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Earthquake Aftermath

On October 17, 1989 an earthquake measuring 7.1 on the Richter scale shook the Santa Cruz and San Francisco Bay areas. Also dubbed the "pretty big one," the Loma Prieta earthquake killed 62 people, severed critical highway links, and damaged or destroyed many buildings. A year later, quake-related economic changes appear to be relatively minor in comparison to other economic changes. Indeed, even in the weeks immediately following the quake, the overall impact appeared to have been quite modest.

For most hard-hit areas and some sectors of the region's economy, economic aftershocks lasted only a few months. Some other areas, however, continue to endure hardship now. This *Letter* examines the extent of economic aftershocks in the region.

Little overall impact
The impact of the earthquake on the region's overall pace of economic activity appears to have been relatively modest, even in the weeks immediately following the quake. As defined here, the region consists of Santa Cruz, Santa Clara, San Mateo, San Francisco, Marin, Alameda, and Contra Costa Counties.

October 1989 employment data, the last collected before the quake, show that employment had grown 2.3 percent since October 1988. Employment growth did slow in December, to 1.4 percent, but annual gains throughout 1990 have consistently been close to 2 percent. Although this pace represents some slowing from the 3 to 3½ percent increases seen during early 1989, it actually exceeds the rate of growth consistent with the pre-quake relationship between employment growth in the Bay Area and the rest of California (or the United States). Thus, the Bay Area's slower growth seems to result more from a national slowdown than the lingering effects of the earthquake.

Brief slowing in retail trade
Weakness in retail activity accounts for most of the sluggishness seen in employment during December of 1989. For the region as a whole, retail trade employment fell 0.5 percent between December 1988 and December 1989. This decline reflected large decreases of 7.2 percent in Santa Cruz County, 4.7 percent in Santa Clara County, and 0.5 percent in the San Francisco metropolitan area (San Francisco, San Mateo, and Marin counties). A drop in retail trade that began shortly before the earthquake may have been partly responsible for the decline in Santa Clara County. The earthquake itself may have caused the slide in Santa Cruz County.

Growth of 3.4 percent in Alameda and Contra Costa Counties only partly offset the declines elsewhere. In those two counties, the earthquake did not seem to have affected retail trade significantly. Anecdotal information suggests that some suburban areas (including those in Alameda and Contra Costa Counties) may even have benefitted to some extent, as damaged freeways led shoppers to stay closer to home.

To some extent, weak retail activity in December may simply have reflected a broader weakness in Christmas sales due to macroeconomic factors. The concentrated retail sales activity in the Christmas season could have exaggerated the impact on December figures. Data for regions of California outside the Bay Area suggest that December was a particularly weak month statewide. National employment in the retail sector did not, however, show a similar break.

Some weakening in the fourth quarter of 1989 also is apparent in region-wide data on taxable retail sales. While taxable sales grew 9.0 percent between the third quarter of 1988 and the third quarter of 1989, the annual growth rate slowed to 6.4 percent in the fourth quarter. Such a slackening is not, however, out of line with the normal volatility from quarter to quarter.

Growth in taxable sales slowed by one-and-a-half to three percentage points between the third and fourth quarters of 1989 in most individual Bay Area counties as well. However, San Francisco and Alameda Counties recorded more dramatic declines. Taxable sales shrank during the fourth quarter in the former, after posting a 5.5 percent rise in the third quarter. The growth rate of sales in the latter declined by over five percentage points.

In contrast, some Bay Area counties fared better than the region-wide average. The growth rate of sales jumped almost three percentage points in Marin County, and more than two percentage points in Monterey County. Sales growth was essentially unchanged in San Mateo County. Somewhat surprisingly, the growth rate of sales in Santa Cruz County posted a decline of less than one percentage point, which is slightly better than the region's average.

The experiences of some cities and counties also deviated greatly from that of the entire Bay Area. Cities with sharp declines in year-over-year growth included (in addition to San Francisco mentioned above) Santa Cruz, Watsonville, and Scotts Valley, all close to the quake's epicenter, as well as Oakland, Mountain View, and Alameda.

Although the overall effects on Bay Area retail sales appear to have been relatively modest, the data suggest that some communities suffered considerable declines in the weeks immediately after the earthquake. The earthquake hit downtown shopping areas especially hard in a few communities, including Santa Cruz and Oakland, and damaged several transportation links between San Francisco and outlying areas.

Temporary drop in visitors

One of the concerns often voiced after the earthquake was that the quake might hurt visitor activity, which is an important component of the region's economy. Visitors might stay away because of fears about weakened infrastructure and possible future quakes. As evidence of shaken visitor confidence, some have pointed to a decrease in hotel occupancy rates in San Francisco in the first quarter of 1990 as compared with the first quarter of 1989.

They neglect, however, a 12 percent rise in the number of hotel rooms during 1989. That increase could cause a falling occupancy rate even without a decline in the number of hotel rooms occupied. The number of occupied rooms did drop 14 percent from the year-earlier level in January, but it actually rose 1 and 5 percent in February and March, respectively.

