



Colby Economic Outlook

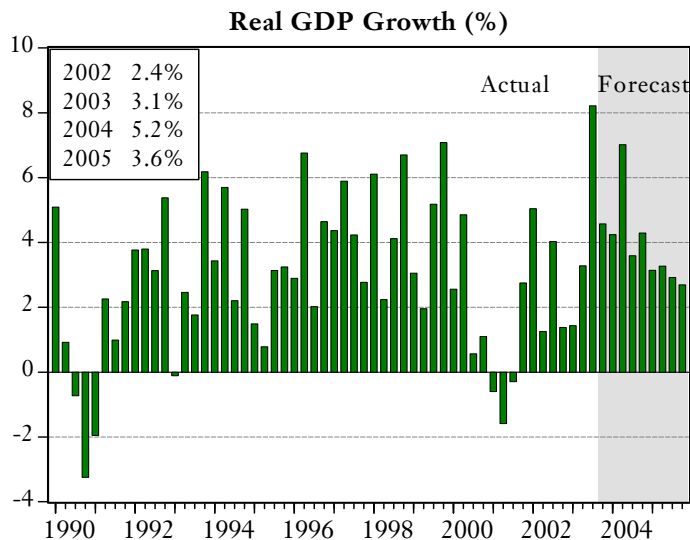
Current Conditions & Economic Forecasts
For the United States and the State of Maine

The CEO Joins the Goldfarb Center

With the 12th edition of the Colby Economic Outlook (CEO) this annual newsletter of economic forecasts joins Colby's new Center for Public Affairs & Civic Engagement created this fall with the generous support of the William Goldfarb family. The mission of the Goldfarb Center is to link teaching and research with contemporary political, economic and social issues in ways that strengthen the undergraduate experience, assist research efforts of the faculty, and provide resources for the policy communities that faculty and students can serve. For more than a decade the CEO has provided a link between the academic experience of students and the 'real world' of policy makers in Washington, DC and Augusta, Maine. The short-term economic forecasts presented in this newsletter represent the results of a small macroeconomic model of the US economy and a companion model for the state of Maine, maintained and updated by students in Economics 473 at Colby College under the direction of Associate Professor of Economics Michael Donihue.

U.S. Macroeconomic Conditions

Nearly every economic report written and every economic indicator released or revised in recent weeks clearly illustrates that the U.S. economy is gathering steam – and at a rate faster than most had predicted. In September, combined sales of new and existing homes hit another record. October & November saw the creation of a substantial number of new jobs and the unemployment rate fell below 6% for the first time since March. The headline economic statistic at the end of November was the revision of third quarter real GDP growth to a sizzling 8.2% annual rate – a full percentage point higher than originally estimated. The new estimate, fueled by strong business and consumer spending, was the fastest growth in two decades and brought renewed optimism that the much-delayed economic recovery from the recession of 2001 was now at hand.



The acceleration in real GDP growth in the third quarter reflected primarily an increase in personal consumer expenditures, a surge in exports fueled by a declining dollar, a deceleration in imports, and accelerations in business investment in equipment and software and in residential fixed investment. Real personal consumption expenditures increased at an annual rate of 6.4 percent in the third quarter, compared with an increase of 3.8 percent in the second. Retail spending is up on a year-over-year basis, and expectations for holiday retail sales are reported as generally optimistic. Low interest rates and rising house prices have led to unprecedented levels of refinancing activity and equity withdrawal in the housing sector. In addition, many households received tax rebate checks this past summer, just in time for back-to-school spending in the fall.

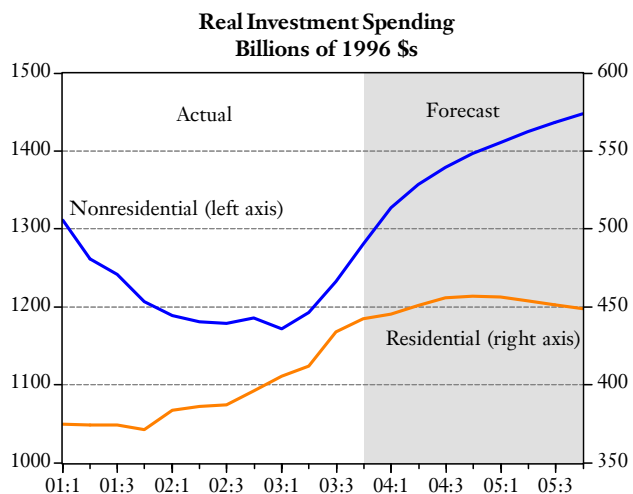
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Real Output & Investment

We predict that real GDP growth in 2003 will be 3.1% and that the expansion will continue into 2004 and 2005. Real output growth in 2004 is forecast by our model to be 5.2%, and then return to a more sustainable 3.6% growth in 2005.

