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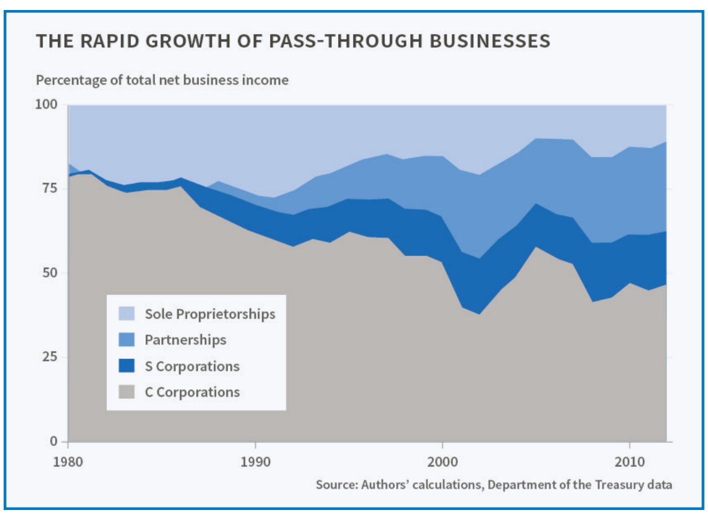
INSIDE THIS ISSUE

Who Owns U.S. Business? How Much Tax Do They Pay?

The importance of pass-through business entities has soared in the past three decades. Over the same period, the amount of pass-through business income flowing to the top 1 percent of income earners has increased sharply, according to **Business in the United States: Who Owns It and How Much Tax Do They Pay?** (NBER Working Paper No. 21651).

"Despite this profound change in the organization of U.S. business activity, we lack clean, clear facts about the consequences of this change for the distribution and taxation of business income," write Michael Cooper, John McClelland, James Pearce, Richard Prisinzano, Joseph Sullivan, Danny Yagan, Owen Zidar, and Eric Zwick. "This problem is especially severe for partnerships, which constitute the largest, most opaque, and fastest growing type of pass-through."



THE RAPID GROWTH OF PASS-THROUGH BUSINESSES

Source: Authors' calculations, Department of the Treasury data

Pass-through entities — partnerships, tax code subchapter S corporations, and sole proprietorships — are not subject to corporate income tax. Their income passes directly to their owners and is taxed under whatever tax rules those owners face. In contrast, the income of traditional corporations, more specifically subchapter C corporations, is subject to corporate income taxes, and after-tax income distributed from the corporation to its owners is also taxable.

In 1980, pass-through entities accounted for 20.7 percent of U.S. business income; by 2011, they represented 54.2 percent. Over roughly the same period, the income share of the top 1 percent of income earners doubled. Previous research has shown that the two phenomena are linked: The growth of income from pass-through entities accounted for 41 percent of the rise in the income of the top 1 percent. By linking 2011 partnership and S corporation tax returns with federal individual income tax returns, in particular Form 1065 and Form 1120S K-1 returns, the researchers find that over 66 percent of pass-through business income received by individuals goes to the top 1 percent. The concentration of partnership and S corporation income is much greater than the concentration of dividend income (45 percent to the top 1 percent) which proxies for income from C corporations (traditional corpo-

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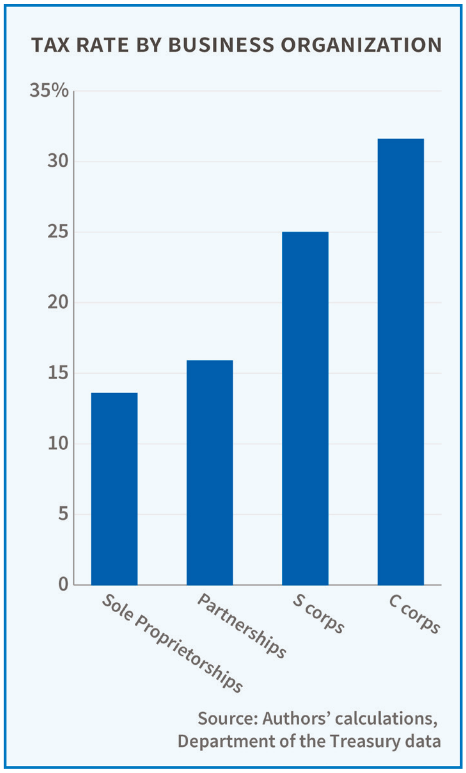
rations). While taxpayers in the top 1 percent are eight times as likely to receive dividends as taxpayers in the bottom 50 percent, the ratio for partnerships is more than 50 to 1.

