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## Who Creates Jobs?

The popular perception that small businesses create most of America's jobs has been the focus of heated debate for three decades. However, the more telling characteristic for predicting job creation is the age of the firm, not its size, according to a new study by **John Haltiwanger, Ron Jarmin, and Javier Miranda**. In **Who Creates Jobs? Small vs. Large vs. Young** (NBER Working Paper No. 16300), the researchers conclude that the younger companies are, the more jobs they create, regardless of their size.

Of course, all startup firms operate in a volatile "up or out" environment. After five years, many of these young companies are "out" — they fail and, as a result, destroy nearly half of the jobs created by all new companies. Nevertheless, the surviving firms continue to ramp "up,"

growing faster than more mature companies, and creating a disproportionate share of jobs relative to their size.

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"The younger companies are, the more jobs they create, regardless of their size."

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"Firm startups account for only 3 percent of employment but almost 20 percent of gross job creation," the authors write. "[T]he fastest growing continuing firms are young firms under the age of five," the authors conclude.

In this study, which relies on data from the Census Bureau, the authors confirm that smaller companies created more jobs than larger companies during 1992–2005. But the importance of firm size depends very much on the assumptions one makes about the base year of the analysis, the number of employees

used to define "small", and other factors. The real driver of disproportionate job growth, they find, is not small companies, but young

companies. It is the startup firms that generate the surge of jobs that earlier research attributed to small companies.

Indeed, grouped in traditional ways, businesses tend to create jobs in proportion to their importance in the economy. Thus, large mature firms — those more than ten years old and with more than 500 workers — employed about 45 percent of all private-sector workers and accounted for almost 40 percent of job creation and destruction in this study.

— Laurent Belsie

## Cash for Clunkers Had Modest and Short-Lived Effects

Under the \$2.85 billion "Cash for Clunkers" program, the federal government paid automobile dealers between \$3,500 and \$4,500 each time a

customer traded in an older, less fuel-efficient vehicle and purchased a newer, more fuel-efficient vehicle. The rebates were passed on to customers as a pur-

chase incentive. The program was designed to boost automobile sales and to stimulate the economy.

In **The Effects of Fiscal**

**Stimulus: Evidence from the 2009 ‘Cash for Clunkers’ Program** (NBER Working Paper No. 16351), co-authors **Atif Mian** and **Amir Sufi** find that in 957 U.S. cities, the surge in automobile sales was short-lived while the program was in place. About 360,000 automobile purchases were induced in July and August 2009. Most of these purchases simply were brought forward by a few months: a sharp decline in sales after the program ended suggests that it had a muted total effect on auto purchases, the authors conclude.

For their analysis, Mian

and Sufi compare cities with high numbers of “clunkers” in the summer of 2008 to cities with lower numbers of clunkers.

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“A sharp decline in sales after the program ended suggests that it had a muted total effect on auto purchases.”

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Their entire sample accounts for 96 percent of U.S. auto sales. The researchers also attempt to tease out evidence of any positive economic impacts on cities with high numbers of clunkers, or with high numbers of employees working in the auto industry. They find some increased employment in cities with a

high proportion of auto-industry employment, but caution that this may have been attributable to the federal bailouts of

General Motors and Chrysler in early 2009. There is no evidence of an effect on house prices or household default rates in cities with higher exposure to the program.

— Kimberly Blanton

## The TIPS-Treasury Bond Puzzle

**T**IPS, or Treasury Inflation-Protected Securities, are obligations issued by the U.S. Treasury, similar in most respects to Treasury bonds except that the principal amount of a TIPS issue is inflation-indexed — that is, it is adjusted over time to reflect changes in the consumer price index. The Treasury began issuing TIPS in 1997.

With a type of arbitrage strategy, investors can convert the inflation-linked cash flows from a TIPS issue into fixed cash flows using inflation swaps. The resulting cash flows can then be structured to match the cash flows from a Treasury bond with the same maturity date as the TIPS issue, which results in straight-forward arbitrage profit opportunities that are greater than the costs of the transaction.

In **Why Does the Treasury Issue TIPS?** The TIPS-

**Treasury Bond Puzzle** (NBER Working Paper No. 16358), authors **Matthias Fleckenstein**,

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“The Treasury could save that money by buying back TIPS, entering into inflation swaps, and issuing Treasury bonds with the same maturity instead.”

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**Francis Longstaff**, and **Hanno Lustig** show that the price of a Treasury bond and an inflation-swapped TIPS issue that exactly replicates the cash flows of the Treasury bond can differ by more than \$20 (per \$100 notional), with Treasury bonds almost always overvalued relative to TIPS. The total differential, they estimate, has exceeded \$56 billion, or nearly 8 percent of the total amount of TIPS outstanding.

This mismatch in TIPS–Treasury pricing is strongly related to supply factors, such as Treasury debt issuance and the availability of collateral in the

financial markets, and is correlated with other types of fixed-income arbitrages. However, this

study raises the issue of why the Treasury issues TIPS, since in so doing it both gives up a valuable fiscal hedging option and leaves large amounts of money on the table. The authors contend that the Treasury could save that money by buying back TIPS, entering into inflation swaps, and issuing Treasury bonds with the same maturity instead.

The analysis here is based on a review of daily prices for 29 matched-maturity pairs of TIPS issues and Treasury bonds for the 64-month period from July 2004 to November 2009.

