

**Online Appendix for:**  
**Detecting "Bad" Leverage**

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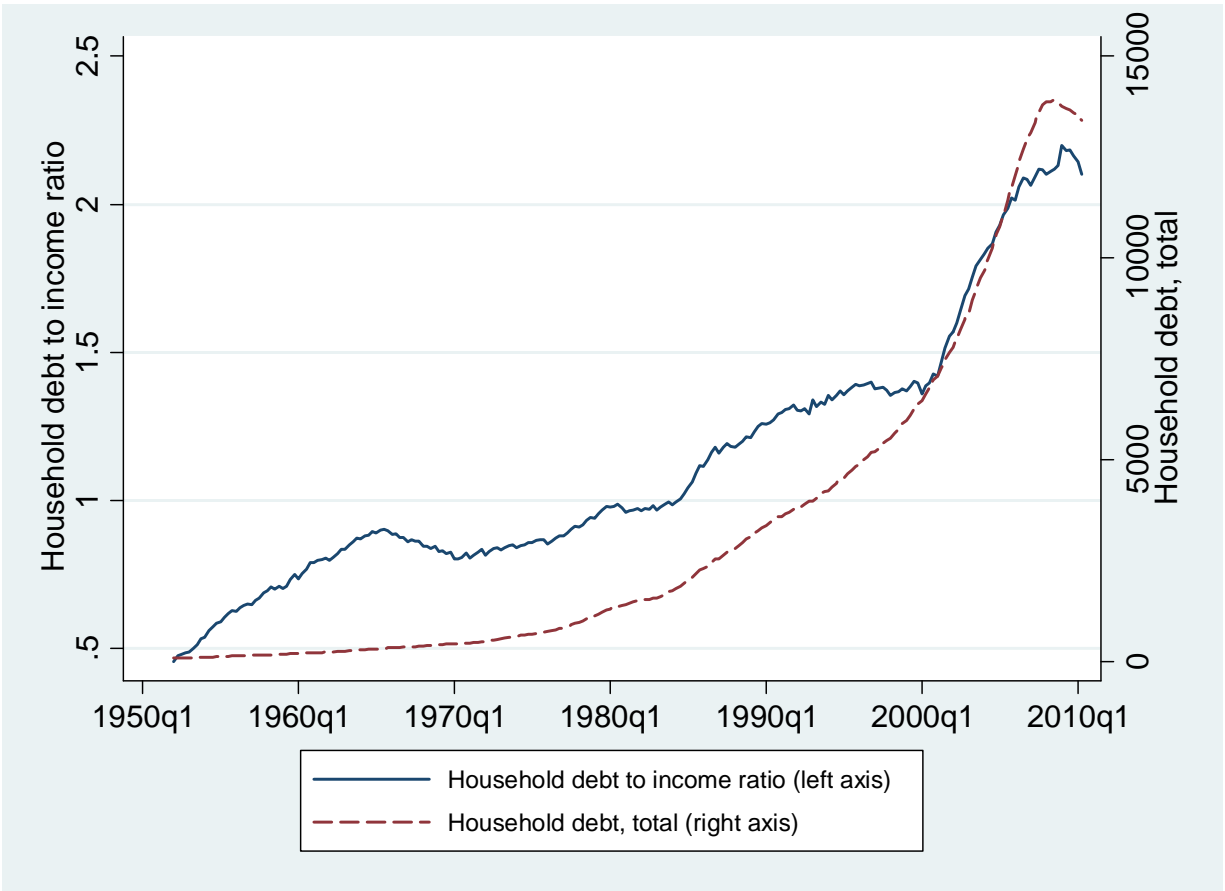
**I. Data**

Mortgage origination and denial rate data at the zip-year level, 1991 - 2009: FFIEC Home Mortgage Disclosure Act, available at <http://www.ffiec.gov/hmda/orderform.htm>

Household debt and credit score information at zip-year level, 1991 - 1997, and zip-quarter level, 1998 - 2010 from Equifax Predictive Services. Contact Linda Mueller at [Linda.Mueller@equifax.com](mailto:Linda.Mueller@equifax.com).

