

The 2040 CMAP Forecasts

The 2040 forecasts were prepared by the Regional Economics Applications Laboratory using the **Chicago Regional Econometric Input-output Model (CREIM)**. This model was originally developed in the 1990s and has been updated and re-estimated several times since then; for the 2040 forecasts, it was updated in 2008. Previous versions of the model were used by NIPC in preparation of earlier forecasting exercises.

The CREIM system essentially posits that there are two main sources of stimulus for the Chicago economy (considered to be the seven counties of Cook, Will, Du Page, Lake, McHenry, Kendall and Kane). The first source is the national economy; demands for Chicago products and services originating outside the seven county region are captured by harnessing a national model to CREIM. For this purpose, the national model prepared by Global Insight (now IHS-Global Insight) has been chosen; the major advantage of this model is the sectoral detail that it provides, enabling REAL to more directly link the specific components of the Chicago economy with those at the national level. Further, the Global Insight model captures the ramifications of changes not only at the national level but also considers the influences of major changes in the international economy (prices of oil, changes in exchange rates, changes in global competition and so forth). In this way, international movements in economic activity are indirectly able to influence the Chicago region. Some summary details of the alternative macroeconomic forecasts are provided in a brief Appendix.

The second source of economic stimulus for the Chicago region is generated internally. Changes in the national economy generate a stimulus for the Chicago region that translates into typical ripple effects; however, changes in the levels of economic activity in the region will generate additional income and employment opportunities. These will have a further impact on the region's economy as consumers spend income on a variety of goods and services. Further, part of the stimulus will accrue to state and local government in terms of additional tax revenues; these, in turn, will be spent generating a further source of internal demand.

Hence, broadly speaking, the CREIM system handles two sources of ripple effects that generate forecasts for the trajectory of the region's economy. The first has its source outside the region and the second is generated internally. The CREIM system harnesses the forecasts from IHS Global Insight to handle the former source; as a result, each year for the forecast period through 2040, CREIM is able to provide forecasts of population, employment, income and production. Since the model is dynamic, changes in one year "spillover" into subsequent years. The model also moderates the effects of the stimuli by estimating likely changes in the region's economic structure, changes in productivity and changes in wage rates (in comparison to those forecast at the national level). More recently, the CREIM system has been exploring ways to account for internal changes to the economy generated by demographic shifts – such as the aging of the population, in-migration of immigrants and out-migration of retirees.

Appendix

The HIS Global Insight Forecast Scenarios

1) The trend projection is the baseline scenario. It assumes that the economy suffers no major mishaps between now and 2038. It grows smoothly, in the sense that actual output follows potential output relatively closely. This projection is best described as depicting the mean of all possible paths that the economy could follow in the absence of major disruptions. Such disruptions include large oil price shocks, untoward swings in macroeconomic policy, or a financial meltdown.

Note: This is the forecast used for the CMAP 2040 reference forecasts.

2) The cyclical projection is the primary alternative scenario. It superimposes business-cycle behavior on the trend scenario. Economic growth proceeds in a series of starts and stops, with periods of rapid expansion, followed by externally, or policy-induced recessions. The timing of the recessions is merely suggestive. Because it is impossible to predict the exact timing of business cycles much in advance, it is unwise to focus on specific years. It is also inappropriate to calculate average growth rates between different points in the business cycle.

Note: Given the lack of consensus in forecasting recessions, this scenario has not been used.

3) The optimistic projection is the upside scenario, in which economic growth proceeds smoothly but more rapidly than in the baseline, while prices rise more slowly. In this projection, population, labor force, and capital stock growth, as well as exogenous technological changes, occur more quickly than in the trend. Potential output thus climbs more rapidly, and because output is primarily supply-determined in the long run, real GDP grows 0.8 percentage point quicker per year.

4) The pessimistic projection is the downside scenario. Here, growth proceeds smoothly, but more slowly than in the baseline, and productivity growth is weaker. In this projection, population, labor force, and capital stock growth, together with exogenous technological changes, occur less rapidly than in the trend. Output thus climbs 0.6 percentage point more slowly per year.

Note: Forecasts 3 and 4 have been used by REAL to explore the impact on outcomes for the region's economy.