Many partnerships are opaque. A fifth of partnership income was earned by partners that the study's authors were not able to classify into one of several categories, such as a domestic individual or a foreign corporation. In addition, some partnerships are circular, in the sense that they are owned by other partnerships, which could in turn be owned by yet other partnerships.

Pass-through business income faces lower tax rates than traditional corporate income. The tax rate on the income earned by pass-through partnerships is a relatively low 15.9 percent, excluding interest payments and unrepatriated foreign income. That compares with a 31.6 percent rate for C corporations and a 24.9 percent rate for S corporations. Only sole proprietorships have a lower average rate, 13.6 percent. Combining both taxes on corporations and taxes on investors, the researchers calculate that the U.S. business sector as a whole pays an average tax rate of 24.3 percent.

The lower average tax rate for pass-through entities than for traditional corporations translates into reduced federal revenues, the researchers conclude. They estimate that in 2011, if the share of pass-through tax returns had been at its 1980 level, when traditional C corporations and sole proprietorships dominated, the average rate would have been 3.8 percentage points higher and the Treasury would have collected $100 billion more in tax revenue.



Source: Authors' calculations, Department of the Treasury data

One reason partnerships pay such a low average tax rate is that nearly half their income (45 percent) is classified as capital gains and dividend income, which is taxed at preferential rates. Another 15 percent of their income is earned by tax-exempt and foreign entities, for which the effective tax rate is less than five percent. The roughly 30 percent of partnership income that is earned by unidentifiable and circular partnerships is taxed at an estimated 14.7 percent rate.

"A long-standing rationale for the entity-level corporate income tax is that it can serve as a backstop to the personal income tax system," the researchers conclude. "Our inability to unambiguously trace 30 percent of partnership income to either the ultimate owner or the originating partnership underscores the concern that the current U.S. tax code encourages firms to organize opaquely in partnership form in order to minimize tax burdens."

— Laurent Belsie

Market Bubbles: What Goes Up Doesn't Always Come Down

Do market booms inevitably result in busts? History suggests not, according to William N. Goetzmann in **Bubble Investing: Learning from History** (NBER Working Paper No. 21693).

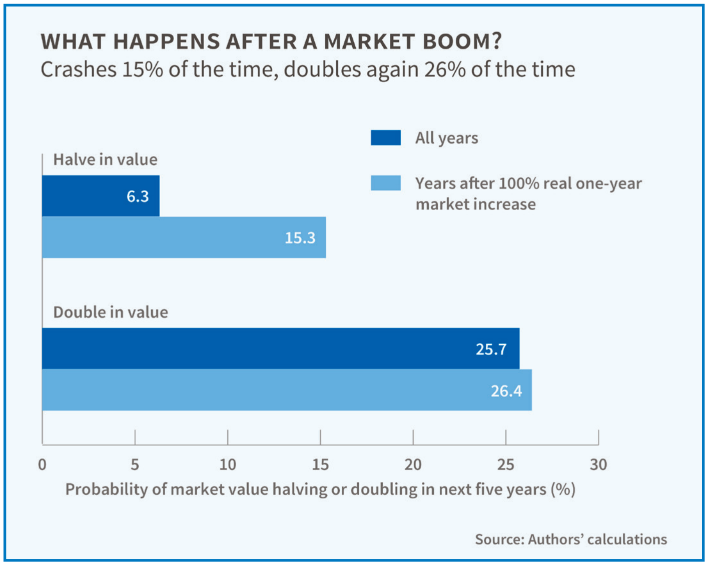
A dramatic market rise followed by an equally spectacular fall, such as a doubling in prices that is followed by a halving in value, is often regarded as a bubble followed by a bust. Seeking out such events, Goetzmann analyzes returns for 42 stock markets around the world from 1900 through 2014. He finds that bubble-and-bust episodes are uncommon, and urges caution in drawing conclusions from the widely-reported and discussed great bubbles of history.

The great majority of booms during which market values doubled in a single year were not followed by crashes wiping out those gains.

Conditional upon a market boom amounting to a stock price increase of 100 percent or more in a three-year period, crashes gave back prior gains only 10 percent of the time. Market prices were more likely to double again following a 100 percent price boom. The frequency of a market crash over a five-year period is significantly higher when that market has just experienced a boom, but the frequency of doubling over the next five years is not much affected by whether a market has recently boomed. Thus a boom does raise the probability of a crash, but the probability of a crash remains low. Probabilities of a crash following a boom in which prices doubled in a single calendar year were also higher, however the great majority of such extreme events were not followed by crashes that wiped out those gains.

