

- The Impact of Universal Preschool on the Childcare Sector
- Which News Moves Stock Prices?
- Female Labor Supply in the United States
- Health Information Technology and Patient Outcomes
- Nominal Exchange Rates and Inflation Indexed Bond Yields
- Reallocation and Technology

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The Impact of Universal Preschool on the Childcare Sector

Government programs for early childhood education have expanded in recent decades. Two states illustrate this trend. Georgia expanded its preschool program to all age-eligible residents in 1995, enabling money from the state government to follow children to the government-certified provider of their parents' choice. Oklahoma adopted universal preschool in 1998, offering it through the state's existing public school system. As one would expect, these different subsidy methods led to substantial differences in the market for childcare.

In **Does State Preschool Crowd-out Private Provision? The Impact of Universal Preschool on the Childcare Sector in Oklahoma and Georgia** (NBER Working Paper No. 18605), **Daphna Bassok, Susanna Loeb, and Maria Fitzpatrick** analyze the effect of these expansions in universal preschool for 4-year-olds in Georgia and Oklahoma, both on the total amount of formal child-

care provided and on the outcomes for public-versus-private childcare providers.

They find that in both states, new publicly funded childcare centers tended

“New publicly funded child care centers tended to increase the total number of childcare providers.”

to increase the total number of childcare providers, indicating that government intervention can increase preschool use. In Georgia, where universal preschool mandated 6.5 hours of daycare and cost \$4,298 per child in 2010–11, the childcare sector expanded by 25 percent. Georgia's Pre-Kindergarten program allowed students to enroll in either public or private preschools, and the observed expansion of childcare occurred in both the public and private sectors. The majority of the participants in the publicly funded preschool program enrolled in public or private centers that were in operation before the new mandate took effect.

In Oklahoma, where about 90 percent of the universal preschool slots are provided through the public school system, both half (2.5 hour) and full (6

hour) days are allowed. Average spending in 2010–11 was \$3,461. The number of formal childcare providers increased by 30 percent after the program took effect, although almost all of that increase (90 percent) took place in the public sector.

The authors find that government subsidized programs increased the availability of childcare in rural areas even more than in other parts of Georgia and Oklahoma. This finding suggests that efforts to expand preschool use may be most productive when targeted at areas with initially lower levels of supply.

—Linda Gorman

Which News Moves Stock Prices?

In **Which News Moves Stock Prices? A Textual Analysis** (NBER Working Paper No. 18725), **Jacob Boudoukh, Ronen Feldman, Shimon Kogan, and Matthew Richardson** maintain that common business news

sources, such as the Wall Street Journal and the Dow Jones News Service, contain many stories that are not relevant in terms of company fundamentals. They conclude that what is important for stock prices is the type and tone of the news. By

applying advanced textual analysis to the actual language of news articles, they discern a strong relationship between information and stock price changes.

Boudoukh and his co-authors combine a dictionary-based sentiment mea-

sure, an analysis of phrase-level patterns, and a methodology for identifying relevant events for companies (broken down into 14 categories and 56 subcategories). Over the sample period of 2000–2009 for all S&P 500 companies, the Dow Jones Newswire produced over 1.9 million stories, but the researchers identify only about half of them as relevant events. This breakdown into “identified” and “unidentified” news makes a difference to the analysis, as does using a more sophisticated textual analysis, rather than a simple count of positive-versus-negative words.

Classifying articles into topics such as analyst recommendations, financial information, and acquisitions and mergers, the researchers compare days with no news, unidentified news, and identified news. They show that stock-level volatility is similar on no-news days and uniden-

tified news days, which is consistent with the idea that the intensity and importance of information arrival is the same across these days. In contrast, the volatil-

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ity of stock prices on identified news days is over twice that of other days.

Furthermore, the results are consistent with the idea that identified news days contain price-relevant information. Another finding is that deals and partnership announcements tend to have very positive effects, while legal announcements tend to have negative effects. Moreover, some topics, such as analyst recommendations and financials, are much more likely to appear on extreme return days. This suggests that different

topics may have different price impacts.

Boudoukh, Feldman, Kogan, and Richardson conclude that their methodology may be useful for a deeper analysis

of the relationship between stock prices and information, especially on the behavioral side. “There is a vast literature in the behavioral finance area,” they write, “arguing that economic agents, one by one, and even in the aggregate, cannot digest the full economic impact of news quickly. Given our database of identified events, it is possible to measure and investigate ‘complexity’ and its effect on the speed of information-processing by the market.”