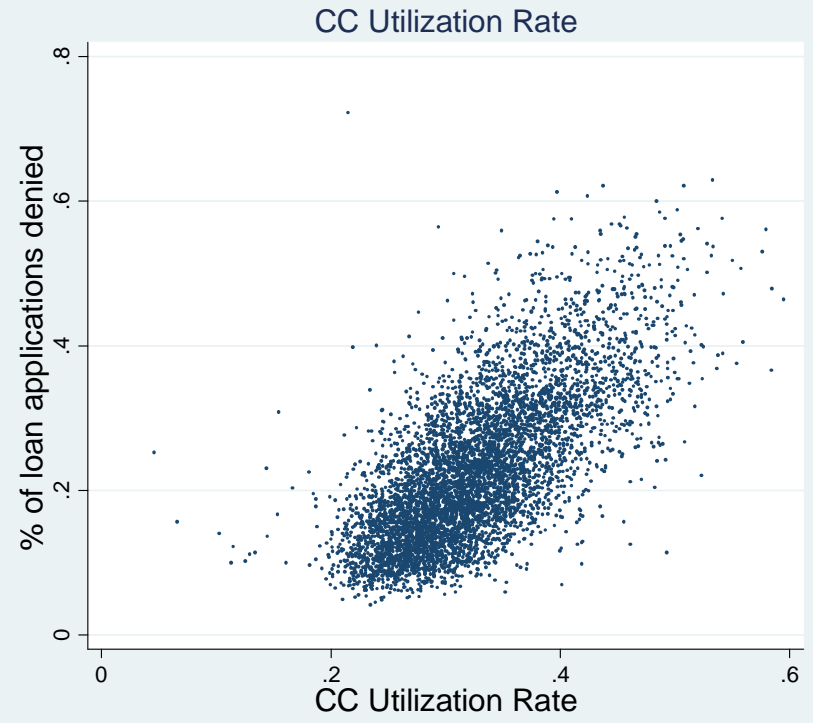
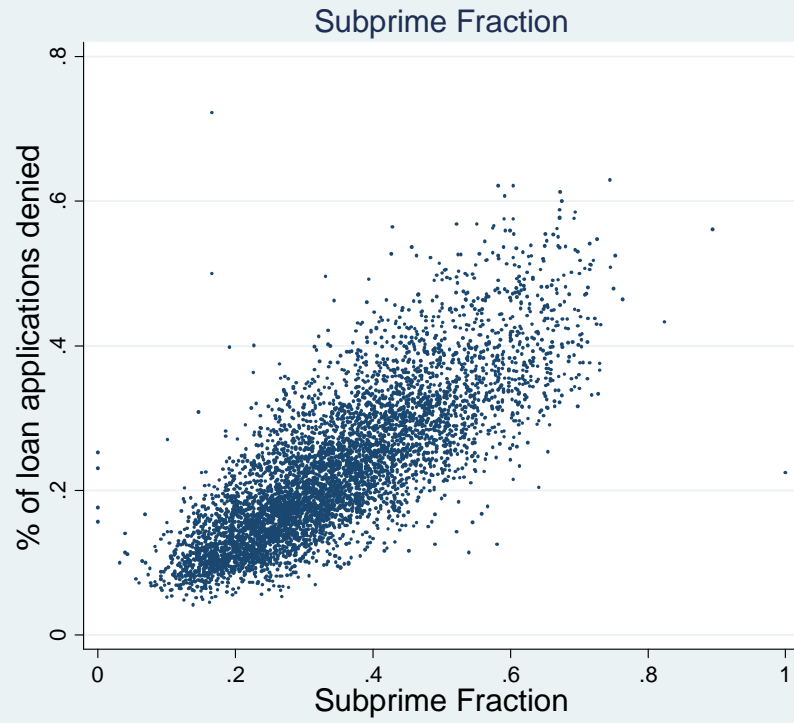
Aggregate household debt from Federal Reserve Flow of Funds. Aggregate income from NIPA.

