82 $'s)	4143.1	4141.8	4164.9	4191.5	4225.6	4262.3	4296.0	4323.6	4365.2	4393.3	1.91%	3.17%
PCE: Nondurables	(Bill '82 $'s)	908.7	912.8	917.7	922.3	926.6	930.9	934.9	938.8	942.9	946.7	2.12%	1.78%
PCE: Durables	(Bill '82 $'s)	410.4	405.2	407.8	410.8	415.9	421.6	427.6	433.4	439.2	444.6	2.23%	5.36%
Housing Starts	(Millions)	1.04	1.08	1.13	1.16	1.19	1.22	1.23	1.22	1.24	1.22	16.33%	4.61%
Price Deflator: PCE Durables	(1982=100)	113.9	114.2	114.6	115.0	115.5	116.0	116.4	116.8	117.2	117.7	1.52%	1.53%
3 Month T-Bill Rate	(%)	5.38	4.56	4.51	4.59	4.71	4.83	4.93	5.00	5.16	5.24	-13.39%	9.07%
Index of Consumer Sentiment	(2/60=100)	82.63	74.24	75.89	78.88	83.07	86.26	88.98	91.24	93.12	94.68	3.69%	13.55%
Avg Hourly Earnings	($/hour)	10.39	10.45	10.51	10.58	10.65	10.72	10.79	10.86	10.93	11.00	2.64%	2.64%
Avg Interest Rate: Home Mortgages	(%)	9.33	8.94	8.75	8.60	8.47	8.38	8.32	8.26	8.24	8.22	-8.60%	-3.39%
Civilian Unemployment Rate	(%)	6.77	6.82	6.84	6.77	6.6	6.41	6.25	6.15	5.9	5.79	-1.12%	-9.50%

Endogenous Variables with Nonzero Adjustment Constants

Total Employment	(Thousands)	0	-5	-5	-5	-6	-6	-7	-7	-8
Nonmanufacturing	(Thousands)	0	-4	-4	-4	-4	-5	-5	-5	-5
Unemployment Rate	(%)	-0.4	-0.3	0	0	0.1	0.2	0.3	0.3	0.3
Personal Income	*(a)*	-0.01	-0.01	-0.01	-0.011	-0.011	-0.011	-0.011	-0.011	-0.011
Retail Sales	*(a)*	0.035	-0.04	-0.05	-0.05	-0.06	-0.06	-0.07	-0.07	-0.07
Total Tax Revenues	*(a)*	-0.013	-0.013	-0.013	-0.013	-0.013	-0.013	-0.013	-0.013	-0.01

(a) Forecasting equations for these variables were estimated in terms of the natural logarithms.