While consumer spending remains the primary factor sustaining the current expansion, there is also an important investment story to tell. Business investment in plant and equipment increased at an annual rate of 14% in inflation-adjusted terms in the third quarter of this year. This was on top of robust second quarter spending growth of 7.3%. We are forecasting continued strength in business investment spending with nearly 12% real growth next year and a 4.7% increase in 2005.

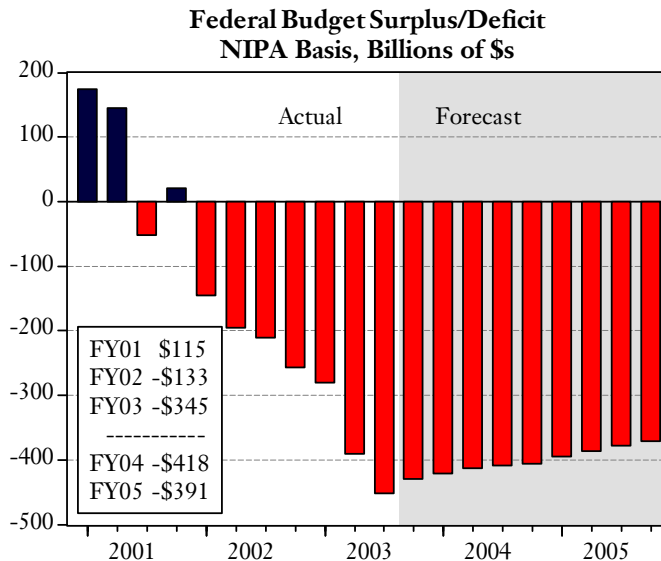


Real residential investment also proved to be healthy during the second half of 2003, increasing at an annual rate of 22% in the third quarter as the market for residential structures continues to benefit from low interest rates. Our forecast is for slightly less than 7% growth in 2004 and then almost no growth in 2005 as interest rates begin to rise and residential investment stalls.

The Federal Budget Deficit

Three years of below-trend economic growth, successive tax-cut programs, and higher federal spending have resulted in the sharpest deterioration of the federal budget position in three decades. According to the latest estimates from the Bush Administration's Office of Management and Budget

the federal budget deficit will equal nearly 4.2% of GDP by the end of the year. Only three years ago, the government ran a sizeable budget surplus. While it is unrealistic to expect any corrective action in a pre-election year, this economic factor has become an increasingly contentious political issue.



The Employment Picture – A Jobless Recovery

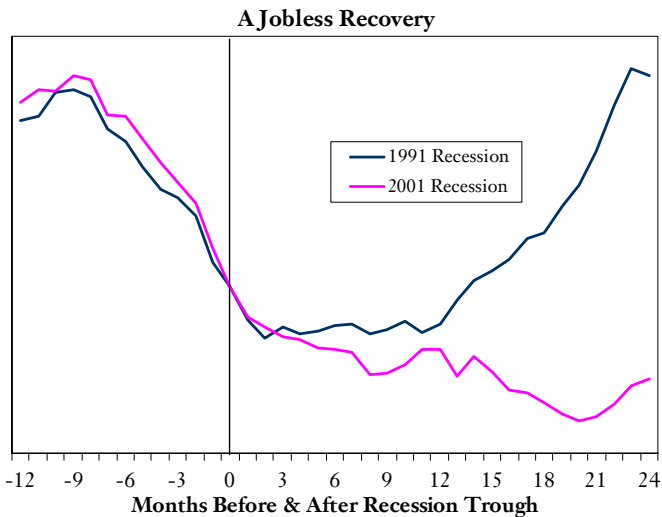
The recent increases in employment raise the number of payroll jobs created since July to 328,000. The growth in November payrolls occurred across a broad group of industries – more so than in previous months this year. In addition, the recent rise in the number of hours worked, among other factors, suggests that employment growth will continue and probably accelerate in coming months.

Our forecast is for the civilian unemployment rate to end the year averaging 5.9% in the fourth quarter and falling to 5% by the end of 2005. Payroll employment is forecast to show no growth for 2003, just over 1% growth in 2004, and 2% growth in 2005.

