

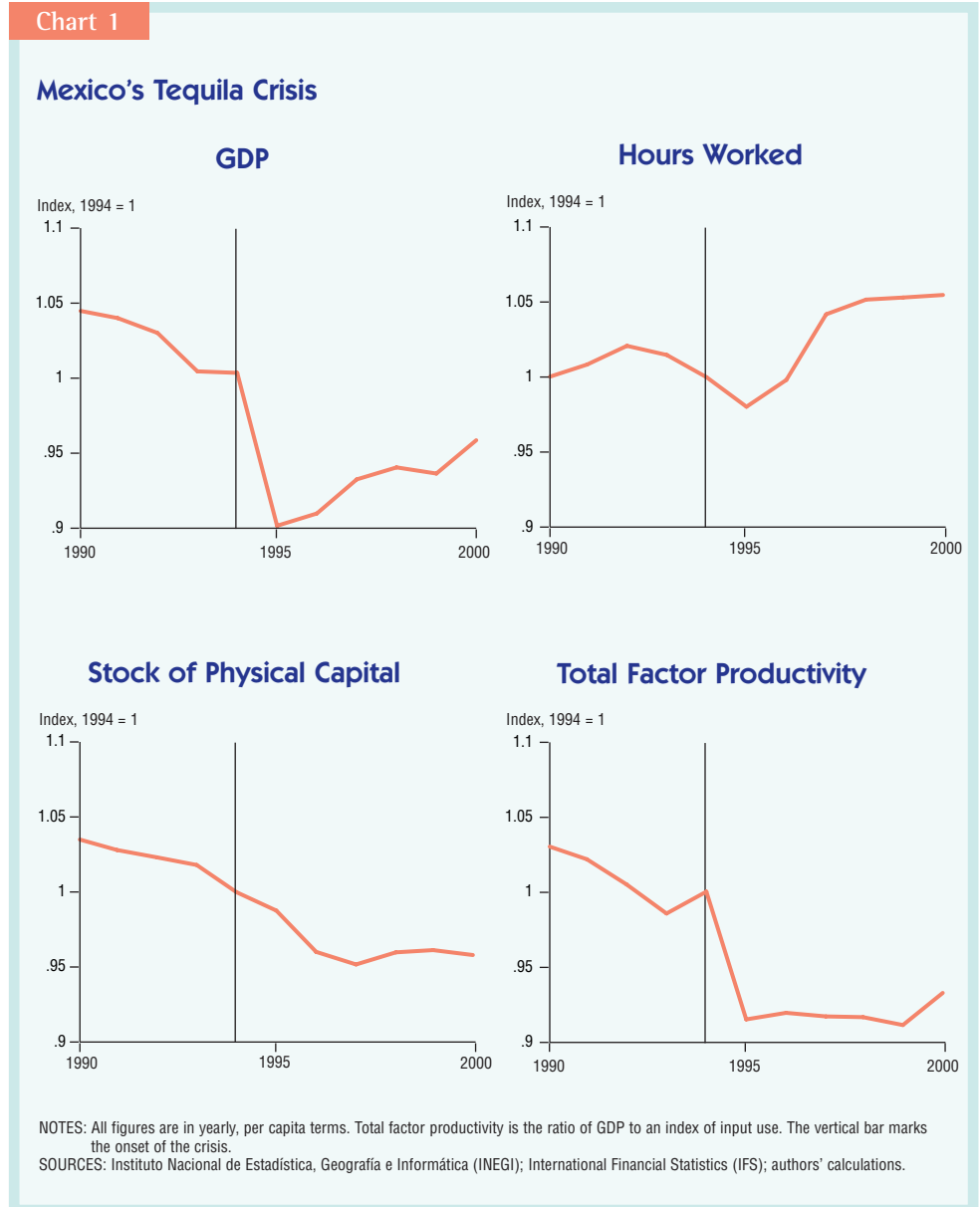
Financial Crises: Still a Mystery

Financial crises punctuate the history of many developing nations with devastating effects on economic activity and standards of living. In Mexico, for instance, a deep peso devaluation in 1982 and the consequent financial disruptions brought two decades of miraculous growth to a sudden halt. Several episodes followed throughout Latin America, causing much of the area to experience a lost decade of economic stagnation. Mexico's deepest crisis struck in December 1994, when yet another peso devaluation triggered the country's worst recession since the Great Depression.

Partly in hopes of reducing the frequency of such crises, most researchers have focused their attention on what triggers a financial collapse. Among other results, the study of past episodes underscores the importance of a credible commitment to monetary and fiscal discipline. Mexican authorities have made remarkable, well-documented progress in this area since the 1994 Tequila Crisis. As a result, the premium the country must pay on its debt issues is now among the lowest in Latin America, and Mexico has been crisis-free for over a decade.

While our understanding of what triggers crises has improved, the precipitous fall of output that follows most episodes continues to puzzle economists. Qualitatively, it is not surprising that financial turmoil causes economic activity to slow. Trade and investment credit play key roles in market economies, and negative shocks to the availability and cost of finance are bound to reduce output.

