

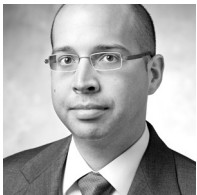


## Late, Not Lost: The Economic Drag From the Millennial Generation

One of the lingering consequences of the financial crisis is that young adults are launching their careers in a historically weak economy with limited wage growth and high underemployment. Millennials are clearly facing an uphill economic climb that differs greatly from that of their baby boomer parents. The statistics are concerning: \$1.3 trillion in student loan debt outstanding, 14% of 25- to 34-year-olds living at home and historically low purchase activity from first-time homebuyers.



**Joshua Anderson, CFA**  
Managing Director  
Portfolio Manager



**Emmanuel Sharef**  
Senior Vice President  
Portfolio Manager



**Jason Mandinach**  
Senior Vice President  
Product Manager

While gains in housing-related assets have been material in recent years despite weak purchase activity among young adults, demand will have to shift from investors to young adults for prolonged strength in the housing market. As a result, we believe that a proper understanding of the financial trajectory of the Millennials is critical to housing market assumptions over the secular horizon (three to five years) as well as for the broader economy.

In our view, the problem is not that these young adults will never grow up, get married, have children and buy real estate. Instead, we believe this to be a timing issue, not a structural roadblock; the path to traditional adulthood has simply been delayed for many Millennials. But over time the economy will overcome the burden of student debt, and pent-up demand for housing could surprise to the upside.

### Will student loans pay off?

Between 2006 and 2010, annual college enrollment grew by 19%, compared with only 5% in the preceding five years, according to the National Center for Education Statistics. Meanwhile, student debt rose 13% annually during that

period, now reaching \$1.3 trillion (source: Federal Reserve G.19 report on consumer credit). Rising tuition costs lengthen repayment times, while new forbearance and income-based repayment plans have allowed graduates to delay loan repayment. As a result, new loan originations are continually higher than paydowns, contributing to continued growth in student debt outstanding. Additionally, Federal Reserve Bank of New York data show the average student borrower graduated in 2012 with nearly \$25,000 in debt, compared with \$15,000 in 2004.

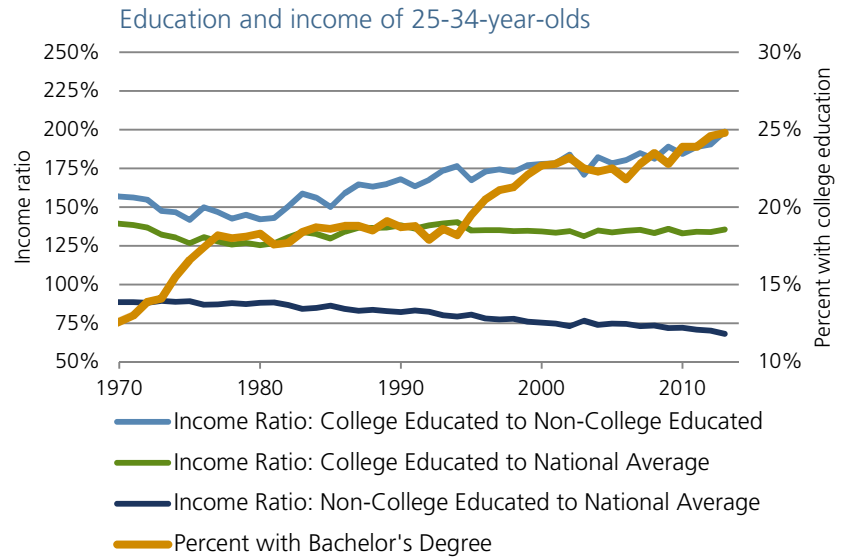
This rapid growth has prompted comparisons between today's student loan market and the residential credit market of 2008. But we believe that this analogy is too simplistic. Growth in housing was driven more by increased speculation and widespread irresponsible borrowing and lending. Rising student debt has mainly been a function of higher education costs and a larger demand base, although speculation does play a role.