We are now 24 months past the trough of the 2001 recession. The present expansion has been heralded as a “jobless recovery” and harkens back to the so-called “jobless recovery” that followed the 1990-91 recession. A comparison of payroll employment levels leading up to and following the two recession indicates that the current recovery showed a much more significant loss in jobs.

The 1990-1991 recession officially hit bottom in March of 1991 while November 2001 marked the end of the most

recent recession. Twenty-four months following the 1991 trough total employment was up by more than 1.3 million jobs. Twenty-four months into the current expansion payroll employment remains more than 700 thousand jobs below the level of November 2001.



Productivity & Inflation

The current economic recovery can be characterized almost entirely by growth in worker productivity, which expanded at an annual rate of 5.3% in 2002 and will, according to our forecasts increase by 4.3% this year on the back of an astounding 9.3% annual rate of growth in the third quarter. Strong increases in productivity enabled businesses to meet demand with the existing labor force, and the result has been a jobless recovery as illustrated above.

We do not foresee the same sorts of productivity gains in the near term and predict that output per worker will rise by 3.6% in 2004 and by 1.6% in 2005 as output growth slows and job growth picks up.

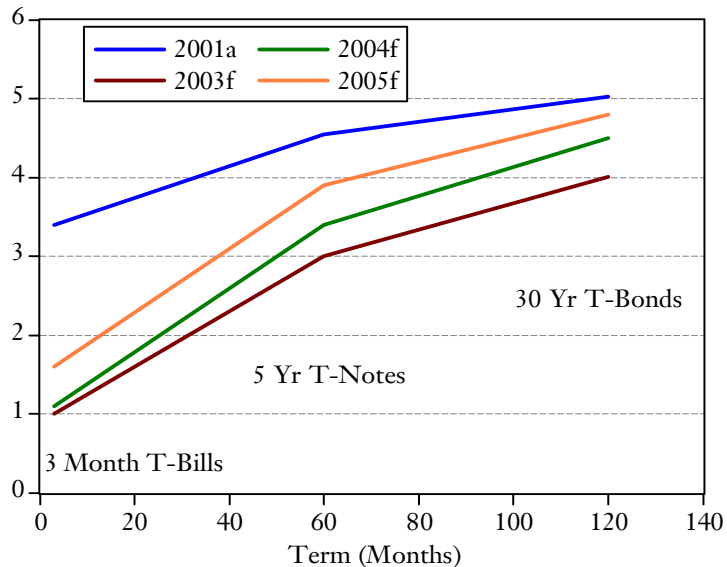
What makes the current economic expansion truly remarkable is the absence of inflationary pressures, due no doubt in part to the strength of productivity gains. We predict that overall consumer prices, as measured by the chain-weighted price index for consumer spending, will rise by about 2% in each year of the forecast horizon. The core CPI (minus food & energy) is forecast to rise by 2.2% in 2004 and 2.7% in 2005.

The Outlook for Monetary Policy

This remarkable story on inflation has enabled the Fed to sit on the sidelines and take a ‘wait and see’ approach while the interest rate on federal funds remains at historically low levels in both real and nominal terms.

Our forecasts for future interest rate movements by the Fed are based on a multivariate “reaction function” that models the effects of movements in inflation and the gap between actual output and the economy’s potential output. We believe that the Fed will sit tight until the second quarter of 2004 and then will begin to increase interest rates gradually over the year. By the end of 2005 we are forecasting a nearly 200 basis-point increase in the Fed Funds rate. We are predicting a roughly 100 basis point rise in interest rates over the forecast horizon across the term structure as illustrated by the yield curves below.