But during crises, output falls much more than what the available data on the use of productive factors would lead one to expect. In the case of Mexico's Tequila episode, for instance, gross domestic product fell much more than hours worked and measures of the stock of physical capital (*Chart 1*).¹ In the language of neoclassical economists, total



factor productivity (the ratio of output to input use) falls precipitously during financial crises. In fact, total factor productivity accounts for most of the behavior of output during crises. Countries that experience crises suddenly become less productive, and the size of the drop is far outside the typical range of productivity movements.

The behavior of productivity during crises presents a difficult challenge for standard macroeconomic models. Most obviously, because the productivity of labor falls so drastically, employment and hours worked should fall much more than the data show. So, therefore, should output. In this sense, the most puzzling aspect of financial crises may not be that

output falls so much, but rather that it falls too little.

Because productivity plays a dominant role during turbulent times, a first step toward understanding the real impact of crises is to explain why they cause the average productivity of factors to fall so much. Among many possible explanations, productive resources tend to be used less intensively during turbulent times. High interest rates combined with low productivity give firms strong incentives to postpone the consumption of capital services (for instance, by leaving plants or machines temporarily idle) and economize on variable expenditures, such as wear and tear, until business conditions improve. On the labor side, firms may choose to hoard workers during periods of low activity to economize on labor-adjustment costs. Some recent investigations find that capital utilization and labor hoarding can, in fact, account for a nontrivial part of produc-

tivity movements during crises.

Promising as these findings may be, however, factor utilization is not likely to fully explain the real impact of crises. First, productivity continues to fall by an unusual amount after controlling for changes in factor utilization. Second, some calculations suggest that models with factor utilization also predict that output should fall much more during crises than what we observe.² The demand for factors is more stable in those models than in models with fixed utilization, but this is offset by large swings in utilization rates.

Given the difficulties crises pose for standard models, understanding the real impact of financial crises is likely to require some modeling of resource allocation across sectors. For example, employment started growing briskly in Mexico's export sector after the 1994 devaluation. The fall in productivity could reflect transitory losses in the qual-

ity of labor as employees devote time to learning new skills. This line of research should shed much-needed light on the real effects of crises and could yield new explanations for two decades of lackluster growth in Latin America.

—Felipe Meza
Erwan Quintin

Meza is an assistant professor at the Universidad Carlos III de Madrid. Quintin is a senior economist in the Research Department of the Federal Reserve Bank of Dallas.

Notes

¹ For similar evidence of other crisis episodes, as well as a survey of the recent literature on financial crises, see "Financial Crises and Total Factor Productivity," by Felipe Meza and Erwan Quintin, Center for Latin American Economics Working Paper No. 0105, March 22, 2005 (www.dallasfed.org/latin/papers/2005/lawp0501.pdf).

² See Meza and Quintin (2005).

Mexican GDP Falls but No One Notices

Two years ago, we reported on these pages about difficulty in correctly interpreting Mexico's GDP reports.¹ The complication involves Easter's habit of moving around in the Gregorian calendar. Sometimes this religious holiday occurs in the first quarter and sometimes in the second. Because economic activity is reduced in the quarter in which Easter falls, when Easter switches quarters from one year to the next, the situation is ripe for the confusion we pointed out earlier.

Easter fell in the second quarter in both 2003 and 2004, so last year the issue was moot. This year, Easter fell in the first quarter, leading to possible confusion.

In the opening sentence of its statistical release on Mexico's second quarter 2005 gross domestic product, the Instituto Nacional de Estadística, Geografía e Informática (INEGI, Mexico's census bureau) reports that GDP was 3.1 percent greater than in the second quarter of 2004. This statistic is calculated from data

that have not been seasonally adjusted and, in particular, have not been adjusted for Easter's wayward effects. The report further notes that GDP declined 0.42 percent in second quarter 2005 relative to first quarter 2005.

The year-over-year statistic is what the Mexican report has historically headlined—and with good reason. Until fairly recently, INEGI did not calculate, or at least did not report, seasonally adjusted statistics. When analyzing data that are not seasonally adjusted but are subject to seasonality, it is standard operating procedure to look at year-over-year changes. When seasonal effects are irregular with respect to the calendar, such as Easter's, the year-over-year calculation is not valid when Easter falls in different quarters in successive years. In other words, INEGI's lead statistic sometimes suffers from statistical bias.

INEGI's seasonal adjustment procedure is sophisticated, taking full account of the Easter effect. The seasonally

adjusted data have been purged of the potentially distorting effect of Easter moving around in the calendar. This makes it possible to report meaningful quarter-over-quarter statistics, which INEGI does—but does not emphasize. Although the main reason for emphasizing year-over-year changes has been eliminated with INEGI's now more sophisticated approach to seasonal adjustment, it may still be useful to calculate such changes. But to be meaningful, these changes must be calculated from the seasonally adjusted data. According to INEGI's own seasonally adjusted data, Mexico's GDP grew 1.9 percent from second quarter 2004 to second quarter 2005. INEGI's reported figure of 3.1 percent is biased upward because Easter's occurrence in second quarter 2004 depressed that period's output.

In spite of the stumbling block placed before them, analysts are often able to make sense of the situation. However, their reportage is often awk-