— Matt Nesvisky

Female Labor Supply in the United States

In 1990, U.S. women’s labor force participation rate (LFPR) was 74 percent, sixth highest among 22 economically advanced countries. By 2010, it had risen slightly to just over 75 percent, while the LFPR of women in other economically advanced countries had increased substantially, from 67 to nearly 80 percent, on average. As of 2010, U.S. women ranked 17th in LFPR out of these 22 countries.

Unlike the United States, many other of those countries have enacted an array of policies designed to facilitate women’s participation in the labor force, and such policies have expanded on average over the last 20 years relative to those of the United States. In **Female Labor Supply: Why is the U.S. Falling Behind?** (NBER Working Paper No. 18702), authors **Francine Blau** and **Lawrence Kahn** study the role of such policies in explaining the decline in U.S. women’s relative position in labor

force participation internationally. They also discuss some possible unintended side effects of these policies, including

“The expansion of ‘family-friendly’ policies, including parental leave and part-time work entitlements in other OECD countries, explains nearly 30 percent of the decrease in U.S. women’s labor force participation relative to these other countries.”

a reliance on part-time employment for women and lower female representation in high-level positions.

They find that the expansion of “family-friendly” policies, including parental leave and part-time work entitlements in other OECD countries, explains nearly 30 percent of the decrease in U.S. women’s labor force participation relative to these other countries. However, family-friendly policies also appear to encourage part-time work and employment in lower level positions: U.S. women are more likely than women in these other countries to have full-time jobs and to work

as managers or professionals. Moreover, the authors find that while more generous family-friendly policies raise women’s

employment, most of this effect comes from the expansion of part-time, rather than full-time, jobs.

These family-friendly policies also may lead employers to engage in statistical discrimination against women for jobs leading to higher-level positions, if employers are unable to predict which women are likely to avail themselves of these options and which are not. While the authors find that these policies may give women options that they would not otherwise have had, they also may leave women less likely to be considered for high-level positions. — Lester Picker

Health Information Technology and Patient Outcomes

Some healthcare policymakers have argued that increased adoption of health information-technology (IT) systems within hospitals would lead to improved quality of care for patients. In **Health Information Technology and Patient Outcomes: the Role of Organizational and Informational Complementarities** (NBER Working Paper No. 18684), co-authors **Jeffery McCullough**, **Stephen Parente**, and **Robert Town** review and analyze the IT systems at thousands of U.S. hospitals, along with millions of Medicare discharge records, and conclude that IT adoption in general does not affect outcomes for the average patient. However, they find that IT solutions do have an impact on the mortality rates for patients with complex conditions that require cross-specialty coordination of care. Their results also suggest that the main benefits from IT adoption tend to flow toward larger health institutions that handle a wide variety of severe and complex caseloads.

As previous studies have shown, adoption of new IT solutions in general can lead to cost, communication, and productivity gains at many organiza-

tional levels within many types of institutions. These authors want to determine whether those general IT benefits ultimately extend to the care of patients, not

“[By] increasing communication and coordination among providers, who must manage clinical information coming from a number of different sources...health IT improve(s) outcomes for patients with complex and severe diagnoses... [but not for] average patients.”

simply to the benefit of the health institutions themselves. They focus primarily, although not exclusively, on the adoption of “electronic medical records” (EMR) and “computerized provider order entry” (CPOE) systems at hospitals to measure the impact of IT adoption on patient-care outcomes.

For this study, the authors use detailed, hospital-level IT adoption-rate information from the U.S. Health Information Management System Society for the years 2002 through 2007 and information about IT adoption at specific hospitals across the country from the American Hospital Association. During 2002–7, the number of hospitals adopting EMR and CPOE information technologies was increasing rapidly. In addition, the authors merge the hospi-

tal IT adoption data to millions of inpatient discharge records on every Medicare, fee-for-service patient admitted for one of four high-mortality conditions: acute

myocardial infarction; congestive heart failure; coronary atherosclerosis; and pneumonia.

In the end, the authors find that health IT generally improves patient care by increasing communication and coordination among providers, who must manage clinical information coming from a number of different sources. Such IT innovations improve outcomes for patients with complex and severe diagnoses. The authors estimate that health IT adoption averted 200 deaths per 100,000 admissions across the IT-sensitive conditions examined. However, they find no relationship between IT and the quality of care for the average patients, or any relationship between health IT and either readmissions or length of stay at hospitals.