Moreover, San Francisco's hotel occupancy figures improved substantially during the course of the year. The 76 percent occupancy rate in July was significantly higher than the year-earlier level of 71 percent, and the number of hotel rooms occupied was up by about eight percent. The gains were particularly strong for higher-priced hotel rooms, whose occupants are presumably likely to spend more and hence provide more stimulus to the region's economy.

Hotel employment data for the Bay Area as a whole show that the rate of growth slowed during early 1990, but has resumed its pre-quake pace since then. Growth slacked off in San Francisco during November, December, and January. For Alameda and Contra Costa Counties, in contrast, November and December were particularly strong months for growth in hotel employment. San Jose's hotel employment has been weak since the beginning of 1990, following strong November and December figures. However, this weakness is probably associated with a general softness in the area's economy due in part to a stagnant electronics sector, rather than to earthquake-related effects.

Thus, the data available on visitor-related businesses suggest that the earthquake had a relatively short-lived adverse effect of only a few months in most areas. In San Jose, where data suggest that weakness continues to linger, broader economic factors rather than disruptions caused by the earthquake seem to be responsible.

Home sales activity

Another possible impact of the earthquake might have been a decrease in home sales activity and housing prices as potential buyers get "cold feet" about purchasing property in earthquake country. The number of homes sold did fall in affected areas during October and November of 1989, but the drop seems part of a general slowdown in home sales.

Home sales had fallen in September as well. In fact, California had been experiencing a decline in the number of monthly home sales (on a seasonally adjusted basis) for about six months *before* the Loma Prieta earthquake. For some time, there has been a general cooling in home sales activity in coastal California, and the earthquake did not cause any sudden change. This suggests that the quake neither exerted an independent effect nor precipitated the decline.

Likewise, the Bay Area's median home price fell slightly during October, November, and December of 1989. However, the median home price had fallen somewhat in September as well. During the fourth quarter of 1989, the median home price fell relatively more for California than it did for the Bay Area. Thus, once again, the pattern of changes suggests that the declines were related to broader economic factors and not to the earthquake.

The silver lining: construction activity

Early predictions of the economic impact of the earthquake generally included a "silver lining." The good news would be an increase in construction activity related to repairing and replacing quake-damaged structures. Consistent with these predictions, construction employment grew faster during the months following the earthquake. In the Bay Area, construction employment had been growing at a two to three percent pace during the months prior to the earthquake. Employment growth surged into the 5 to 6½ percent range during November, December, and January before settling in at three to four-and-a-half percent over the next six months.

This pattern contrasts sharply with that for California as a whole, where the rate of growth in construction employment was slowing somewhat during the summer of 1989. The slowing trend continued throughout the pre- and post-quake periods. By August of 1990, statewide construction employment was virtually unchanged from a year earlier, whereas construction employment in the Bay Area counties had grown to 2.9 percent above its year-earlier level.

These figures suggest that the earthquake did indeed stimulate construction activity in the Bay Area. Moreover, because much of the funding for construction came from outside the region, the increased construction activity did not subtract from other expenditures by Bay Area residents as much as it otherwise would have. Sources of funding included federal and state disaster assistance and, to a lesser extent, insurance claims.

Not all areas benefited equally from the stimulus of increased construction activity, however. In particular, construction employment was relatively flat in the San Jose area throughout the period. Santa Cruz County experienced the most dramatic gains in the post-quake period, with double-digit gains in every month from November 1989 to August 1990. However, it is not clear how much of this construction boom was due to earthquake repairs and how much to other economic factors. Even before the earthquake, Santa Cruz County had been experiencing very rapid growth in construction employment, at rates ranging from 7½ percent in September 1989 to 17 percent in June 1989.

Moreover, employment data suggest that, in the months immediately following the earthquake, employment in heavy construction (which includes highway and street construction) surged dramatically. This surge reflected such efforts as repair of the Bay Bridge, demolition of the collapsed Cypress structure in Oakland, and shoring up of precarious highway structures elsewhere.

By the Spring of 1990, however, the stimulative impact of these efforts seemed to be fading. Some of the largest rebuilding projects are still on hold, pending decisions on such issues as where to locate the replacement for the Cypress structure and how to rebuild or replace the damaged Embarcadero Freeway in San Francisco.

Conclusion

A year later, the Loma Prieta earthquake does not appear to have significantly affected the Santa Cruz and San Francisco Bay region's economy. For the most part, disruptions to economic activity appear to have been short-lived. Moreover, the Bay Area received some short-term economic stimulus from the rebuilding effort. This stimulus appears to have been enough to counteract the post-quake weakness in other economic sectors.

Although the overall economic impact of the quake appears largely to have dissipated, some quake-related effects are still apparent. Several highway links remain severed, creating serious bottlenecks and changing the behavior of individual motorists and long-haul truckers alike. Some damaged buildings in many parts of the region, including hard-hit downtown Santa Cruz and the Marina district of San Francisco, have yet to be rebuilt. Nevertheless, on balance, the earthquake's economic aftershocks have been relatively small.

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