THE COLBY ECONOMIC OUTLOOK FOR THE U.S. ECONOMY, 1991:Q4 TO 1993:Q4

Date of Forecast: 20-Dec-91

Variable	Units	Actual 91:Q3	Forecast 91:Q4	92:Q1	92:Q2	92:Q3	92:Q4	93:Q1	93:Q2	93:Q3	93:Q4	Percent Change 1991-92	Percent Change 1992-93
Gross National Product	(Bill '82 $'s)	4143.1	4141.8	4164.9	4191.5	4225.6	4262.3	4296.0	4323.6	4365.2	4393.3	1.91%	3.17%
Annual Rate of Growth	(%, A.R.)	2.37	-0.12	2.24	2.58	3.29	3.53	3.20	2.59	3.91	2.60		
Personal Consumption Expenditures	(Bill '82 $'s)	2705.3	2710.5	2726.9	2743.7	2762.6	2781.7	2800.9	2819.6	2838.4	2856.3	2.37%	2.73%
Durable Goods	(Bill '82 $'s)	410.4	405.2	407.8	410.8	415.9	421.6	427.6	433.4	439.2	444.6	2.23%	5.36%
Nondurable Goods	(Bill '82 $'s)	908.7	912.8	917.7	922.3	926.6	930.9	934.9	938.8	942.9	946.7	2.12%	1.78%
Services	(Bill '82 $'s)	1386.2	1392.5	1401.4	1410.7	1420.1	1429.3	1438.4	1447.4	1456.2	1465.0	2.58%	2.57%
Gross Private Domestic Investment	(Bill '82 $'s)	651.1	648.7	657.9	669.1	679.2	695.3	707.0	716.8	734.7	743.9	6.31%	7.44%
Fixed Investment	(Bill '82 $'s)	666.2	658.7	663.9	667.1	673.2	680.3	687.0	691.8	699.7	703.9	2.29%	3.65%
Nonresidential	(Bill '82 $'s)	506.5	501.9	503.1	503.9	507.3	512.2	517.5	521.6	527.4	531.5	1.14%	3.52%
Residential	(Bill '82 $'s)	159.7	156.9	160.8	163.2	165.8	168.1	169.5	170.2	172.4	172.4	5.99%	4.03%
Change in Business Inventories (a)	(Bill '82 $'s)	-15.1	-10.0	-6.0	2.0	6.0	15.0	20.0	25.0	35.0	40.0	-120%	606%
Government Purchases	(Bill '82 $'s)	819.4	817.1	815.2	814.0	813.7	814.1	815.2	816.9	819.0	821.5	-1.29%	0.48%
Net Exports of Good & Services	(Bill '82 $'s)	-32.8	-34.5	-35.2	-35.3	-29.8	-28.8	-27.1	-29.6	-26.9	-28.5	77.5%	-13.3%
Exports (a)	(Bill '82 $'s)	655.3	665.0	675.0	685.0	700.0	710.0	720.0	725.0	735.0	740.0	5.59%	5.42%
Imports	(Bill '82 $'s)	688.1	699.5	710.2	720.3	729.8	738.8	747.1	754.6	761.9	768.5	7.53%	4.58%
Gross Domestic Product	(Bill '82 $'s)	4112.1	4111.4	4133.0	4156.2	4187.2	4221.0	4251.9	4277.0	4316.2	4342.0	1.85%	2.93%
Gross National Product	(Bill $'s)	5670.8	5733.7	5806.1	5890.0	5995.2	6107.0	6206.0	6303.4	6411.7	6522.2	5.42%	6.91%
Personal Consumption Expenditures	(Bill $'s)	3841.8	3882.7	3939.9	4001.7	4069.4	4138.1	4208.3	4278.1	4349.5	4420.9	5.85%	6.86%
Durable Goods	(Bill $'s)	467.5	463.0	467.3	472.5	480.4	488.8	497.7	506.4	515.0	523.2	3.79%	6.98%
Nondurable Goods	(Bill $'s)	1229.5	1243.8	1259.6	1276.3	1294.1	1389.2	1330.0	1347.8	1366.4	1384.9	6.35%	4.02%
Services	(Bill $'s)	2144.5	2175.9	2213.1	2252.9	2294.9	2337.5	2380.5	2423.9	2468.1	2512.9	6.94%	7.55%
Gross Private Domestic Investment	(Bill $'s)	684.8	701.7	708.3	716.5	733.1	758.4	768.4	780.6	795.7	817.1	8.00%	8.41%
Fixed Investment	(Bill $'s)	702.3	691.7	693.3	696.5	708.1	723.4	738.4	752.6	769.7	787.1	1.41%	8.02%
Nonresidential	(Bill $'s)	498.8	485.1	480.2	477.8	482.1	490.1	499.5	508.6	519.3	530.8	-2.94%	6.63%
Residential	(Bill $'s)	203.5	206.7	213.1	218.7	226.0	233.4	238.9	244.0	250.4	256.3	12.30%	11.04%
Change in Business Inventories (a)	(Bill $'s)	-17.5	10.0	15.0	20.0	25.0	35.0	30.0	28.0	26.0	30.0	-216%	20%
Government Purchases	(Bill $'s)	1145.5	1156.9	1169.5	1183.4	1198.7	1215.0	1232.4	1250.2	1268.5	1287.5	3.86%	5.71%
Net Exports of Good & Services	(Bill $'s)	-1.5	-7.6	-11.6	-11.6	-6.0	-4.6	-2.9	-5.6	-2.0	-3.3	-249%	-59%
Exports	(Bill $'s)	693.5	706.2	722.8	741.9	767.7	788.5	809.9	825.6	847.4	863.7	8.08%	10.78%
Imports	(Bill $'s)	695.0	713.7	734.4	753.5	773.7	793.1	812.8	831.2	849.4	867.0	10.19%	10.01%