— Frank Byrt

## Government Grants Crowd Out Fund-Raising by Charities

**I**n *Is Crowding Out Due Entirely to Fundraising? Evidence from a Panel of Charities* (NBER Working Paper No. 16372), co-authors **James Andreoni** and **Abigail Payne** find that for every \$1,000 in government grants a charity receives, contributions to the charity increase by an estimated \$41, but the charity reduces fund-raising expenditures by \$141. Because charitable fund-raising is highly profitable, with more than \$5 raised for every dollar spent, this reduction in fund-raising expenditures reduces donations by an estimated \$757. Overall, therefore, the response to the \$1,000 grant is that “total contributions to the charity fall by \$757, and the charity nets \$385 including the

money it saves on fund-raising.”

The authors conclude that char-

Center for Charitable Statistics from 1985 to 2002. The 8,000

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“Every \$1,000 in government grants a charity receives ... reduces fund-raising expenditures by \$141, [which] ... reduces [private] donations by an estimated \$757.”

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ities themselves are responsible for almost all of this crowd-out. And, although these findings are preliminary, they imply that government policy could remediate crowd-out by requiring that charities match “a fraction of government grants with increases in private donations” or require that “total spending by the charity must rise by 100 percent of the grant amount.”

The estimates were made with data on charitable organizations’ IRS 990 filings from the National

charities included in the sample were 501(c) (3) nonprofits operating in the continental United States in human and social services. Although there were substantial differences in dependence on private money relative to government money by charitable specialization, the average charity in the sample collected \$787,000 in donations, \$905,000 in government grants, and spent \$91,000 on fund-raising.

— Linda Gorman

## Technology Diffusion and Postwar Growth

**W**ars are extremely disruptive episodes that lead to major destruction of productive economic resources, yet different countries recover at very different speeds after wars. For example, it took Spain 15 years to reach the pre-Civil War level of per capita GDP, while Italy reached its pre-WWII level of GDP just six years after the end of that war. In *Technology Diffusion and Postwar Growth* (NBER Working Paper No. 16378), authors **Diego Comin** and **Bart Hobijn** find that technology can explain part of the difference in economic recovery.

Comin and Hobijn investigate the remarkable postwar growth experiences of 39 Western European countries and Japan, all of whom had varying degrees of

involvement in WWII. They note that, in terms of real GDP per capita, these countries did not simply return to their prewar growth path — they moved up to a higher growth path than they were on before the war. This prosperity was

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“Technology can explain part of the difference [across countries] in economic recovery [after World War II].”

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driven mainly by growth in total factor productivity and was accompanied by commensurate increases in technology usage, the authors find.

The strong postwar growth performance relative to the United States happened in countries that also saw a relatively large pickup in the speed of adoption of technologies that had been invented

less than a century before the end of the war, not older technologies. According to the authors, a substantial part of the cross-country variation in these changes in technology adoption lags can be explained by differences in the

amount of postwar U.S. economic aid and technical assistance across countries. They interpret this as evidence of technology transfers from the United States to Western Europe and Japan being an important driving force of the impressive postwar growth performance by these recipients.

— Lester Picker

## The End of the Great Depression

In **The End of the Great Depression 1939–41: Policy Contributions and Fiscal Multipliers** (NBER Working Paper No. 16380), co-authors **Robert Gordon** and **Robert Krenn** conclude that nearly 90 percent of the economic recovery that took place between the first quarter of 1939 and the last quarter of 1941 can be attributed to fiscal policy innovations. Monetary policy innovations also had a positive effect, while innovations in non-government components of GDP had a negative effect.

This paper highlights a paradox in the study of fiscal multipliers: even though proponents of fiscal policy stimulus to cure a weak economy operate in an environment of low capacity utilization, most of the actual episodes of rapid fiscal expansion have taken place either prior to or during wartime episodes in which capacity constraints were operative (including World War II, the Korean war, and the Vietnam war). An ideal test case for measuring the fiscal multiplier occurred in the six quarters between mid-1940 and late-1941, prior to the Pearl Harbor attack. Previous analysts assumed that this period represented a fair test of the multiplier effect, because the unemployment rate was 9.9 percent on aver-

age during 1941. However, this paper shows that capacity constraints did exist in 1941, particularly in the second half of the year. The fiscal stimu-

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“Estimates of fiscal multipliers for 1940–41 are relevant to low-utilization situations like 2008–10 only when estimated through mid-1941, because the U. S. economy in the last half of 1941 was subject to severe capacity constraints.”

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lus in 1940–41 was partly crowded out not by any increase in interest rates, but rather by capacity constraints in critical areas of manufacturing that became increasingly binding in the second half of 1941. Therefore, estimates of fiscal multipliers for 1940–41 are only relevant to low-utilization situations like 2008–10 if they are based on the evolution of the U. S. economy through mid-1941 and exclude the effect of the capacity-constrained last half of 1941.

After reviewing evidence from the 1940–41 editions of *Business Week*, *Fortune*, and *The New York Times*, Gordon and Krenn document that the American economy went to war starting in June 1940, fully 18 months before Pearl Harbor. In February 1941 fully one percent of the American labor force was at work building army training camps for 1.4 million new draftees. Employment in ship-building to

expand the U. S. Navy and to supply Lend-Lease aid to Britain accounted for another one percent of the labor force in 1941. As early as June 1941,

capacity utilization had reached 100 percent in the production of iron and steel and durable goods of all types.

For this analysis, Gordon and Krenn develop a new quarterly dataset beginning in 1919 and they estimate a model of the U.S. economy for 1920–41 using those data. They show that private consumption and investment actually declined in the last half of 1941, as shortages of steel prevented auto companies from satisfying demand, and shortages of aluminum needed for aircraft production suppressed civilian production of everyday pots and pans. As a result, the government spending multiplier is 1.9 when estimated through mid-1941 but only 0.9 when measured through the end of 1941.

—Matt Nesvisky

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