Yield Curves - Actual & Forecast

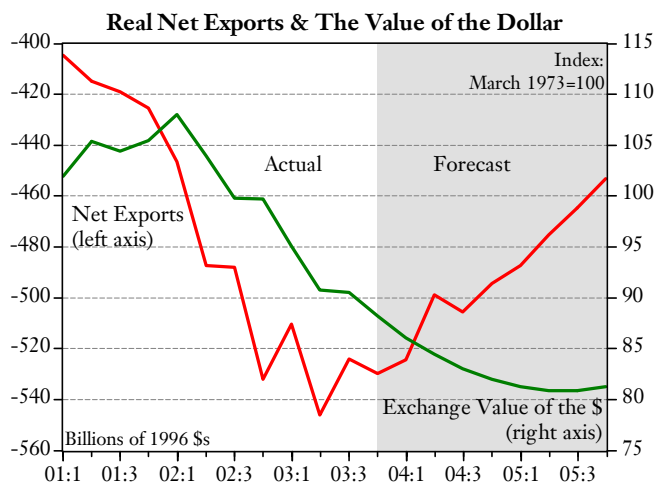


We made an interesting discovery when we tried to update the Fed Funds reaction function in our model. Early this year the Board of Governors approved a significant monetary policy change with little fanfare that revised the Federal Reserves discount window programs. Previously the discount window offered banks overnight loans at a rate that was below market rates. To eliminate the incentive for banks to exploit the positive spread created by such a discount, and consequently decrease the administrative burden that the arbitrage situation created, the Board of Governors changed the discount to a penalty. Now banks that go to the discount window to borrow will be doing so at an interest rate that is above the average market rate. It’s too early to tell what effects the rule changes will have on bank behavior, but one we intend to watch as we develop

and revise our monetary policy reaction function in the future.

The International Outlook

The past year has been one of international insecurity and dwindling faith in the strength of the US economy. The war in Iraq, disputes with North Korea, and other international conflicts have led to international doubt about the stability of the United States' economy and the direction of foreign policy. The dollar this year has lost significant ground against the currencies of America's major trading partners, declining by more than 11 percent from 2002 to 2003. The good news accompanying this dollar depreciation, however, has been substantial export growth during the second half of 2003 as domestic and foreign consumers shifted consumption towards the now more affordable US goods. Exports on an inflation-adjusted basis in third quarter of 2003 saw an eleven percent annual growth rate. Despite the decreased demand for US bonds and securities, international demand for US goods and services has soared because of the depreciated dollar.

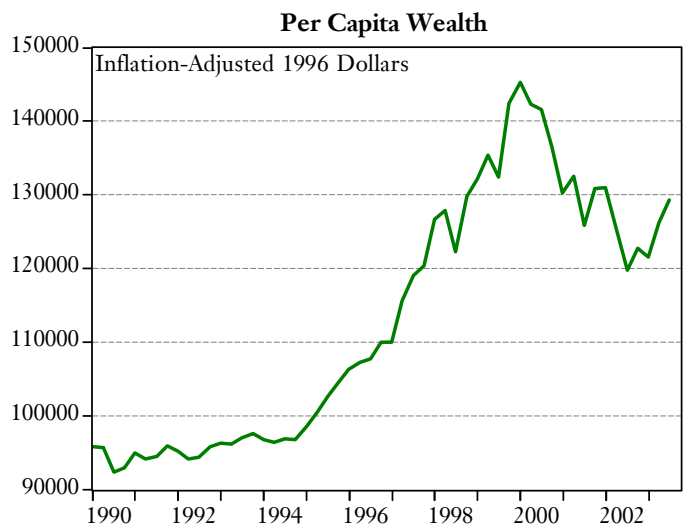


This trend of a depreciating dollar paired with expanding export growth is expected to continue. We are predicting a 7.2% decline in the value of the dollar in 2004 and a 2.8% decline in 2005. This should help fuel continued export growth during the next two years. The combination of the weak dollar and a rebounding of economies in the rest of the world will lead to annual export growth rates of about 9% in both 2004 and 2005. This sort of sustained growth in US exports has not been observed since shortly before the September 11th attacks of 2001.

Another important consequent of the depreciated dollar is the benefit it has on the US trade deficit. Import growth during the 2004 and 2005 forecast horizon will average roughly four percent according to our model, which is on par with the average growth rate of the past decade. When paired with expected substantial export growth, however, the US can expect to see its trade deficit decrease over the coming years. The depreciated dollar and improved demand abroad should lead to the first sustained decrease in the trade deficit of the twenty-first century. The US will still be operating at a trade deficit, and a fairly large one at that, but the economic situation of the next 2 years should ensure that this deficit decreases.

Special Report: Forecasting Consumer Behavior

Over the past 10 years household wealth in this country has undergone an incredible roller coaster ride. A key question among economists is: What effect has this had on consumer behavior? One of the central theses of consumer theory is the idea that as household wealth increases so does consumption. This year we sought to model the wealth effect in the Colby model in a careful fashion and apply this theory to our forecasts for the future.



An Error-Correction Approach

The basic ideas and key theoretical foundations of our model of the relationship between consumption and wealth begin with a life cycle model of household spending behavior. According to life cycle theory, households accumulate and deplete their wealth over time to maintain a certain standard of living, manifest in relatively smooth patterns of consumption in the face of fluctuations in household income and wealth. This is the case, for example, even when household income is expected to fall

during periods of unemployment or become constant, as it might during retirement. In the absence of wealth “surprises,” the life cycle model predicts that wealth could vary substantially over time but that consumption spending will be relatively stable.

