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How Quantitative Easing Affected Mortgage Refinancing

Central banks seeking to stimulate economic activity in the aftermath of the Great Recession have purchased a range of financial assets, including mortgages and corporate bonds. How such purchase programs operate, and whether they produce the desired result, is the subject of vigorous debate.

In **How Quantitative Easing Works: Evidence on the Refinancing Channel** (NBER Working Paper No. 22638), [Marco Di Maggio](#), [Amir Kermani](#), and [Christopher Palmer](#) find that the Federal Reserve's purchase of \$1.25 trillion in qualifying mortgage bonds between late 2008 and the first quarter of 2010 stimulated over \$600 billion in refinancing activity by making credit more easily available and by lowering interest rates. They estimate that the combination of lower interest payments and equity extraction by homeowners who refinanced their homes created \$76 billion in additional consumption.

Government sponsored enterprises (GSEs) such as Fannie Mae and Freddie Mac guarantee mortgages that meet certain criteria for maximum loan sizes and loan-to-value (LTV) ratios. Loans that qualify for a guarantee

are called conforming loans. U.S. law restricts Federal Reserve mortgage purchases to guaranteed loans, which heightens the segmentation of the markets for conforming and non-conform-

mortgages that exceed conforming loan limits and other non-conforming loans that have over 80 percent LTV ratios) during Federal Reserve market interventions from 2008

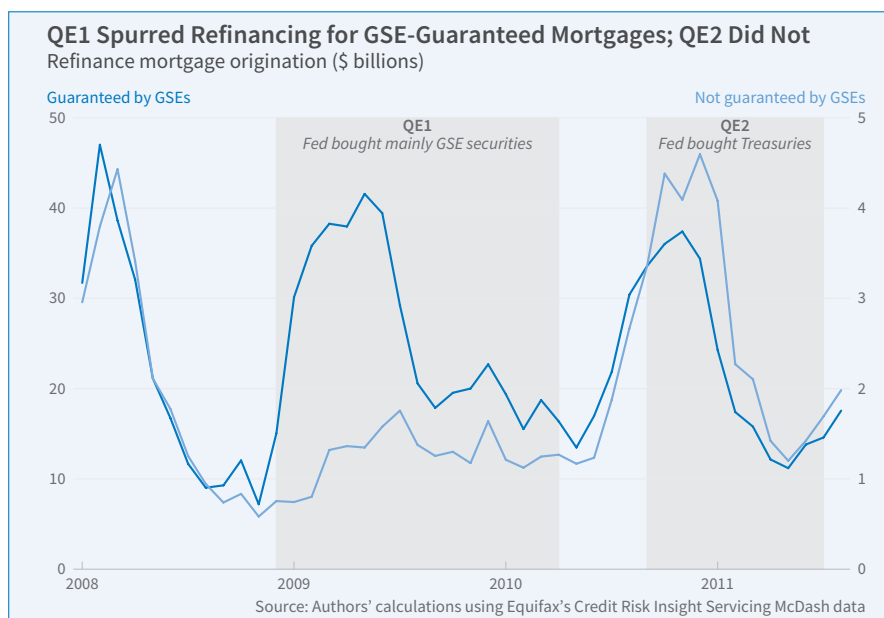
The first phase of quantitative easing in the U.S. made credit more easily available, lowered interest rates, and stimulated over \$600 billion in refinancing activity and \$76 billion in additional consumption.

ing mortgages when financial intermediaries are unable to rebalance across segments.

The researchers estimate differences in interest rates and mortgage origination volumes in the conforming and non-conforming mortgage markets (including both “jumbo”

through 2014. They study 2006–13 data from the credit bureau Equifax, merging processing data and credit data from over 30 million loans, or roughly 65 percent of the mortgage market.