Goetzmann suggests that his findings are relevant for regulators who are considering the desirability of deflating bubbles. If bubbles are often associated with investment in promising, albeit risky, new technologies, then when considering policies that may deflate them, policymakers may face a trade-off between staving off a financial crisis and encouraging fruitful investment. They may evaluate this trade-off differently if the probability of a crash following a boom is low rather than high.

— Matt Nesvisky

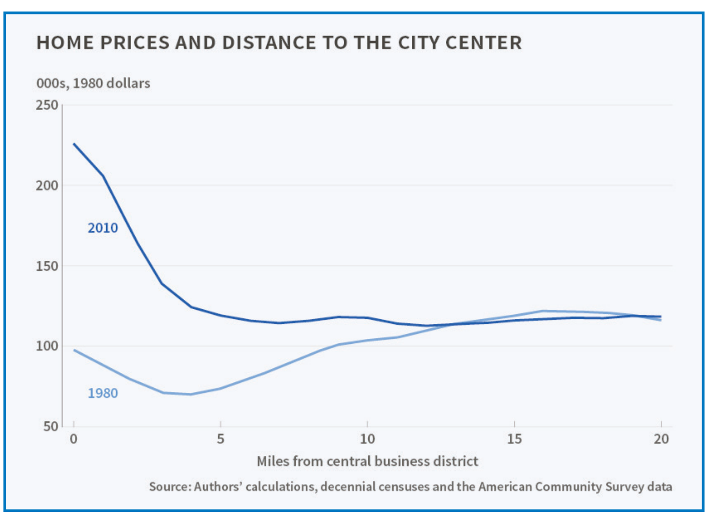


Time-Starved Skilled Workers May Be Driving Gentrification

In the period following World War II, suburbanization dominated the U.S. landscape. However, as the century drew to a close, urban gentrification, a broad-based rehabilitation of the central city as the place to work, live, and play, emerged as an important development. Since the 1980s, and more so recently, poverty has been rising faster in suburban areas than in cities. Between 2000 and 2010, for example, poverty rates in Manhattan and Brooklyn declined by 10 percent, while poverty rose on Staten Island, the most suburban of New York City's five boroughs.

The driving force in this change, according to Lena Edlund, Cecilia Machado, and Maria Micaela Sviatschi is a growing corps of time-starved, high-income, low-leisure households whose members seek to locate close to work.

> Moving closer to city centers is a time-saver for better-educated, better-paid 'leisure losers;' their preferences seemingly have reversed the long-standing trend toward suburbanization.



In **Bright Minds, Big Rent: Gentrification and the Rising Returns to Skill** (NBER Working Paper No. 21729) they show that in 1980, U.S. central-city residential real estate carried only a slight price premium. In fact, prices were higher for properties more than ten miles away from city centers than for those that were closer. By 2000, city centers were commanding the highest prices, with prices falling sharply with distance for the first five miles, and then holding steady as distance increased further.

The scarcity of leisure time for college-educated workers is a prime factor in their movement toward city centers, the researchers propose. Between 1985 and 2005, there was a contraction in leisure time among college-educated men, while there was an increase in leisure among those with less education. For women, leisure contracted across the board, but at twice the rate for college-educated women compared to non-college-educated women. This time crunch leaves workers keen on time-saving hacks, the researchers say, and living close to work is an important one. Especially for skilled workers, that means being close to the city center.

Rising labor supply of skilled workers plays a key role in explaining this set of changes. The fraction of college graduates working full time started to rise in the 1970s after three decades of little change. The increase was more pronounced for women than men. Since 1990, there also has been a notable increase in the fraction of men and women working more than 50 hours a week.

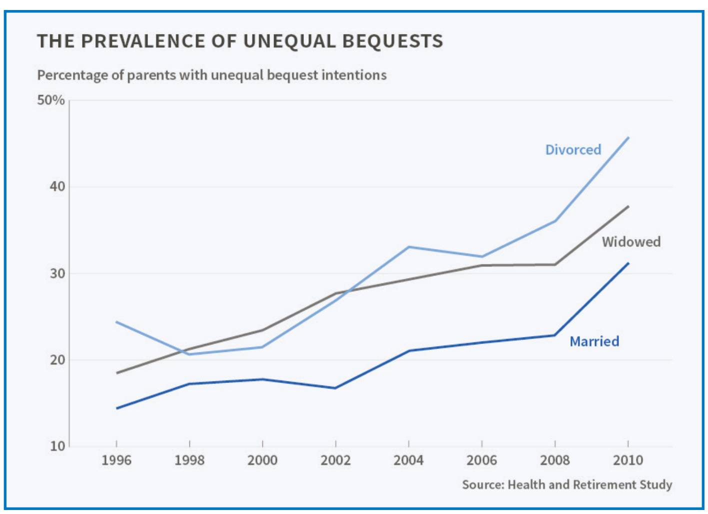
The researchers argue that gentrification may be the result of high-income households seeking to protect increasingly scarce leisure by reducing time spent on low-utility activities such as commuting. In other words, they trace the rise of centrality as the local amenity of choice (a departure from the earlier trend of suburbanization) to high-income households being increasingly leisure-starved.