One implication of the life cycle theory, however, is that if households experience an unexpected increase in their wealth, then they may formulate a new spending plan that involves a higher level of spending indefinitely into the future. Therefore, the life cycle model suggests that predictable changes in household income and wealth (such as those reflecting new investments deliberately generated by thrift) should not lead to changes in planned spending, while unexpected changes in wealth, such as from a stock-market surprise, might significantly alter consumer behavior.

Two equations were estimated to capture this behavior. All variables are in real per capita terms. The first equation models the long run (life cycle) relationship between consumption, wealth, and disposable income. The wealth variable was decomposed into stock market wealth and a non-stock market wealth. This was done for two reasons: (a) much of the change in wealth during the past decade can be attributed to the net appreciation of existing assets due to the extraordinary performance of equity prices; and (b) changes in stock market wealth can be considered as essentially unpredictable.

Using our life cycle equation we calculated a predicted, or target level of consumption. The difference between this target and actual consumption then becomes the “error” in long run consumer behavior and will reflect, among other factors, unanticipated changes in wealth. In the short run, consumers will alter their behavior to “correct” for previous errors and get back on their life cycle path.

The second equation models the dynamics of this error correction, i.e., how consumption adjusts to short-run changes in the economic environment. In our model, when wealth increases and consumption does not immediately adjust to a new long run level, spending tends to grow at an accelerated pace for several quarters in the future – until the level of

consumption is brought back into line with the new level of household net worth.

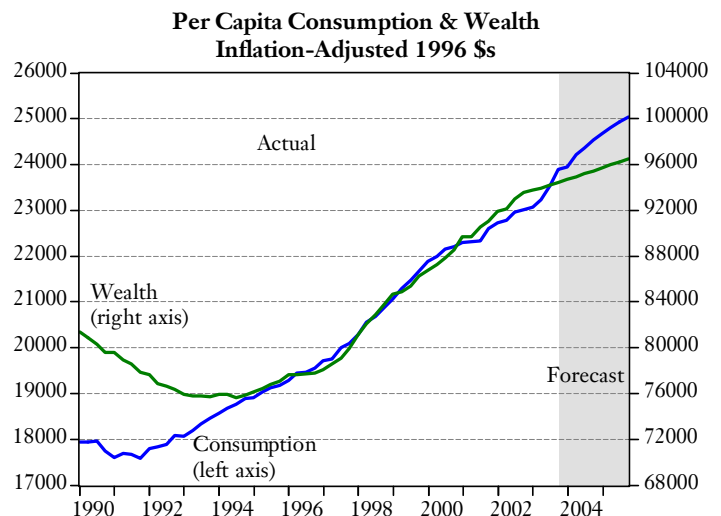
Outlook for Consumption

Our model predicts that consumer spending will continue growing throughout the forecast horizon as households adjust their spending to reflect recent increase in incomes. In 2004 consumption is forecast to grow at an average annual rate of just over 4%, and in 2005 the growth rate will be 3.4%. Thus, consumption will continue to grow but at a somewhat decreasing rate. This seems credible as short-term growth rates come back in line with historic norms.

The table below provides our predictions for the economic environment variables that are driving the short-run consumption forecasts of our model.

Year	Personal Disposable Income (%)	Stock Market Wealth (%)	SP 500 (%)	Consumer Sentiment
2003	1.8	0.4	-4.4	86.6
2004	3.3	6.9	8.2	87.5
2005	2.5	1.5	3.4	85.2

Concerns over the war in Iraq, the growing fiscal and trade deficits, the weakening of the dollar, coupled with the worry that restoring employment to previous levels may take considerably longer than in past recessions is reflected in the anticipated decline in consumer sentiment. Similar concerns are responsible for driving down anticipated growth in the S&P 500 and stock market wealth.