The first quantitative easing program (QE1) operated between November 2008 and April 2010. The Federal Reserve purchased \$1.25 trillion in GSE-guaranteed mortgage-backed securities (MBS), as well as \$175 billion in debt issued by Freddie Mac and Fannie Mae and \$300 billion in U.S. Treasury securities. These MBS purchases amounted to between 50 and 70 percent of each month's new GSE-guaranteed mortgage originations. The second quantitative easing program (QE2), which operated from September



2010 to June 2011, was restricted to purchases of U.S. Treasury securities. Purchases in the third quantitative easing program (QE3), from 2012 to 2014, were roughly evenly divided between GSE mortgage-backed securities and U.S. Treasury securities.

During QE1, interest rates in the conforming mortgage market decreased by more than 100 basis points. The spread between interest rates in the conforming and jumbo markets increased by 40 to 50 basis points. Because interest rates reflect only how households that were able to refinance their homes fared, the researchers examine individual refinancing decisions and the total volume of mortgage refinancing. QE1's differential loosening of credit led to a 170 percent increase in conforming-mortgage

origination and only a 20 percent increase in jumbo-mortgage origination. In QE2, when purchases were limited to U.S. Treasuries, rates in both markets declined by about 35 basis points, and there was no identifiable increase in the spread between the two mortgage markets. New loan originations increased by about 65 percent. In QE3, when the Fed continued purchasing Treasury debt and returned to purchasing conforming mortgages, rates fell in both mortgage markets by about 18 basis points. Loan originations rose by 15 to 30 percent. As Fed buying in the conforming market tapered off at the end of QE3, interest rates in the conforming market rose and its loan originations fell 30 percent. Loan originations in the non-conforming market were unaffected.

The researchers conclude that the effects of Federal Reserve mortgage purchases were strongest in the conforming loan market, where they were "effective at inducing new debt origination and cheaper monthly payments for households." However, the limited spillovers from QE1 suggest that because of strong segmentation when the banking sector is in distress, asset purchase programs primarily affect the market segments in which these purchases occur. The researchers estimate that loosening of GSE loan-to-value caps from 80 to 90 percent could have increased QE1's impact by 20 percent, thereby underscoring the way in which macroprudential policy can enhance or weaken the effects of unconventional monetary policy.

—Linda Gorman

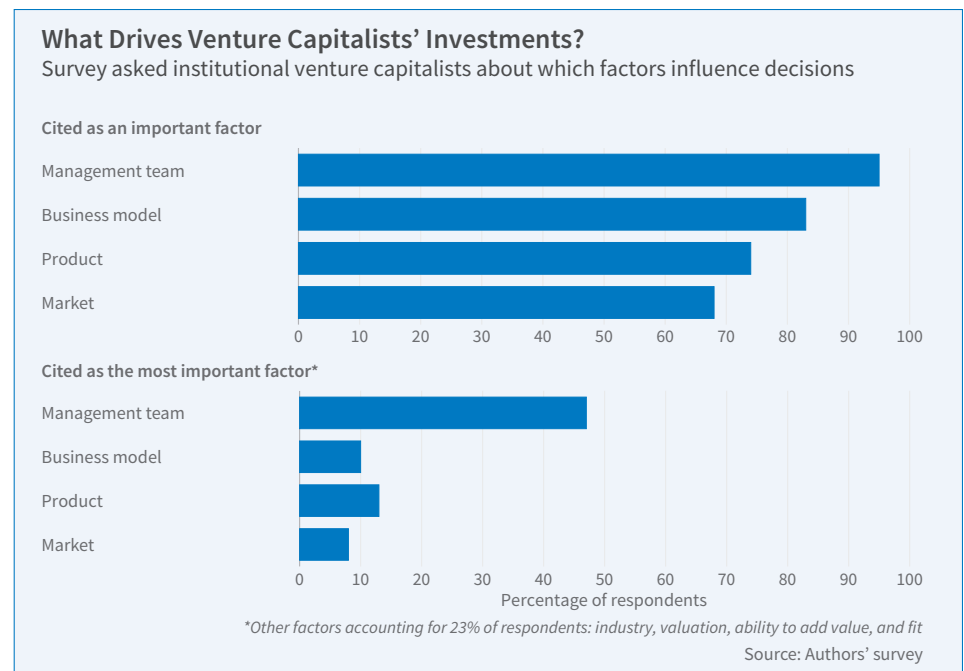
How Do Venture Capitalists Make Decisions?