**Figure 1**  
**U.S. Household Debt**

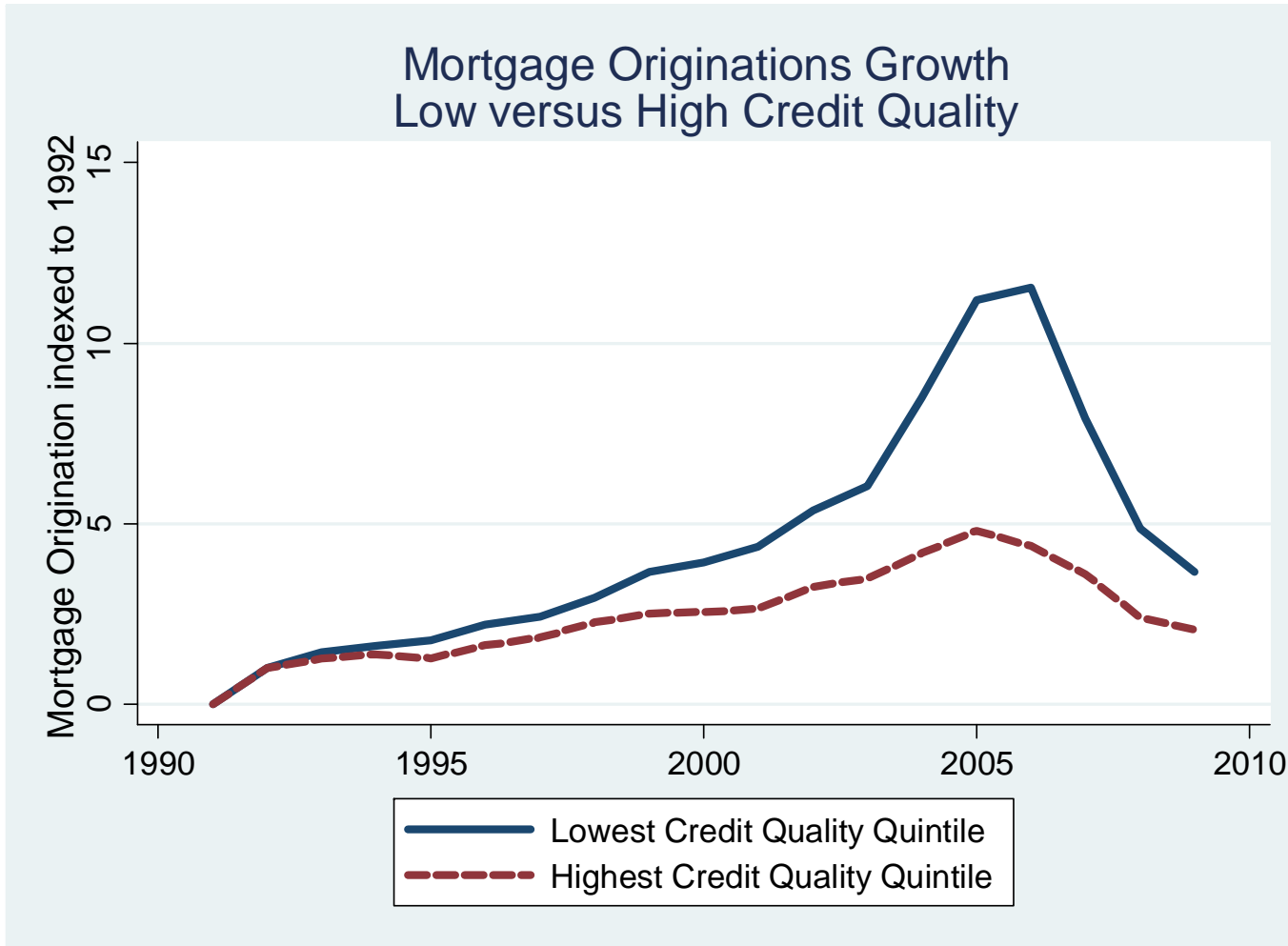


**Figure 2**  
**Measuring "Marginal" Borrowers**

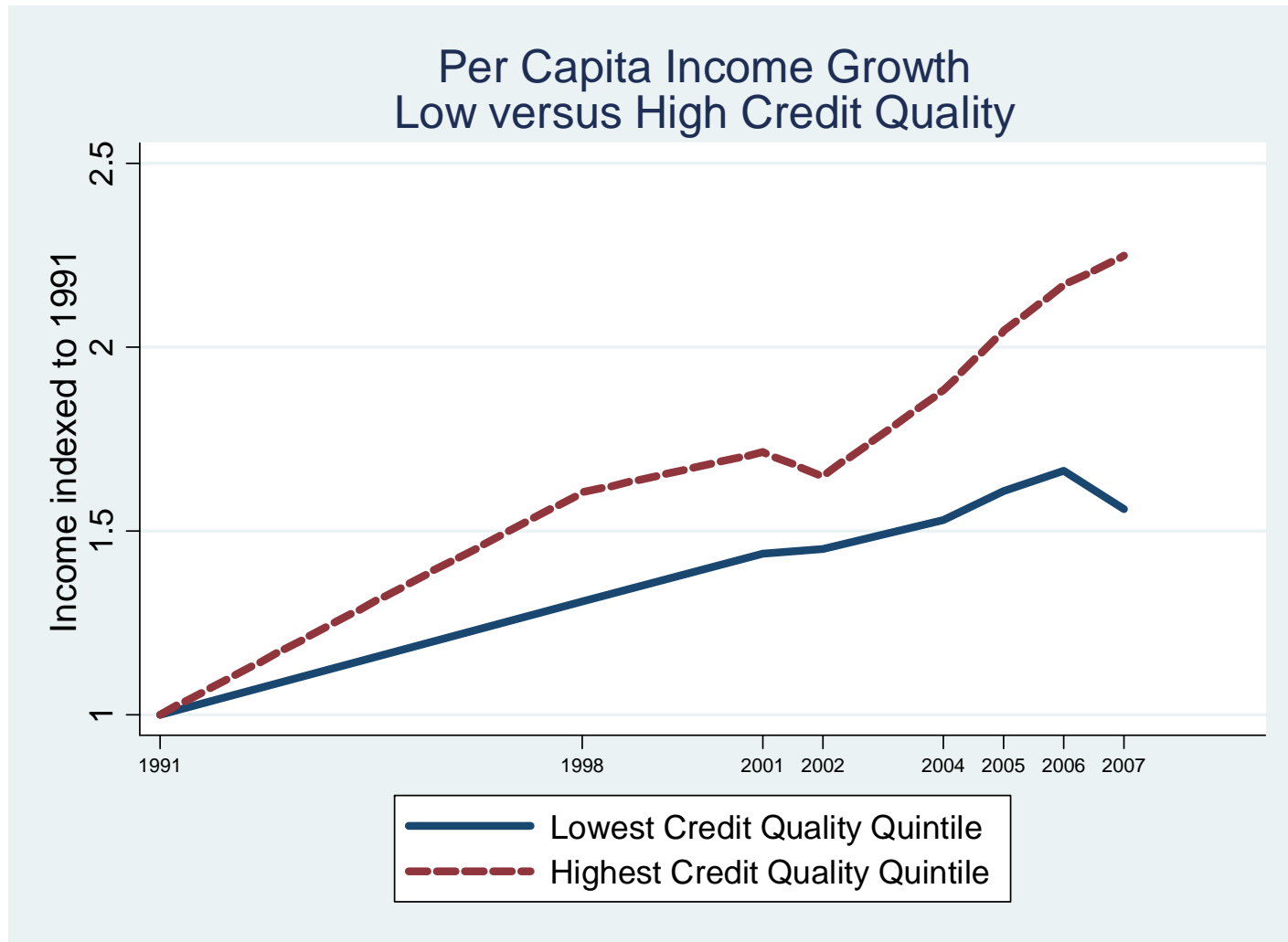
Marginal Borrower Zip Codes as of 1998: Mortgage Denial Rates



