



Fannie Mae™

Profile of Rural Borrowers

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Economic and Strategic Research





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Overview

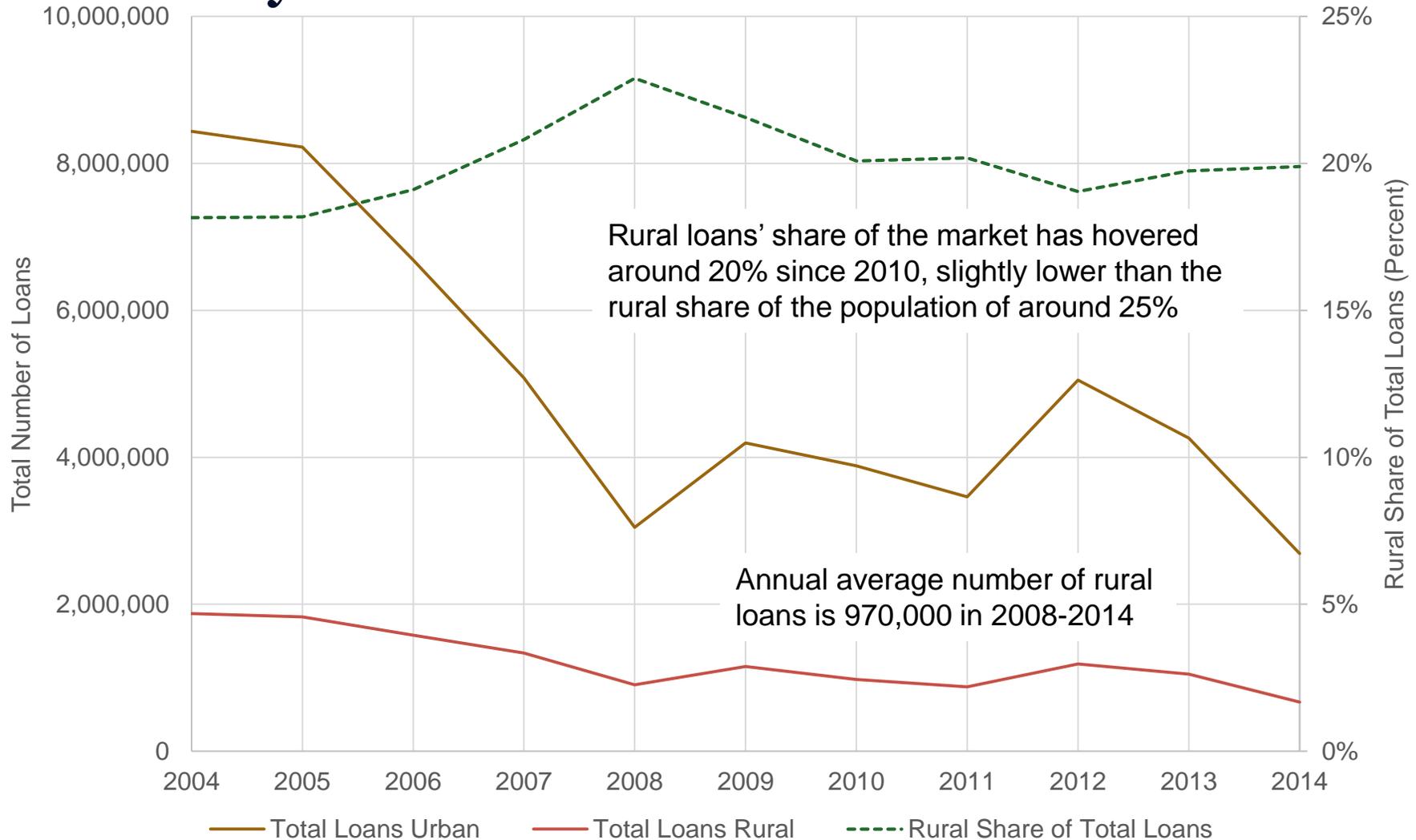
- Sizing rural market using HMDA data
 - Rural loans account for approximately 20% of total yearly conventional loan originations for owner-occupied properties and 14% of origination amount
 - For 2008-2014 there were approximately 970,000 conventional rural loans for owner-occupied homes annually, summing to approximately \$160 billion
- How is rural lending different than urban based on Fannie Mae acquisitions?
 - Rural borrowers have smaller incomes, live in lower median income areas, are more likely to be self-employed, and less likely to be first-time homebuyers
 - Rural properties are more likely to be second homes and manufactured housing, have larger lot sizes, and a wider distribution of appraisal-to-purchase price ratio
 - Rural loans are for smaller amounts and are less likely to be ARMs
- Evolution of rural lending in the last decade based on Fannie Mae acquisitions
 - Differences between urban and rural areas and across rural areas were most pronounced during the 2005-2008 period and have since tended to decrease
 - The notable exception to this is borrower age, for which the spread between urban/rural and across rural areas has widened over the last decade