Overall, several important distinguishing factors of the student loan market lead us to believe that the economy is unlikely to face the systemic risks we saw from the 2008 mortgage crisis:

**Benefits of higher education.** The median income for 25- to 34-year-olds with a college education is twice that of those who only completed high school (see Figure 1). Meanwhile, the unemployment rate for college graduates is just 3.2%, a full three percentage points below the national unemployment rate, and far below the 9.1% unemployment rate for those without a high school diploma. Unlike housing, where rising home equity withdrawals could be used to finance consumption that did not improve the likelihood of loan repayment, education often increases the borrower's long-term financial capacity.

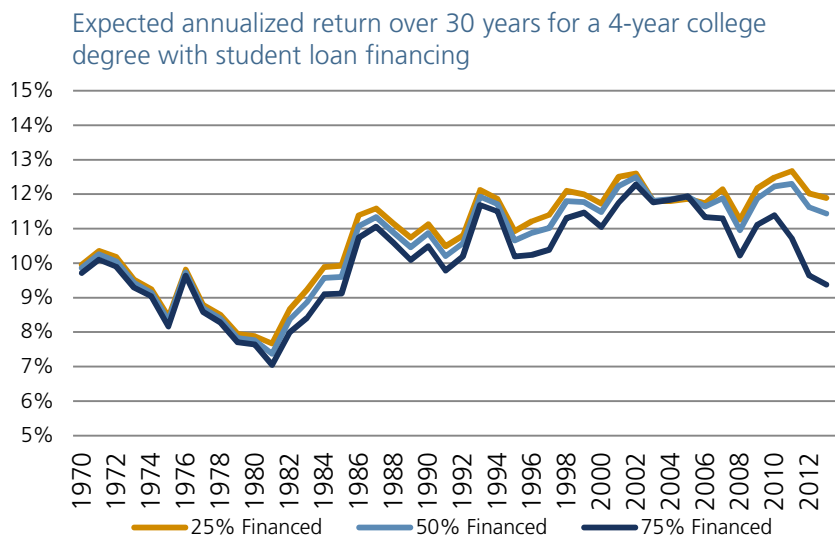
However, recent college graduates entered an economy plagued by a shrinking workforce and weak wage growth. Rising tuition and growth among for-profit and two-year colleges have also reduced the return on investment of an average college education (see Figure 2). While we still believe investing in education generally has numerous benefits, as with any investment, the benefits of education cannot be valued independent of cost.

**FIGURE 1: COLLEGE GRADUATES HAVE CONSISTENTLY EARNED MORE THAN THE NATIONAL AVERAGE, BUT THE PROPORTION OF COLLEGE GRADUATES HAS INCREASED**



Source: Census, IPUMS-CPS data as of March 2013

**FIGURE 2: THE HISTORICAL RATE OF RETURN ON A COLLEGE EDUCATION IS DECLINING**



Source: NCES, Census, IPUMS-CPS, PIMCO calculations  
As of March 2013

**Composition of debt holders.** Of the \$1.3 trillion in student loan debt outstanding, approximately \$1.1 trillion is either held or guaranteed by the U.S. government. This means the impact of any acceleration in losses on the broader economy would be limited, because student loan defaults would not lead to bank failures or other contagion effects. Meanwhile, it is possible (although politically challenging) for policymakers to provide assistance to troubled borrowers, unlike with distressed mortgage borrowers whose loans were in private securities.