In How Do Venture Capitalists Make Decisions? (NBER Working Paper No. 22587), Paul Gompers, William Gornall, Steven N. Kaplan, and Ilya A. Strebulaev report on the results of a survey of 885 institutional venture capitalists (VCs) conducted between November 2015 and March 2016.

VCs said that deal flow, deal selection, and VC value-add are all important contributors to value creation. They considered deal selection most important.

The survey asked detailed questions covering business practices. Most respondents were graduates of top MBA programs or Kauffman Fellows. Some were recruited from a list of individual members of the National Venture Capital Association and the VentureSource database. Eighty-two percent of respondents were partners in their firms.

The researchers found that deal flow, deal selection, and VC value-add are all important contributors to value creation. Among these, deal selection was considered the most important. VCs view the quality of the management team as more important than the business model, product, or market, both in selecting deals and in deal success. Managerial ability, industry experience, and passion were prized



qualities for management team selection.

Respondents indicated that their firms discovered or sourced deals primarily through their networks. Over 30 percent of deals were generated through "professional networks," 30 percent were "proactively self-generated," 20 percent were referred by other investors, 8 percent came from a portfolio company. Only 10 percent came inbound from company management teams. The median firm considered 100 deals in a year for every deal it closed

or invested in. Firms specializing in information technology considered 151 deals for each investment made; those specializing in health care considered only 78. Deals for early startups that generated an offer were more likely to close than those for later-stage companies with longer track records.

More than 90 percent of respondents considered a company's management team an important factor in the success or failure of their investments. Over 55 percent of respondents

considered the team the most important factor. After they invested, venture capital firms offered services such as strategic guidance (87 percent), connections to investors (72 percent), connec-

tions to customers (69 percent), operational guidance (65 percent), hiring board members (58 percent), and hiring employees (46 percent). Respondents reported little flexibility about a

number of dimensions of corporate structure, including liquidation preferences, vesting rules, anti-dilution protection, and board control.

—Linda Gorman

1776 Was More About Representation than Taxation

“No taxation without representation” — the rallying cry of the American Revolution — gives the impression that taxation was the principal irritant between Britain and its American colonies. But, in fact, taxes in the colonies were much lower than taxes in Britain. The central grievance of the colonists was their lack of a voice in the government that ruled them.

The political underpinnings of the American Revolution have been discussed and debated for more than two hundred years, and there are multiple explanations of the causes and multiple analyses of the revolutionary dynamic. One question about the revolution that has remained difficult to answer is why, if a little representation in Parliament could have prevented a war for independence, did King George III not grant it?

This question is the motivation for [Sebastian Galiani](#) and [Gustavo Torrens](#)' study **Why Not Taxation and Representation? A Note on the American Revolution** (NBER Working Paper No. 22724). They note, in drawing attention to the role of representation as a spark for revolution, that the average British citizen who resided in Britain paid 26 shillings per year in taxes, compared with only one shilling per year in New England, even though the living standard of the colonists was arguably higher than that of the British.

Most accounts of the events that led to the American Revolution depict a conflict between the colonies and a unified British

government. In fact, the researchers argue, the reality was more subtle. They draw on a variety of historical accounts to describe the tension between two rival British inter-

ever, Royalists returned to power and sought to restore the historical ruling class.