SIZING THE RURAL MARKET

* Method for sizing the rural market using Home Mortgage Disclosure Act (HMDA) data is detailed in the Appendix.



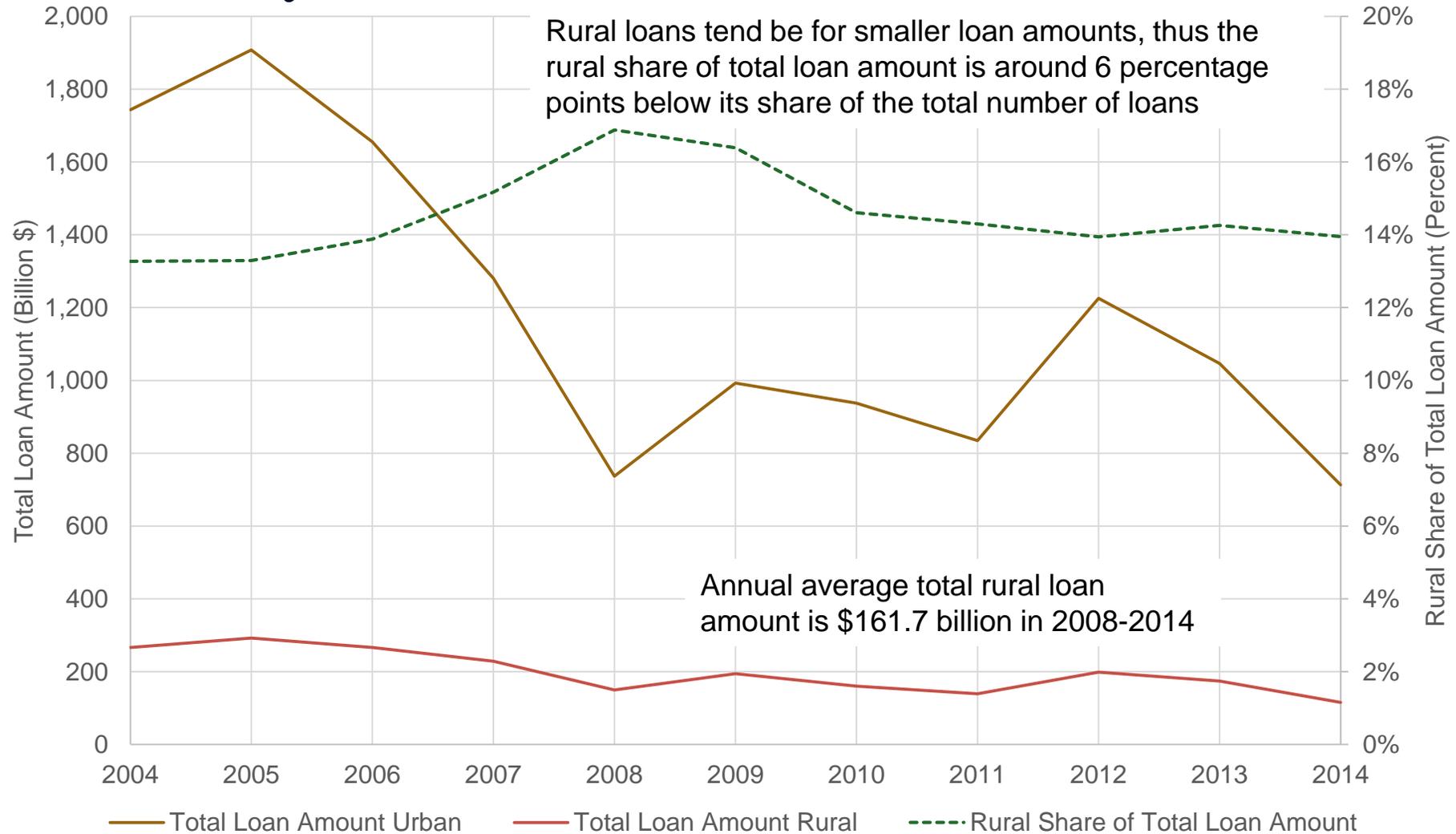
Rural Market Size by Total Number of Loans*



