

WEST MICHIGAN VIEWPOINT

Technological Change and Economic Indicators

It is becoming increasingly unclear whether tracking the number of help-wanted ads monitors local hiring conditions or simply the decline of local newspapers. Disruptive technological change in communication technology is threatening the very existence of daily newspapers across the country, from the now-defunct Ann Arbor News to the shaky San Francisco Chronicle. As more and more of us are getting our news about local and worldwide events through Internet news sources, it is uncertain how many newspapers will survive.

Traditionally in local labor markets, the newspaper played a key role in connecting job seekers and employers. For decades, the help-wanted section of the local paper was a major source for information on the availability of local employment opportunities, and thus it served as an excellent indicator of the health of the local labor market. An increase in the number of help-wanted ads in the local paper was a clear indication that employers were hiring. However, over the past decade more and more businesses have begun posting their job openings electronically. For economic researchers this is a major headache because there hasn't been an easy way—or any way at all—to keep track of the weekly number of electronic job postings being made by local employers.

Fortunately, a new source is now becoming available to track changes in Internet search activity. Recently, the well-known search-engine company Google began offering a new service called Google Insight, which provides regular data on relative changes in the number of users seeking information on a variety of topics—including employment services. The data are updated on a weekly basis and can be narrowed down to relatively small geographies, such as the west Michigan media market. However, the data set is not without its problems:

- The data do not track individual users; therefore, we cannot control for multiple searches by the same users.
- Google currently controls 65 percent of the search engine market, and it remains unclear whether its users provide a representative sample of all Internet search activity.
- Detail on individual metropolitan areas is not readily available; we must be content with an indicator for the overall region.

The chart below compares change in the west Michigan unemployment rate and change in the Google search strength for a category of search topics related to employment assistance. The relative strength of a search topic category is normalized to the overall volume of search activity in the region; therefore, changes in the search strength line reflect changes in the relative popularity of the topic and not the absolute volume. Our analysis suggests that search volume and the region's unemployment rate have a positive relationship: as unemployment increases, people are more likely to search the Internet for employment-related assistance, and vice versa. Despite a divergence in the two values between March and May, the unemployment rate and relative search volume are strongly correlated, having a Pearson's Coefficient of 0.716 (1.0 being an exact fit). Overall, preliminary statistical analysis suggests that the change in search volume provided by Google Insight has characteristics of a leading indicator.

In the next issue of *Business Outlook* we plan to welcome this indicator to our limited number of local economic indicators for west Michigan. An early test will be to see if the decline in search volume during the spring will have accurately predicted a decline in unemployment later this year.

West Michigan Unemployment and Related Google Search Strength