(a) Exogenously Determined

THE COLBY ECONOMIC OUTLOOK FOR THE U.S. ECONOMY, 1991:Q4 TO 1993:Q4

Date of Forecast: 20-Dec-91

		Actual	Forecast									Percent Change	
Variable	**Units**	**91:Q3**	**91:Q4**	**92:Q1**	**92:Q2**	**92:Q3**	**92:Q4**	**93:Q1**	**93:Q2**	**93:Q3**	**93:Q4**	**1991-92**	**1992-93**
Inflation: Consumer Price Index	(%,A.R.)	2.98	3.42	3.16	3.93	4.16	4.11	4.16	4.09	4.12	4.22	3.45%	4.12%
Inflation: PCE Deflator	(%,A.R.)	1.71	3.56	3.50	3.84	4.05	4.01	4.06	4.00	4.04	4.08	3.39%	4.02%
Inflation: PCE Durables Deflator	(%,A.R.)	3.22	1.23	1.16	1.61	1.65	1.58	1.53	1.48	1.43	1.45	1.52%	1.54%
Inflation: PCE Nondurables Deflator	(%,A.R.)	-0.30	2.90	2.92	3.34	3.75	3.65	3.87	3.71	3.79	3.85	2.60%	3.74%
Inflation: PCE Services Deflator	(%,A.R.)	3.16	4.10	4.31	4.59	4.84	4.88	4.88	4.86	4.90	4.90	4.25%	4.86%
Inflation: Imports Deflator	(%,A.R.)	-4.64	4.18	5.47	4.71	5.50	5.14	5.50	5.07	4.95	4.89	2.38%	5.19%
Inflation: Exports Deflator	(%,A.R.)	-4.41	1.49	3.36	4.67	5.15	5.17	5.21	5.07	5.06	5.04	2.33%	5.10%
Inflation: CPI Medical Care	(%,A.R.)	8.07	8.12	8.11	8.09	8.05	8.00	7.96	7.92	7.88	7.84	8.01%	7.96%
Real Disposable Income	(Bill '82 $'s)	2892.5	2903.2	2924.2	2944.2	2963.1	2981.6	2998.2	3012.3	3029.8	3043.5	2.41%	2.29%
Nominal Disposable Income	(Bill $'s)	4108.0	4176.2	4242.5	4312.2	4395.3	4481.6	4557.1	4630.5	4711.9	4794.6	6.46%	7.24%
Avg Interest Rate: Home Mortgages	(%)	9.33	8.94	8.75	8.60	8.47	8.38	8.32	8.26	8.24	8.22	-8.60%	-3.39%
Aaa Corporate Bond Rate	(%)	8.79	8.47	8.22	8.04	7.90	7.79	7.70	7.63	7.60	7.58	-8.96%	-4.51%
30 Year Treasury Bond Rate	(%)	8.18	7.91	7.76	7.69	7.72	7.80	7.88	7.94	8.11	8.19	-5.00%	3.71%
3 Month Treasury Bill Rate	(%)	5.38	4.56	4.51	4.59	4.71	4.83	4.93	5.00	5.16	5.24	-13.39%	9.07%
Federal Funds Rate	(%)	5.64	4.82	4.63	4.76	4.98	5.21	5.42	5.56	5.85	6.02	-13.93%	16.70%
Average Foreign Interest Rate	(%)	9.24	8.93	8.66	8.47	8.42	8.46	8.55	8.68	8.82	8.92	-9.50%	2.82%
Money Supply (M1)	(Bill $'s)	865.2	890.6	914.6	937.2	958.5	978.7	997.8	1016.2	1033.6	1050.4	10.08%	8.16%
Money Supply (M2)	(Bill $'s)	3389.1	3418.6	3451.5	3492.0	3532.3	3570.0	3604.4	3635.4	3662.8	3686.8	3.62%	3.87%
Annual Rate of Growth	(%, A.R.)	-0.52	3.53	3.91	4.78	4.70	4.34	3.91	3.49	3.05	2.65		
Housing Starts	(Millions)	1.04	1.08	1.13	1.16	1.19	1.22	1.23	1.22	1.24	1.22	16.33%	4.61%
Index of Consumer Sentiment	(2/60=100)	82.63	74.24	75.89	78.88	83.07	86.26	88.98	91.24	93.12	94.68	3.69%	13.55%
Nonoil Imports	(Bill '82 $'s)	452.40	493.90	520.73	534.75	547.08	558.32	568.54	578.23	586.97	595.28	20.73%	7.78%
Retail Gasoline Prices (All Types)	(Cts./Gal.)	119.33	122.27	123.85	123.82	123.98	124.02	124.51	124.70	125.11	125.42	2.76%	0.82%
Health Services Expenditures	(Bill '82 $'s)	317.10	328.34	338.34	347.13	354.75	361.22	367.59	373.83	379.97	385.99	10.50%	7.56%
Total Auto Sales	(Mill $'s)	8.73	8.26	8.95	8.84	8.91	9.01	9.14	9.26	9.36	9.43	6.05%	4.14%
Domestic Auto Sales	(Mill $'s)	6.42	6.07	6.02	6.00	6.09	6.21	6.33	6.43	6.51	6.56	-1.10%	6.21%
Import Auto Sales	(Mill $'s)	2.31	2.19	2.93	2.84	2.82	2.80	2.81	2.83	2.85	2.87	25.44%	-0.26%
Outstanding Automobile Credit	(Mill $'s)	271.90	270.39	271.10	272.74	275.23	278.48	282.20	286.19	290.65	295.19	-0.36%	5.16%
Exchange Value of U.S. Dollar	(3/73=100)	93.28	88.22	87.24	86.34	85.32	84.57	83.86	83.16	82.5	81.67	-4.34%	-3.58%
Civilian Unemployment Rate	(%)	6.77	6.82	6.84	6.77	6.6	6.41	6.25	6.15	5.9	5.79	-1.12%	-9.50%
Female Labor Force Participation	(%)	57.17	57.22	57.42	57.62	57.84	58.04	58.23	58.4	58.59	58.75	0.71%	1.32%
Productivity: Nonfarm Output/Hour	(1982=100)	111.8	112.05	112.7	113.16	113.47	113.8	114.09	114.36	114.68	114.89	1.54%	1.08%
Average Hourly Earnings	($/hour)	10.39	10.45	10.51	10.58	10.65	10.72	10.79	10.86	10.93	11.00	2.64%	2.64%
Health Care Employment	(Thousands)	8286	8401	8489	8559	8617	8666	8710	8750	8787	8821	4.20%	2.15%
Rest of World	(Bill '82 $'s)	31.00	30.42	31.88	35.24	38.39	41.33	44.07	46.63	49.04	51.29	9.64%	30.09%