* Statistics based on HMDA conventional, first-lien originations for owner-occupied single-family and manufactured housing, 2004-2014.



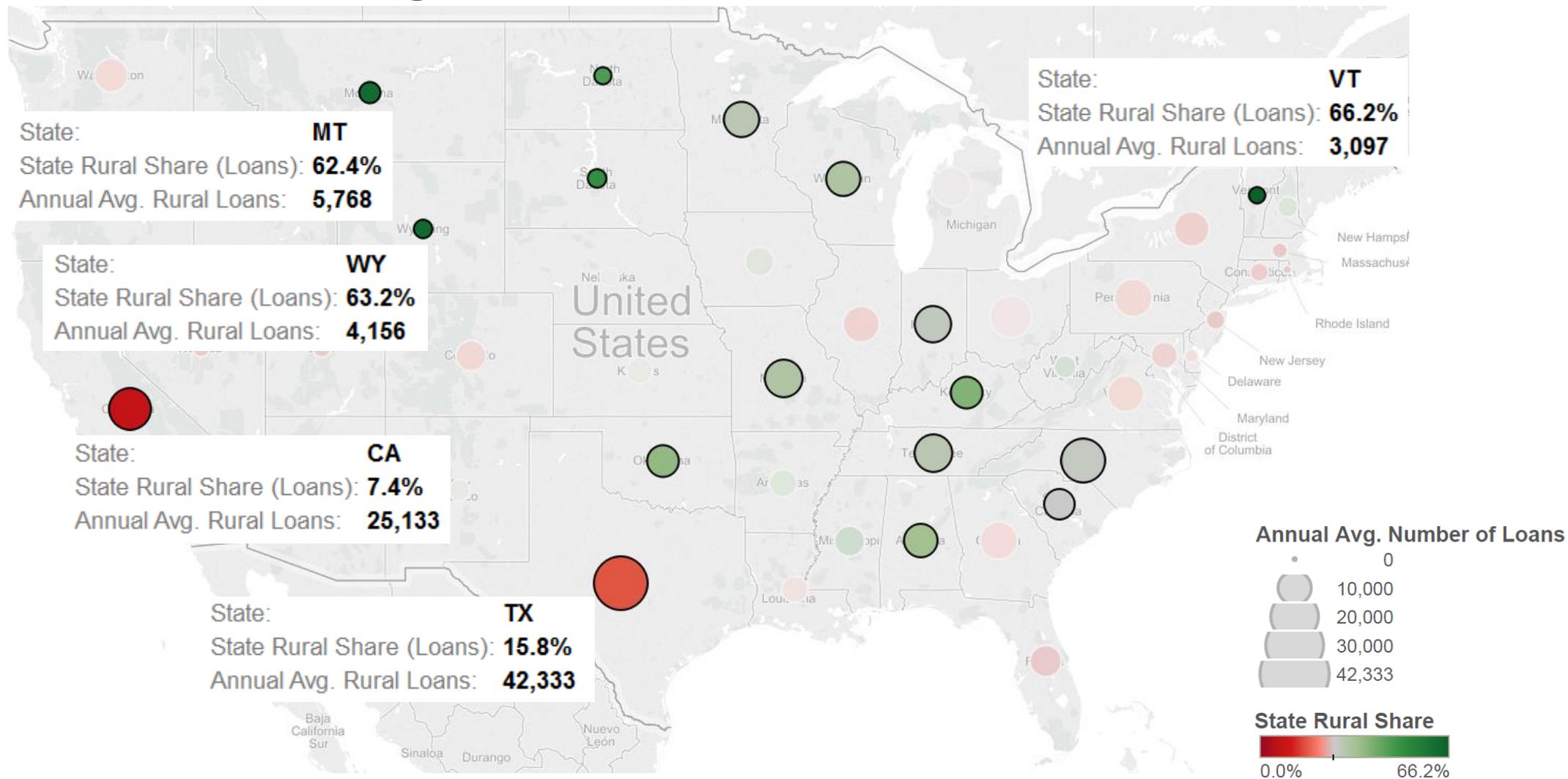
Rural Market Size by Total Loan Amount*



* Statistics based on HMDA conventional, first-lien originations for owner-occupied single-family and manufactured housing, 2004-2014.