When the colonies asked for representation in the middle of the 18th century,

Monarchists resisting an incipient democracy movement in Britain prevented a compromise that could have placated the American colonists.

est groups, the landed gentry and the democratically inclined opposition, and to explain the failure to reach a compromise that would have granted representation to the colonies. In particular, they focus on how extending

the monarchy was still recovering from its dethroning, and the landed gentry, now returned to primary power, still felt vulnerable. The researchers point out that the Royalists were contending with factions that

sought to bring democracy to Britain. While these opposition groups did not hold significant power, if representatives from the American colonies were invited to join Parliament, they likely would have sympathized with the opposition and expanded their

influence. The researchers see this tension as critical to understanding why Britain was so reluctant to enfranchise the colonists.

There were proposals to settle the colonial crisis peacefully, most notably by Thomas Pownall and Adam Smith. Smith, for example, proposed “a system in which the political representation of Great Britain and America would be proportional to the contribution that each polity was making to the public treasury of the empire.” Such proposals were rejected by the ruling coalition in Britain. “The landed gentry, who controlled the incumbent government, feared that making concessions to the American colonies would intensify the pressure for democratic

Why Did the Colonies Rebel against Taxation?

Taxes per year, 1763

Citizens in Britain: 26 shillings



Citizens in New England: 1 shilling

Source: N. Ferguson, *Empire: The Rise and Demise of the British World Order and the Lessons for Global Power* (2004)
As cited in S. Galiani and G. Torrens, NBER Working Paper No. 22724

representation would have affected the relative influence of these two groups.

The researchers consider events a century before the American Revolution to have set the stage for the domestic tensions in Britain at the time of the colonial protests. In 1649, during the English Civil War, a rebellion of Parliamentarians overthrew — and beheaded — King Charles I. Oliver Cromwell, who ruled for most of the subsequent decade, supported expanding representation in government beyond landowners, and his government was sympathetic to grievances like those raised by the American colonies many decades later. Following Cromwell's death in 1658, how-

reforms, thus jeopardizing their economic and political position,” the researchers find. Ultimately, the opposition of the landed

gentry to the demands for representation by the American colonies pushed the colonies to rebellion and independence, but helped to

delay the development of the incipient democratic movement in Britain. —Jen Deaderick

Putting Price Tags on Alternative Work Arrangements

Workers are willing to accept lower pay in return for a standard Monday to Friday work week and for the opportunity to work from home, but not for the right to determine how many hours they will work. These are among the findings of **Valuing Alternative Work Arrangements** (NBER Working Paper No. 22708) by [Alexandre Mas](#) and [Amanda Pallais](#).

The researchers posted ads for telephone-interviewer positions on job boards in 68 metropolitan areas. Respondents were asked to choose between a traditional schedule of 9 a.m. to 5 p.m., Monday through Friday, and a randomly assigned alternative arrangement. The jobs were otherwise identical, and applicants were assured their schedule preference would have no bearing on their hiring prospects.

The alternatives included employee-friendly options such as flexible schedules and working from home, and more restrictive options that gave employers the discretion to change schedules on short notice and to assign weekend and evening shifts. The researchers randomly varied the wage differences between the two options they offered as a way to assess the value workers placed on the various schedule structures.

The study analyzed data from 7,000 applicants. Of all the employee-friendly options, applicants valued the chance to work from home the most. On average, they were willing to accept 8 percent lower wages for this privilege.

The researchers were surprised to dis-

cover that a large majority of applicants placed little or no value on options that

employer discretion as they were to the possibility of working evenings and weekends.

Nearly 40 percent of applicants said that they would not take a job if its schedule fluctuated at the employer’s will, even if it paid 25 percent more than the same job in a 9-to-5 schedule.

would have allowed them to decide how many hours they wanted to work and when. But while this was the case on average, a quarter of the applicants indicated they would trade at least 10 percent of their pay for the opportunity to make their own schedule.