Input Assumptions for the Exogenous Variables in CQEM

		Actual	Forecast								
Variable	**Units**	**91:Q3**	**91:Q4**	**92:Q1**	**92:Q2**	**92:Q3**	**92:Q4**	**93:Q1**	**93:Q2**	**93:Q3**	**93:Q4**
Exports of Goods and Services	(Bill '82 $'s)	655.3	665.0	675.0	685.0	700.0	710.0	720.0	725.0	735.0	740.0
Avg. Refiners' Price of Crude Oil	($'s/Barrel)	18.93	19.5	19.75	19.5	19.75	19.75	20	20	20	20
Manufacturing Capacity Utilization	(%)	79.87	79.3	80	80.5	80.5	80.8	81	81	81.2	81.2
Relative Foreign Prices	*(a)*	87.2	87	87.2	87.4	87.4	87.6	87.8	88	88.2	88.2
Discount Rate	(%)	5.4	4.7	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Price of Single-Family Homes	(Thsnd $'s)	101.83	102.34	102.85	103.36	103.87	104.39	104.9	105.42	105.95	106.47
Weekly Hours Index: Services	(1982=100)	147.8	149.3	149.67	150.05	150.42	150.79	151.17	151.55	151.92	152.3
Average Hours of Production Worker	(Hrs/week)	34.3	34.4	34.5	33.6	33.6	33.7	33.7	33.8	33.8	33.8
Real Change in Business Inventories	(Bill '82 $'s)	-15.10	-10.00	-6.00	2.00	6.00	15.00	20.00	25.00	35.00	40.00
Nom. Change in Business Inventories	(Bill $'s)	-17.50	10.00	15.00	20.00	25.00	35.00	30.00	28.00	26.00	30.00
Euro-Dollar Deposit Rate	(%)	5.72	5.6	5.2	5.0	5.2	5.4	5.6	5.8	6.0	6.0
Total Employment	(Thousands)	116764	116700	117000	117500	118000	118500	119000	119500	120000	120500
Inflation: Nonoil Imports	(%, A.R.)	-6.97	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Mortgage Debt Outstanding	(Mill $'s)	3.97	4.02	4.06	4.11	4.17	4.22	4.28	4.34	4.40	4.47
Index of Leading Economic Indicators	(1982=100)	145.43	141.00	141.35	141.70	142.06	142.41	142.77	143.12	143.48	143.83