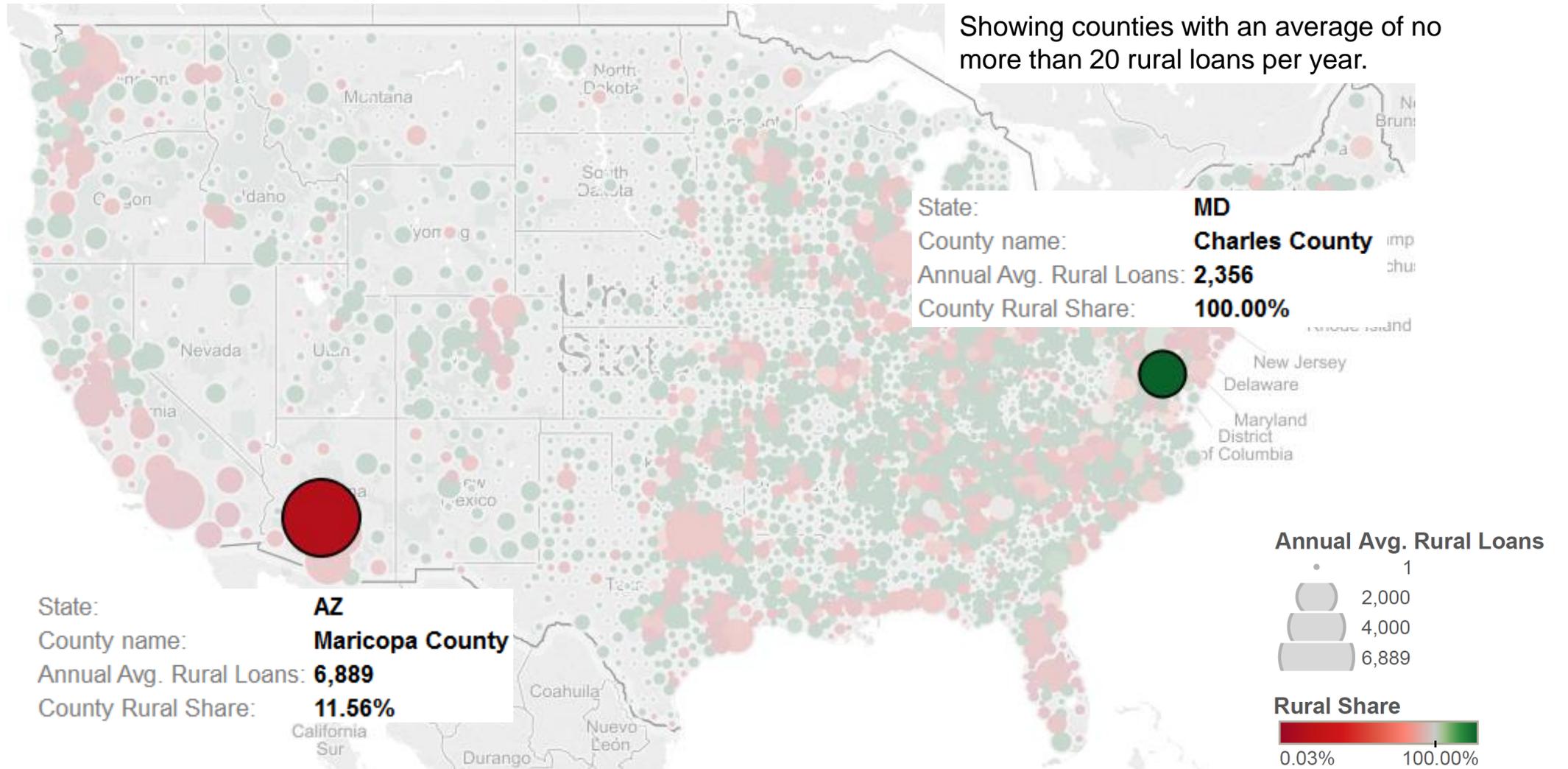
State-Level Market Sizing (2004-2014)*



* Statistics based on HMDA PMM first-lien originations for owner-occupied single-family and manufactured housing, 2004-2014.