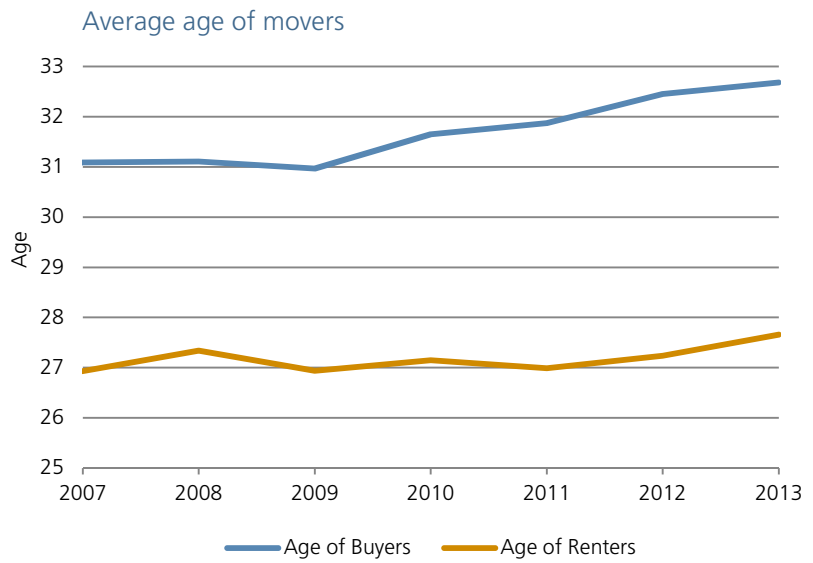
**Size of the market.** Despite tremendous growth, the student loan market remains a relatively small slice of the broader consumer debt category – and it is much smaller than the nearly \$11 trillion of home mortgage debt that was outstanding at the peak of the housing bubble. It is also less interconnected, so the economic impact of losses and write-downs of delinquent student debt would not have the same effect as the nearly \$1 trillion in mortgage charge-offs. For example, if 20% of the student loan market was written off, that would equate to approximately \$26 billion per year for 10 years. While it is far from our base case, even that stress scenario would have minimal implications for the broader economy.

### **Where will they live?**

Millennials represent a large wave of population growth entering the age of first household formation, which should strongly support both owned and rented housing. However, the actual number of first-time homebuyers remains low, at only 27% of home sales, compared with around 40% before 2007. Surveys show that many young adults eventually hope to purchase a home, but many are financially unprepared. The tight lending environment makes it difficult for young adults with student debt to qualify for a mortgage, and student loan payments have delayed the wealth accumulation required for a down payment.

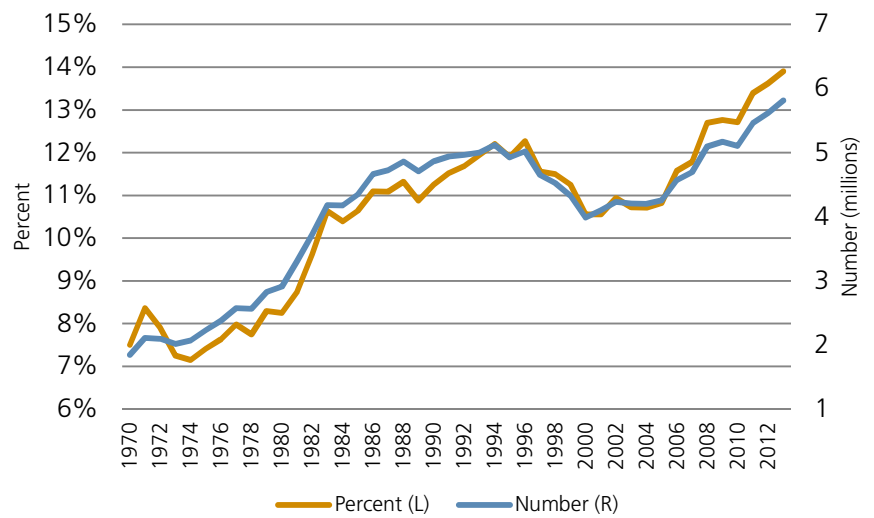
Moreover, rising home prices and mortgage rates have reduced home affordability relative to 2009–2010. As a result, post-crisis homebuyers have typically been older, while younger, newly forming households have tended to be renters. Since 2007, the average age of a homebuyer has increased by 5.2% relative to a 2.8% increase for that of a renter (see Figure 3). Meanwhile, we believe that 3 million young adults by choice or necessity live with parents or roommates rather than having their own household (see Figures 4 and 5).