The results of the call-center study were affirmed by a survey of participants in the web-based Understanding America Study, which contacts a nationally representative sample of workers and job seekers. Survey participants subject to schedule

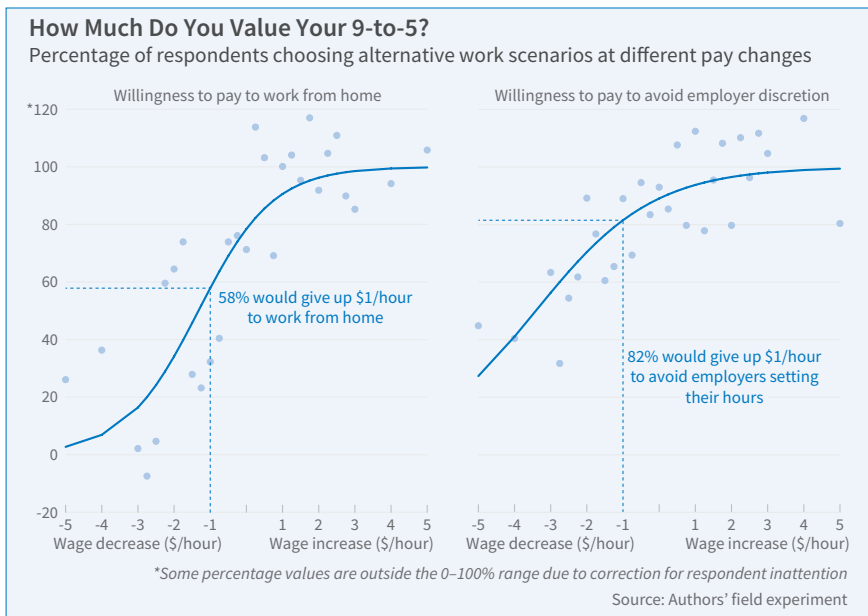
changes at their employer’s discretion were willing to accept major pay cuts in return for a traditional 9-to-5 job; a quarter of them said that they would give up at least 44 percent of their pay to become 9-to-5ers.

Preferences over job attributes differed by gender. Women “have a higher valuation for worker-friendly work arrangements and a stronger distaste for employer discretion than do men.” Women were willing to take substantially larger

pay cuts than men for the opportunity to work from home and to avoid jobs scheduled at the employer’s discretion.

The researchers estimate that “an employer could set the wage of a flexible-schedule job or a work-from-home job at 11 percent or 14 percent below the market wage of a fixed-schedule job, respectively, and still attract at least 25 percent of the applicants who would have applied to the fixed-schedule job at the higher wage.”

—Steve Maas



Applicants were so strongly attached to the traditional 9-to-5, Monday-Friday work schedule that, on average, they indicated that they would take a pay cut of 20 percent to avoid jobs in which employers could change their schedules from week to week. Nearly 40 percent of applicants said that they would not take a job in which the schedule fluctuated at the employer’s will even if it paid 25 percent more than the same work with a 9-to-5 schedule. The researchers determined that the applicants weren’t so much averse to

Explaining the Growth of the Alternative Workforce

The alternative workforce—temp, on-call, and contract workers, freelancers, and independent contractors—has been growing rapidly, but not primarily from Uber, Task Rabbit, and other firms in the so-called “gig” economy, according to research presented in **The Rise and Nature of Alternative Work Arrangements in the United States, 1995–2015** (NBER Working Paper No. 22667). Independent contractors are the largest group in the nontraditional or “alt” workforce, and contract workers, employed by contract firms, are the fastest-growing segment.

The alternative workforce, which represented 10.7 percent of the employee base in 2005, had grown to 15.8 percent by 2015, Lawrence F. Katz and Alan B. Krueger report. They find that contract workers’ share of the total workforce more than doubled, from 1.4 percent to 3.1 percent. By comparison, workers in the widely discussed online “gig” economy accounted for just 0.5 percent of the workforce in 2015.

“The online gig workforce is relatively small compared to other forms of alternative work arrangements, although it is growing very rapidly,” the researchers write. “About twice as many workers selling goods or services directly to customers reported finding customers through offline intermediaries than through online intermediaries.”