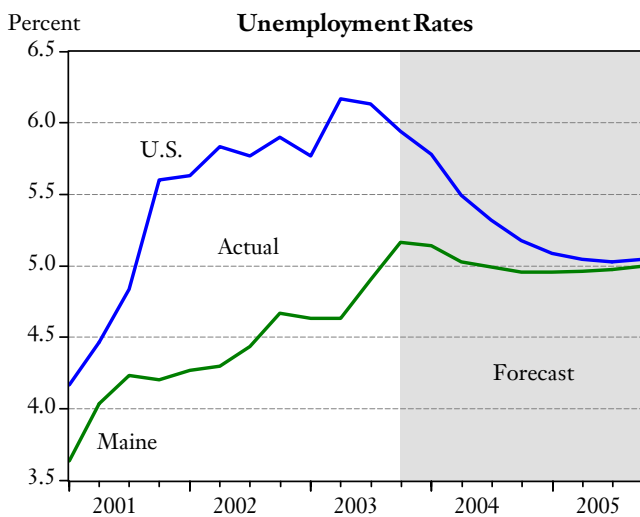


The Outlook for Maine

Over the past two years, the nation has been struggling to recover from a significant economic slowdown. As noted above, a substantial increase in real GDP was recorded for the third quarter of 2003, providing some optimism for the future of the U.S. economy. However, we do not expect to see similar increases in the Maine economy. The state will not experience as dramatic a recovery as the rest of the country. This is a good news/bad news story. The good news was the national recession of 2001 was not as pronounced in Maine as it was in the rest of the nation. The bad news is that as a result, the recovery will be stronger outside of Maine. Furthermore, Maine has mirrored the rest of the nation in the rapid decline of manufacturing employment and an overall lack of employment growth during the past 3 years.

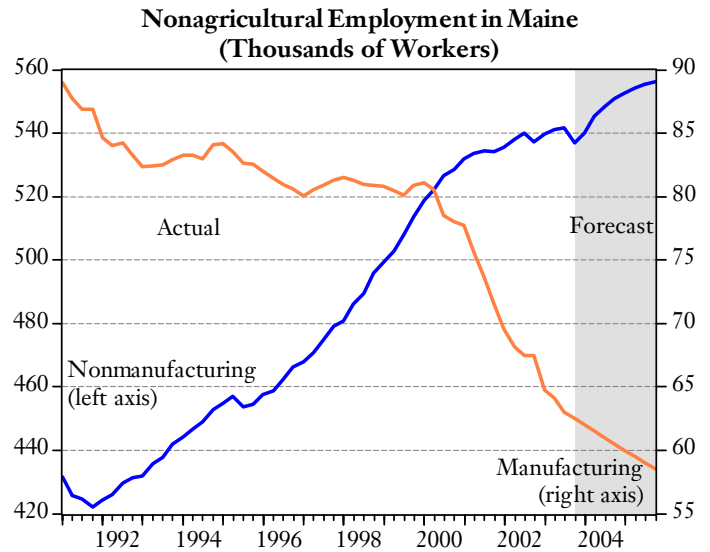
Employment in the Pine Tree State

While Maine is dealing with a “jobless recovery” like the rest of the nation, it is fairing slightly better than the country as a whole. The U.S. unemployment rate has been stuck above 6 percent for some time while Maine’s unemployment rate has remained below 5% since 1997. We are forecasting that Maine’s unemployment rate will creep above 5% in the final quarter of this year and then settle in at about 5% over the remainder of the rest of the forecast horizon – as the U.S. and Maine unemployment rates converge.



The dismal news for Maine’s employment picture lies in the manufacturing sector. According to the Maine Labor Department, the greatest job losses have come

in this sector – specifically in the paper, textiles & apparel, wood products, and computer & electronics industries. Over the past three years, Maine has lost more than 17,500 manufacturing jobs. Between August 2002 and August 2003, the state lost 2,200 paper jobs, due in large part to the closing of Great Northern Paper in Millinocket and the downsizing of the Sappi paper mill in Westbrook.



Any model-based forecast like ours will extend the precipitous drop in manufacturing employment of the past 3 years into the forecast horizon. While difficult to see from the scale of the chart above, we believe that manufacturing employment will continue to decline through 2005, but at a slower rate than in recent years. For the overall picture of employment in Maine there is a glimmer of hope on the horizon.

Small job gains have been reported recently in the education and health services industries. Also, the manufacturing sector is being given a small boost by the war in Iraq. While the conflict in the Middle East will not result in a fleet of new ships built at Bath Iron Works, many smaller companies are manufacturing products that are demanded overseas by the military such as durable scrubbing pads (Rynel Limited of Boothbay), chemical protective suits (Creative Apparel Associates in Harmony), and portable pocket-sized water purifiers (Hydro-Photon, Inc of Blue Hill).

Overall, Maine’s employment is expected to rebound from the current slowdown, despite predictions of a continued decline in manufacturing employment. Total employment is expected to increase by 0.7% in 2004 and 1.1% in 2005.