(a) Computed as: (Nonoil Import Price Deflator x Exchange Value of the $)/Export Price Deflator

Endogenous Variables with Nonzero Adjustment Constants

Variable	Units	91:Q4	92:Q1	92:Q2	92:Q3	92:Q4	93:Q1	93:Q2	93:Q3	93:Q4
Consumer Price Index	*(a)*	-0.001	0	0	0	0	0	0	0	0
PCE Durables Deflator	*(c)*	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
Imports Deflator	*(c)*	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Real Government Purchases	(Bill '82 $'s)	-5	-5	-5	-5	-5	-5	-5	-5	-5
Nominal Government Purchases	(Bill $'s)	-7	-6	-5	-4	-4	-4	-4	-4	-4
Personal Consumption Exp: Durables	(Bill '82 $'s)	-11	-11	-11	-11	-11	-11	-11	-11	-11
PCE: Medical Care	(Bill '82 $'s)	9	8	7	6	5	5	5	5	5
Real Disposable Income	(Bill '82 $'s)	10	9	8	7	6	5	4	3	3
Nominal Disposable Income	(Bill $'s)	29	29	29	29	29	29	29	29	29
Residential Fixed Investment	*(c)*	-2	0	0	0	0	0	0	0	0
Real Nonres Fixed Investment	*(c)*	-2	-2	-2	-2	-2	-2	-2	-2	-2
Nominal Nonres Fixed Investment	*(c)*	-15	-10	-5	-5	-5	-5	-5	-5	-5
Outstanding Automobile Credit	(Mill $'s)	2	1	0	0	0	0	0	0	0
Avg. Interest Rate: Home Mortgages	(%)	0.05	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Aaa Corporate Bond Rate	(%)	0.1	0	0	0	0	0	0	0	0
30 Year Treasury Bond Rate	(%)	0.34	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Money Supply (M1)	(Bill $'s)	12	5	5	5	5	5	5	5	5
Money Supply (M2)	(Bill $'s)	-11	-10	0	0	0	0	0	0	0
Federal Funds Rate	(%)	-0.8	-0.4	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Average Foreign Interest Rate	*(c)*	-0.2	0	0	0	0	0	0	0	0
Exchange Value of U.S. Dollar	*(a)*	-0.04	0	0	0	0	0	0	0	0
Civilian Unemployment Rate	(%)	-0.2	0	0	0	0	0	0	0	0
Female Labor Force Participation	*(b)*	-0.002	0	0	0	0	0	0	0	0
Health Care Employment	(Thousands)	21	0	0	0	0	0	0	0	0
Rest of World	(Bill '82 $'s)	0	2	4	4	4	4	4	4	4
Index of Consumer Sentiment	(2/60=100)	0	2	4	6	6	6	6	6	6
Nonoil Imports	(Bill '82 $'s)	45	35	25	25	25	25	25	25	25
Imports	(Bill '82 $'s)	10	10	10	10	10	10	10	10	10
Total Auto Sales	*(b)*	-0.06	0	0	0	0	0	0	0	0
Retail Gasoline Prices (All Types)	(Cts./Gal.)	3	3	3	3	3	3	3	3	3

(a) Forecasting equations for these variables were estimated in terms of the first difference of the natural logarithms.

(b) Forecasting equations for these variables were estimated in terms of the natural logarithms.

(c) Forecasting equations for these variables were estimated in terms of the first difference.