The researchers administered an online questionnaire to 3,850 people in late 2015 as part of the RAND American Life Panel. The survey was similar to the Bureau of Labor Statistics’ Contingent Work Survey, which was last conducted in 2005. The researchers compared the results of their survey with those of the analogous 2005 BLS survey; because the sample sizes are small, they warn that their results on changing employment

patterns are suggestive rather than conclusive. The study indicates that 94 percent of net employment growth in the U.S. economy from 2005 to 2015 occurred in alternative work arrangements.

Contract workers more than doubled, to 3.1 percent of the workforce, in the decade ending in 2015, while independent contractors rose 1.5 percent.

Although the workforce share of self-employed workers has declined over the last two decades according to standard measures from the Current Population Survey, the researchers point to Internal Revenue Service data in which a rising share of taxpayers indicate self-employment income as

among workers with alternative employment arrangements. Education, health care, information services, and manufacturing saw the greatest shift toward alternative work arrangements over the last decade, while con-

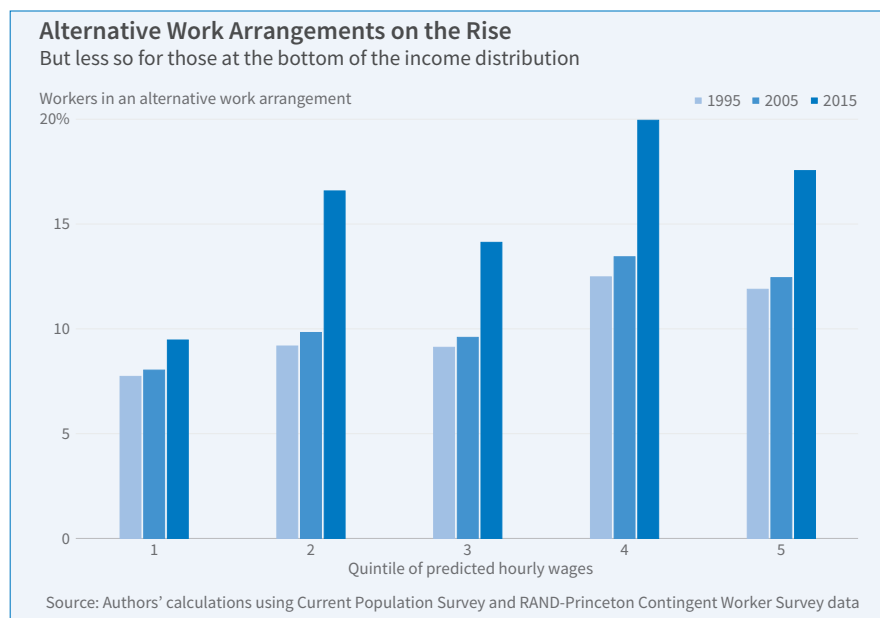
struction and professional and business services, the industries with the highest share of workers in alternative work arrangements in 2005, saw little change. And, in a blow to the idea that young workers dominate the alternative employment space, nearly a quarter of Americans age 55 to 74 have alternative work, compared with only 6.4 percent among 16- to 24-year-olds.

Higher-wage workers are more likely to work as independent contractors than their lower-wage counterparts. Over the last decade, the types of jobs that were contracted out through contract companies spread up the occupation distribution. Independent contractors and freelancers make more money per hour than traditional employees, while on-call and temp workers make less than their traditional counterparts. But all

groups of workers in alternative work arrangements earn less per week than similar traditional workers because they work fewer hours, the researchers find.

Job satisfaction also varies within the alternative employment workforce. While most temp workers would prefer to have a permanent job and almost half of on-call workers want employment with regular hours, more than 80 percent of freelancers and independent contractors reported that they prefer their situation to working for someone else.

—Laurent Belsie



seen in Schedule C and 1099-MISC filings over the same period. And their comparison of the 2015 RAND survey and 2005 Contingent Work Survey indicates that the share of workers who are independent contractors, consultants, or freelancers climbed from 6.9 percent in 2005 to 8.4 percent in 2015.