—Les Picker

Parents Increasingly Divide Bequests Unequally

Anyone counting on a certain share of an inheritance should be aware that in recent years, parents have become increasingly likely to divide their estates unequally.

In **Unequal Bequests** (NBER Working Paper No. 21692), Marco Francesconi, Robert A. Pollak, and Domenico Tabasso analyze a nationally representative sample of parents in the Health and Retirement Study from 1995 through 2010. The survey contacted more than 26,000 Americans, interviewing them at two-year intervals. Of these, 21,140 had more than one child, and 5,082 had both genetic children and stepchildren.



Among parents over 50 who reported having wills, the fraction treating their children unequally rose from 16 percent to 35 percent over this period. Parents with stepchildren were about 30 percentage points more likely to be planning unequal bequests than those with only genetic children. The overall trend away from equally divided bequests appears to be driven in part by the increasing prevalence of parents with stepchildren.

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Among those with only genetic children, contact matters. Parents who have had no contact with at least one of their genetic children for more than a year are roughly 40 percentage points less likely to intend equal bequests than parents who have remained close to all of their genetic offspring.

With regard to stepchildren, the researchers note several factors that are associated with an increase in the parents' intended estate share. If the relationship with a stepchild has lasted longer than seven to 10 years, the stepchild is as likely to be included in a will as a genetic child. This is the case regardless of the age of the child when the relationship began. If the stepparent reports having cared for the stepchild's children, the stepchild is about seven percentage points more likely to be included in the will. "This may reflect trust and bonding," the researchers write. They find that parents in blended families are more likely to include stepchildren in their wills if the predicted income of those children is less than that of their genetic offspring.

The researchers caution that two out of five survey respondents with children reported they had not made a will and “the presence of stepchildren does not affect the probability of writing a will.” In the absence of a will, estates would be divided equally among genetic and adopted children, with no provision for stepchildren. The researchers suspect that the absence of wills “reflects the disutility of making wills (and contemplating death) rather than preferences for the distribution mandated by intestacy law.”

— Steve Maas

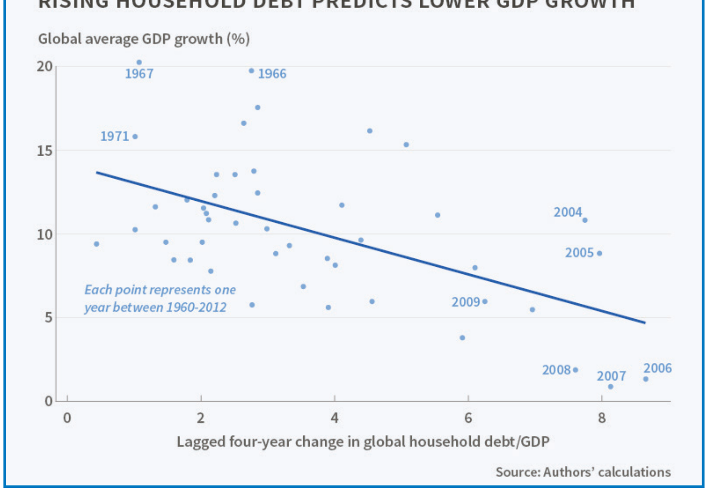
Household Debt and Business Cycles Worldwide

An analysis of business cycles in 30 mostly advanced economies finds that burgeoning household debt is a strong indicator of an impending economic downturn.

An increase in household debt in relation to a country’s GDP is, at least in the short to medium term, a strong predictor of a weakening economy, according to an analysis of data from 30 nations by Atif R. Mian, Amir Sufi, and Emil Verner. The researchers use slowing growth and rising unemployment as key indicators of weakening. They find that the household debt factor is a better predictor of downturns than the debt of nonfinancial firms.

In **Household Debt and Business Cycles Worldwide** (NBER Working Paper No. 21581), the researchers analyze databases from the Bank for International Settlements, the World Bank, the Organization for Economic Cooperation and Development (OECD), and the International Monetary Fund (IMF) over the last half-century. They find that a rise in household debt, largely produced by more readily available credit, is a valuable forecaster of a contracting economy, citing as a prime example the growth of household debt in the early to mid-2000s and the slowing of global growth in the latter part of that decade.