**FIGURE 3: NEW HOUSEHOLDS TEND TO BE RENTERS**



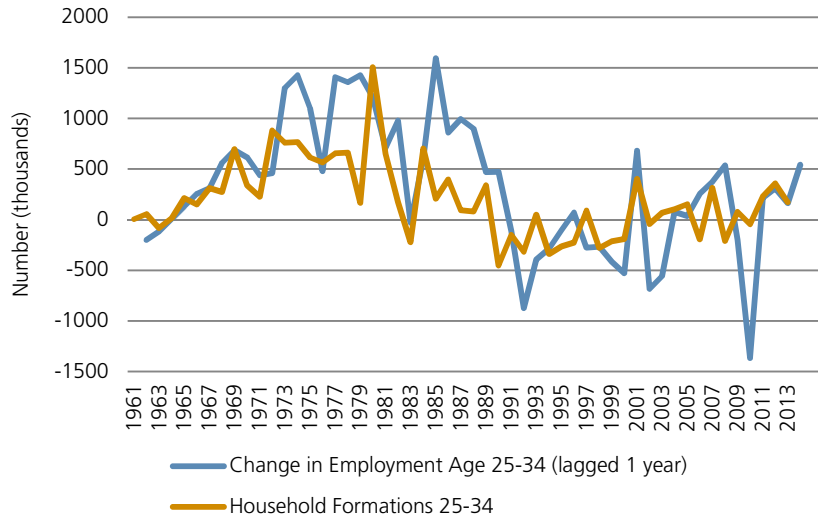
Source: Census, IPUMS-CPS  
As of March 2013

**FIGURE 4: 14% OF 25-34-YEAR-OLDS LIVE WITH PARENTS ...**



Source: Census, IPUMS-CPS  
As of March 2013

**FIGURE 5: BUT EMPLOYMENT HAS BEEN INCREASING, AND IT LEADS HOUSEHOLD FORMATIONS BY A YEAR**



Source: BLS, Census CPS  
As of March 2013

While there is no doubt that the growing need for education and the corresponding rise in student debt are having a profound impact on the spending habits and life planning of today's young adults, we believe that they may provide significant pent-up demand for housing. Birth rates, which fell rapidly after the crisis, began to increase in 2013. We anticipate that, over time, more of the young adults living at home or with roommates for economic reasons will be willing and financially capable to form their own households – especially amid solid wage growth – which should provide a tailwind for housing demand and, by extension, home prices, construction and overall consumption.

The next big question is whether newly forming young adult households will continue to favor renting over buying. Either would be positive for housing overall, since both multifamily and single-family units would need to be built to house them, but the economic multiplier to job creation and consumption from single-family housing tends to be higher.

The answer to that question will depend on the trajectory of home prices and rents, the mortgage lending environment and changing generational preferences for shelter. Whether Millennials choose to buy or rent could have important ramifications for homebuilders, multifamily real estate investment trusts, land prices – and even mortgage-backed securities – for years to come.

## Biographies

Mr. Anderson is a managing director and portfolio manager in the Newport Beach office, focusing on global structured credit investments. Prior to joining PIMCO in 2003, he was an analyst at Merrill Lynch covering both the residential ABS and collateralized debt obligation sectors and was ranked as one of the top analysts by Institutional Investor magazine. He was previously a portfolio manager at Merrill Lynch Investment Managers. He has 19 years of investment experience and holds an MBA from the State University of New York, Buffalo.

Dr. Sharef is a senior vice president and residential housing analytics specialist in the Newport Beach office. Prior to joining PIMCO in 2011, he worked in the mortgage credit strategists group at Morgan Stanley, developing house price forecasts and non-agency loan performance models. He has five years of investment and financial services experience and holds a Ph.D. in operations research from Cornell University, specializing in statistics and biometrics. He received an undergraduate degree from Princeton University.

Mr. Mandinach is a senior vice president and product manager in the Newport Beach office, responsible for mortgage-related strategies. Prior to joining PIMCO in 2010, he worked in business development for the Chicago Climate Futures Exchange. Previously, he was a vice president on the agency CMO desk at Bear Stearns. He has seven years of investment experience and holds an undergraduate degree from the University of Delaware.

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**Newport Beach** Headquarters  
650 Newport Center Drive  
Newport Beach, CA 92660  
+1 949.720.6000

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650 Newport Center Drive  
Newport Beach, CA 92660  
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