There have been several shifts in the composition of the alternative workforce since 2005. Women, college graduates, holders of multiple jobs, and Hispanics now represent a larger share of the alternative workforce than previously. Women now outnumber men

Fund Managers from Poor Families Often Achieve Better Results

In **Family Descent as a Signal of Managerial Quality: Evidence from Mutual Funds** (NBER Working Paper No. 22517), Oleg Chuprinin and Denis Sosyura find that mutual fund managers from poor families consistently achieve better investment results than fund managers from wealthier backgrounds. The researchers also find significant differences in promotion patterns and trading styles between these two types of fund managers.

Previous studies about the relationship between managers' upbringing and their performance have focused on educational differences, including whether the managers attended elite universities or had access to education-related networks of influential people who could later help boost their careers. Such studies tend to find that managers with a stronger educational background tend to deliver better performance.

This study relies on hand-collected data from individual U.S. Census records on the wealth and income of managers' parents. The researchers also identified and verified fund managers via Morningstar, Nelson's Directory of Investment Managers, and LexisNexis Public Records. They ultimately identified hundreds of fund managers, most born in the mid-1940s, whose parents' Census records were in the public domain. They then examined the performance of hundreds of actively managed mutual funds focused on U.S. equities between the years 1975 and 2012.

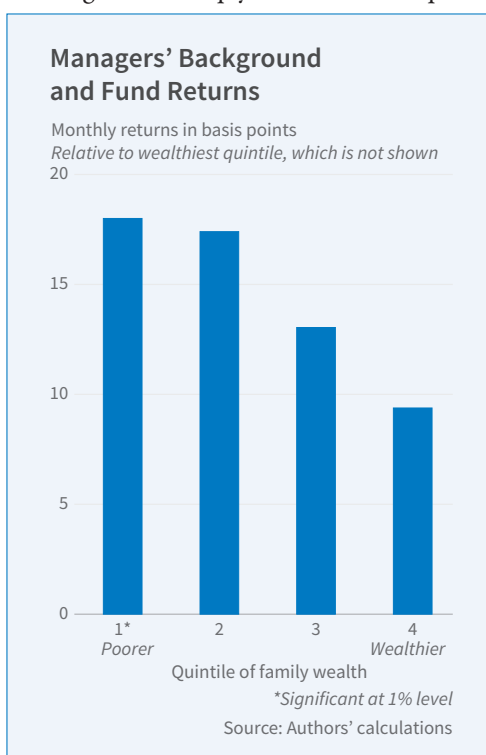
The researchers find that mutual fund managers from wealthier backgrounds delivered "significantly weaker performance than

managers descending from less wealthy families." Managers from families in the top quintile of wealth underperformed managers in the bottom quintile by over one percent per

Individuals from less privileged backgrounds may face higher barriers to entry into prestigious positions, meaning only the most skilled advance and succeed.

year on a risk-adjusted basis.

The researchers emphasize that these findings do not imply that those from poor



families are in general better at their jobs than those with a more fortunate background. Rather, because individuals from

less-privileged backgrounds have higher barriers to entry into prestigious positions, they argue, only the most skilled advance and succeed.

Indeed, in tracking career trajectories of mutual fund managers, they find that the promotions of managers from well-to-do families are less sensitive to their performance. In other words, managers who are born rich are more likely to be promoted for reasons unrelated to performance. In contrast, those born into poor families are fewer in number and are promoted only if they outperform. They also find that fund managers from less-affluent families who do make it into top ranks are more active on their job: they are more likely to trade and deviate from the market, whereas those born rich are more likely to follow benchmark indexes.

The researchers note that they chose to study mutual fund managers because they often work independently, and because funds' performance can easily be measured for comparison purposes. But they say their findings about family background and job performance may have implications that extend beyond asset management. "Our evidence suggests that an individual's social status at birth may serve as an important signal of quality in other industries with high barriers to entry, such as corporate management or professional services," they conclude.

—Jay Fitzgerald

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