—Jay Fitzgerald

Nominal Exchange Rates and Inflation Indexed Bond Yields

In Hot Tip: Nominal Exchange Rates and Inflation Indexed Bond Yields (NBER Working Paper No. 18726), **Richard Clarida** derives a structural relationship between the nominal exchange rate, national price levels, and observed yields on long maturity inflation-indexed bonds. Then, using high frequency data spanning the period January 2001 to February 2011, he decomposes the pound, euro, and yen exchange rates against the dollar into their fair value and

risk premium components.

This methodology identifies the importance of shocks to fair value and

“[H]alf of a given rise in the risk premium is reflected in a rise in the inflation indexed bond return differentials.”

shocks to risk premium in explaining exchange rate fluctuations over different periods, as well as over various horizons of interest. For example, Clarida shows that the rapid change in the euro-dollar

exchange rate from 1.45 in the spring of 2008 to 1.60 in the summer of 2008 was almost entirely attributable to a rise in

the risk premium in favor of the dollar, and thus against the euro. In fact, since the onset of the global financial crisis in September 2008, movements in the euro have been dominated by fluctua-

tions in the risk premium, while the fair value has fluctuated in a narrow range around 1.37. Similarly, movements in the fair value of the pound have been restricted to a narrow range around 1.65. In contrast, movements in the Japanese yen between 2005 and 2010 are almost

fully accounted for by a shift in the fair value, while the fluctuations in the risk premium during that period were small and not very volatile.

Overall, Clarida finds that the relative importance of the two factors—fair value and risk premium—varies depend-

ing on the sub-sample studied. On average, for all three exchange rates, roughly half of a given rise in the risk premium is reflected in a rise in the inflation indexed bond return differentials in favor of the foreign country, and the remaining half is reflected in an appreciation of the dollar.

—Claire Brunel

Reallocation and Technology

Between 1963 and 2002, the productivity of the U.S. steel industry soared as producers shuttered outdated mills and laid workers off. In **Reallocation and Technology: Evidence from the U.S. Steel Industry** (NBER Working Paper No. 18739), **Allan Collard-Wexler** and **Jan De Loecker** find that a key driver of that productivity was the arrival of a new technology: the minimill. They estimate that roughly half of the productivity gain in the steel industry came from efficient minimills displacing older and less productive vertically integrated steel plants. Furthermore, the increased competition from minimills caused the remaining vertically integrated producers to become more productive as well.

“[T]he main reason for the rapid productivity growth and the associated decline in employment is neither a steady drop in steel consumption, nor a consequence of globalization. Nor is it a displacement of production away from the Midwest,” they write. Although it is well-established that an industry’s reallocation of resources can substantially boost productivity, this is one of the first studies to provide a mechanism—in this case, the introduction of a

new technology—for how it works.

The effects can last over decades. Between 1963 and 2005, the steel industry lost some 75 percent of its employees, but

“Roughly half of the productivity gain in the steel industry came from efficient minimills displacing older and less productive vertically integrated steel plants.”

its product shipments by the end of the period nearly matched levels at the beginning. Worker productivity soared five-fold and total factor productivity rose by 38 percent.

By looking at plant-level data, the authors are able to reconstruct how the steel industry became more productive. The first minimill was built in the late 1950s. In the 1960s, minimills began to make inroads into the lower end of the steel market, primarily steel bar, because on average they were 11 percent more productive than the traditional big, vertically integrated plants. About one third of the industry’s overall productivity surge can be attributed to production of bar and other low-end products moving to minimills.

But the vertically integrated sector didn’t stand still. It began to close its bar-

producing mills. The authors calculate that these closures automatically made the vertically integrated producers more productive, because those mills making

steel sheet were already more productive than those making bars. This reallocation of resources—rather than improvements made at the surviving big mills—also explains a large portion of the industry’s growth in productivity. By 2002, the average vertically integrated mill was as productive as a minimill, although the two made different products. Minimills themselves also have made productivity improvements, allowing them to begin to compete in higher-margin products. “Our results suggest that the total effect of minimill entry on industry-wide productivity growth was 87 percent,” the authors conclude—some 50 percent directly from the entry of minimills and another 37 percent from the gains among vertically integrated mills.

—Laurent Belsie

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