Nonmanufacturing employment is forecast to increase by 1.2% next year and 1.5% in 2005.

Vacationland Tourism

Maine’s tourism industry has been a significant factor in protecting the state from a more significant economic slowdown. According to a recent report from the Federal Reserve Bank of Boston, tourism is more important to the Maine economy than it is for any other state in the nation. While tourism accounts for only 5 percent of the nation’s GDP and 6 percent of New England’s economic activity, it represents and estimated 15 percent of Maine’s gross state product.

Tourists are important to local economies because they provide an influx of revenues to local businesses without requiring government services (such as schools). Also, people are more likely to consume more when traveling than when at home.

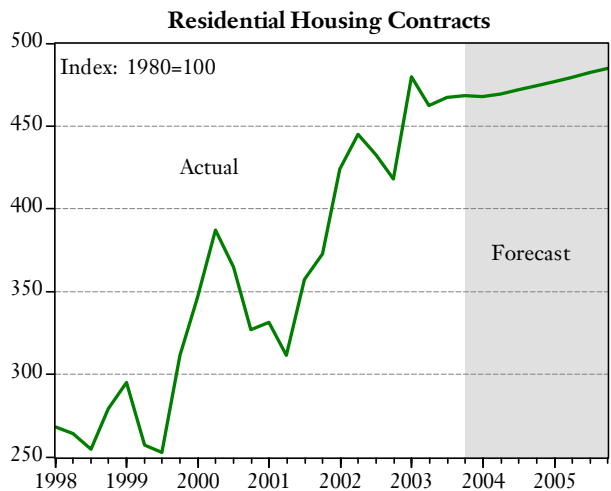
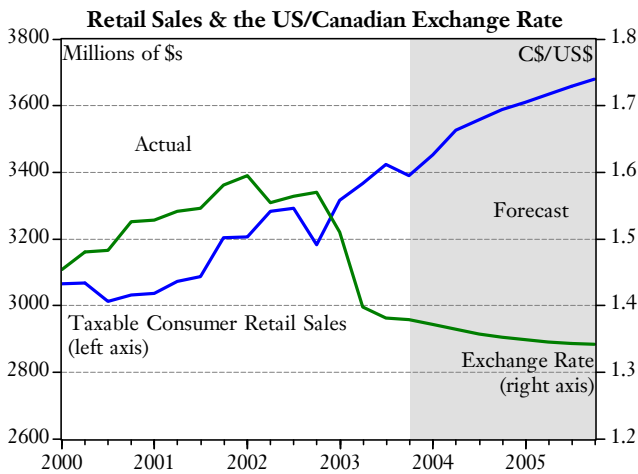
Tourism in Maine can be measured and predicted using many factors. In our model we have found the Canadian exchange rate to be a significant determining factor, because many travelers to the state come from the bordering Canadian provinces. The recent decline in the value of the dollar means that it is now less expensive for Canadians to come to the U.S. than ever. This trend is expected to continue over the next two years suggesting that the number of tourists from Canada is likely to increase over this time period.

for day and weekend trips. While retail sales have experienced some dips in the past, it has sustained a general upward trend over time. Sales are expected to increase by 4.7% in 2004 and 3.2% in 2005.

An increase in tourism can also be detected via other, more abstract, variables, such as turnpike traffic and internet visits to the Maine Office of Tourism website. The site, www.visitmaine.com, received more than 225,000 hits during July 2003, an increase of more than 65,000 from a year earlier. More impressively, the number of non-referred visitors in July more than doubled from a year ago. Similarly, the Maine turnpike has seen a dramatic increase in the number of passenger vehicles passing through its tollgates. The month of July was the heaviest traffic month in the 56-year history, with nearly 6.2 million vehicles traveling the highway.

Residential Construction

Maine continues to enjoy a housing boom – at least for the southern portion of the state. Mortgage rates are down, leading Mainers to buy higher priced homes. Property values in the Greater Portland area have increased of late faster than in San Francisco, New York and Boston. The average annual increase in the median price for an existing single-family home nation wide during the past 2 decades was 2.2 percent. In Cumberland County over the same period, the yearly increase has been 8.4 percent. Other major real estate markets don’t come close: Boston (8.2%), San Francisco (7.6%), San Diego (7.1%), Providence, RI (6.8%) and New York (6.8%).