The researchers see lower credit spreads and increases in risky debt as primary factors driving the rise in household debt. The availability of cheap credit spurs borrowing to finance higher consumption. In particular, household spending as a share of income rises during household debt booms, as do total imports and the share of consumption goods in total imports. The expansion in household debt is followed by a sharp slowdown in GDP, consumption, and investment growth. This slowdown is not anticipated by professional forecasters at the IMF and OECD, giving household debt the ability to predict growth forecast errors. The expansion in household debt is also followed by a sharp reversal of the current account balance, driven primarily by a fall in imports. If a number of countries are experiencing household debt growth at the same time, net export margins are unlikely to help an individual country export its way out of a downturn. Countries with a household debt to GDP cycle in line with that of the global debt cycle therefore see even larger declines in future output growth following a rise in household debt.



RISING HOUSEHOLD DEBT PREDICTS LOWER GDP GROWTH

The researchers state that their approach to relating changes in household debt to subsequent GDP would have predicted a fall in global GDP growth during the 2007 to 2012 period. “The Great Recession was not an extreme outlier,” they write, but “followed a pattern we would expect given the tremendous rise in global household debt that preceded it.”

They acknowledge that predicting economic developments is prone to error and miscalculation, but argue that their study nevertheless suggests that considering periods of rapid growth in household debt in relation to GDP is a useful means of foreseeing periods of economic retrenchment.

— Matt Nesvisky

Cross-Country Differences in Exchange Rate Effects on Inflation

Exchange rates, which give the price of a country's currency relative to foreign currencies, fluctuate based on global market dynamics. These fluctuations can affect domestic inflation rates. For example, if the U.S. dollar depreciates, imported goods generally become more expensive, and the prices of domestically produced goods may also rise as domestic producers face weaker competition from abroad.

In **The International Price System** (NBER Working Paper No. 21646), Gita Gopinath argues that the relationship between exchange-rate fluctuations and inflation varies considerably from country to country. Analyzing data from 46 developed and developing nations, she finds that which currency is used to set international prices has large, asymmetric effects on whether exchange-rate fluctuations pass through to domestic prices.

> When a large fraction of a country's trade is denominated in foreign currencies, its rate of inflation is more strongly affected by exchange-rate fluctuations.

EXCHANGE RATE FLUCTUATIONS AND INFLATION

	Percent of imports in home currency	Rise in import prices after 10% depreciation in home currency	
		Quarter after the shock	
		1	8
Turkey	3%	9.3%	10.0%
United States	93%	3.4%	4.4%

Source: Author's calculations

Gopinath's principal finding is that when a large fraction of a country's trade is denominated in foreign currencies, its rate of inflation will be more strongly affected by exchange-rate fluctuations. As an example, Turkey invoices just three percent of its imports in Turkish lira. When the lira depreciates by 10 percent relative to the currencies of Turkey's trading partners, Gopinath calculates, import prices measured in lira rise by 9.3 percent after one quarter and 10 percent after two years, meaning that the exchange-rate fluctuation is fully passed through to prices. In contrast, the United States invoices 93 percent of its imports in U.S. dollars. When the dollar depreciates by 10 percent, import prices measured in dollars rise by only 3.4 percent after one quarter and 4.4 percent after two years.

This incomplete pass-through rate has important benefits for the U.S. economy. In particular, it implies that the U.S. inflation rate is relatively immune to the monetary policy of the rest of the world. If Turkey tightens its monetary policy, this will affect the exchange rate between the U.S. and Turkey, but will not have much effect on U.S. inflation. However, if the U.S. tightens monetary policy, the resulting appreciation of the dollar will tend to inflate prices in Turkey, as 60 percent of Turkish imports are denominated in dollars.

Gopinath shows that, like the overall basket of Turkish imports, the subset of U.S. imports that is priced in foreign currencies also has a high pass-through rate. Of course, this would happen mechanically if prices did not adjust. But, importantly, it also holds for goods for which prices change after an exchange rate shock.

Gopinath argues that the strong effects of currency denomination arise because it is costly for firms to adjust prices. She shows that if it were costless to adjust prices, currency denomination would be irrelevant. When there are costs to renegotiating prices, however, exporting firms' choice of currency denomination will depend on their own cost composition and on the currency choices of other exporters. If most other exporters price in dollars, then a firm will be better able to control its relative price in the market if it also prices in dollars. The findings suggest that absent coordinated international action, the dollar is likely to remain the dominant currency of international trade for the foreseeable future.

— Andrew Whitten

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