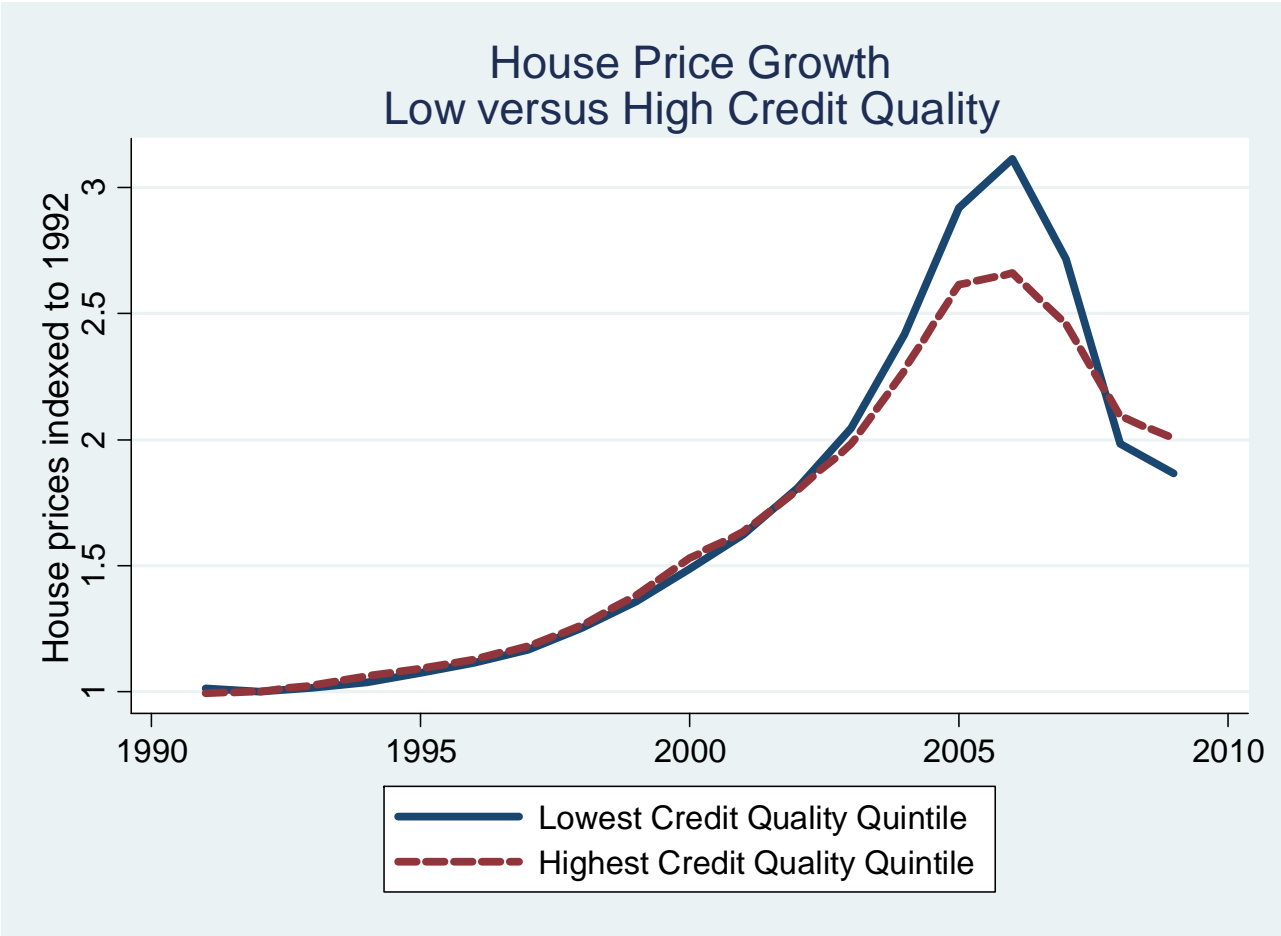
**Figure 3**  
**Mortgage Origination Growth to Marginal Borrowers**



**Figure 4**  
**Income Growth for Marginal Borrowers**



**Figure 5**  
**House Price Growth for Marginal Borrowers**



**Figure 6**  
**Total Debt Growth and Low Credit Quality-Origination Correlation**