Taxable retail sales are perhaps one of the most reliable indicators of tourism in the state. Maine’s many harbor towns and shopping outlets lure visitors

As mortgage rates fall, the demand for housing increases, bidding up the prices of homes. This provides an incentive for real estate developers to build new homes and capitalize

on the booming market. Over the past few years, the number of housing contracts awarded has risen more steeply. The number of residential contracts is expected to remain high according to our model, with growth pausing in 2004 and resuming at a 2.2% pace in 2005. The slowdown in growth in 2004 is due, we believe, to growing skepticism that rates will remain at their current levels and the expectations that the housing market will cool in the near future.

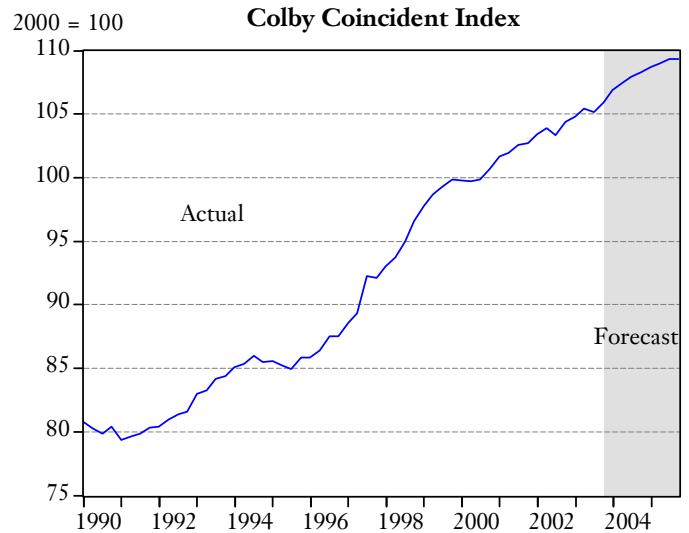
Personal Income

Our forecast of personal income in Maine is driven by forecasts of disposable personal income from our national model and our forecasts of total employment in Maine. Personal income in Maine grew at a 4.3 rate in 2002 and we anticipate a similar rate of growth for 2003. In 2004 we foresee an increase of 3.7%. Income growth in 2005 is forecast to be 3.5%

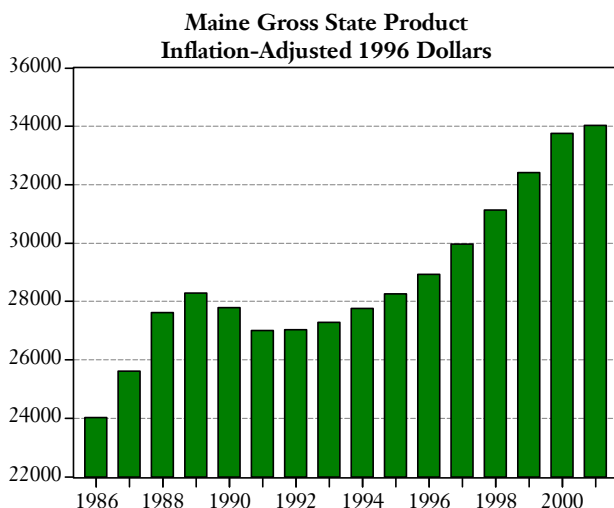
The CCI

The Colby Coincidence Index of the Maine Economy (CCI) was first presented by this seminar in 1996 and is intended to provide an overall measure of the economic well being of the state of Maine. While real GDP is reported quarterly, and is widely regarded as a preferred measure of business cycles for the nation as a whole, Gross State Product for Maine is reported annually and with a two-year lag. As a result, GSP has little value as a measure of fluctuations in aggregate economic activity in the state. The CCI reflects movements in key economic indicators that, taken together, reflect changes in the overall economic environment of the state.

The components of the CCI include: total employment; retail sales; passenger car turnpike traffic; and the unemployment rate. The index was constructed following The Conference Board's procedure for constructing coincident indexes. Our index is based to 100 in the year 2000, and weights were estimated using data from 1990 to 2002. As noted in the chart below, the index appears to capture the recession in 1990–1991, as well as the recent economic slowdown in Maine.



The CCI increased by 1.5% in 2002 and 2003. We are predicting an upturn in economic activity in the state in 2004, with the CCI increasing by 2.2%. Our forecast for the CCI then indicates a slightly slower pace of economic growth in 2005 as the index rises by just 1.3%.



The *Colby Economic Outlook* is produced by the students in the senior seminar in economic forecasting at Colby College under the direction of Michael Donihue, Associate Professor of Economics.

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The conclusions and analysis presented in the CEO represent the views of the authors and do not necessarily represent the opinions of the faculty and staff at Colby College.