

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.

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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-

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ward and confusing. In one example of many, *DismalScientist* reports, “The Mexican economy showed a rebound in the second quarter, positively influenced by the Easter holiday.”² Note that the terminology “in the second quarter” is confusing. One might think *DismalScientist* is referring to growth between the first and second quarters, but that is not the case. It is referring to INEGI’s reported growth of 2.4 percent from first quarter 2004 to first quarter 2005, compared with 3.1 percent from second quarter 2004 to second quarter 2005. Such reportage is typical of articles about Mexican GDP. In other contexts, reporters often use the expression “in the quarter” to mean “during the quarter,” a more appropriate usage.

According to INEGI’s seasonally adjusted (and Easter-corrected) data, GDP declined by 0.42 percent from first to second quarter 2005. What sort of “rebound” is this? Even the year-over-

year data show no rebound when corrected for Easter. The year-over-year figures above for first- and second-quarter growth (2.4 and 3.1 percent, respectively) become 3.7 and 1.9 percent, respectively. In other words, year-over-year growth declined, primarily due to severe slowing in the first quarter (0.18 percent) and an actual decline of 0.42 percent in the second quarter.

How much clearer to report, simply, “After averaging growth of about 1 percent per quarter in 2004, GDP growth fell to 0.18 percent in the first quarter of 2005 and GDP declined 0.42 percent in the second quarter.” There is no need to mention Easter at all.

—Franklin D. Berger

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Notes

¹ “(Mis)reporting Mexico’s Gross Domestic Product,” by Franklin D. Berger, Federal Reserve Bank of Dallas *Southwest Economy*, Issue 5, September/October 2003.

² “Mexico: GDP,” by Alfred Coutino, in *DismalScientist*, August 16, 2005, www.economy.com/dismal/pro/blog.asp?cid=16827.

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