County-Level Market Sizing (2004-2014)*



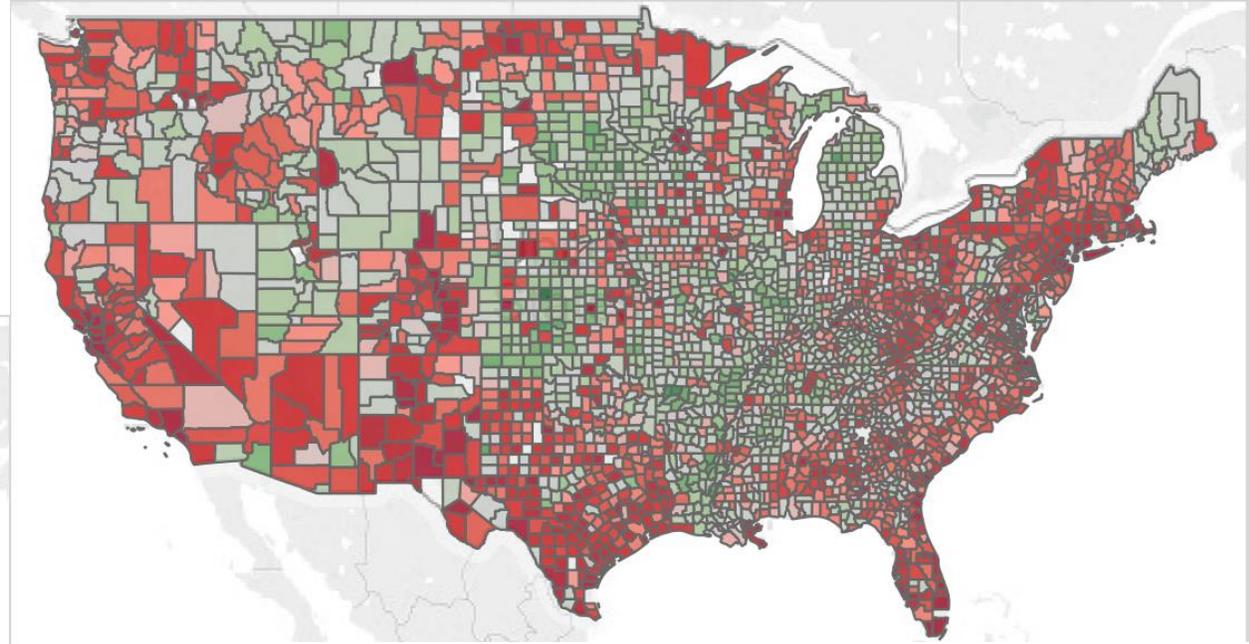
* Statistics based on HMDA PMM first-lien originations for owner-occupied single-family and manufactured housing, 2004-2014.



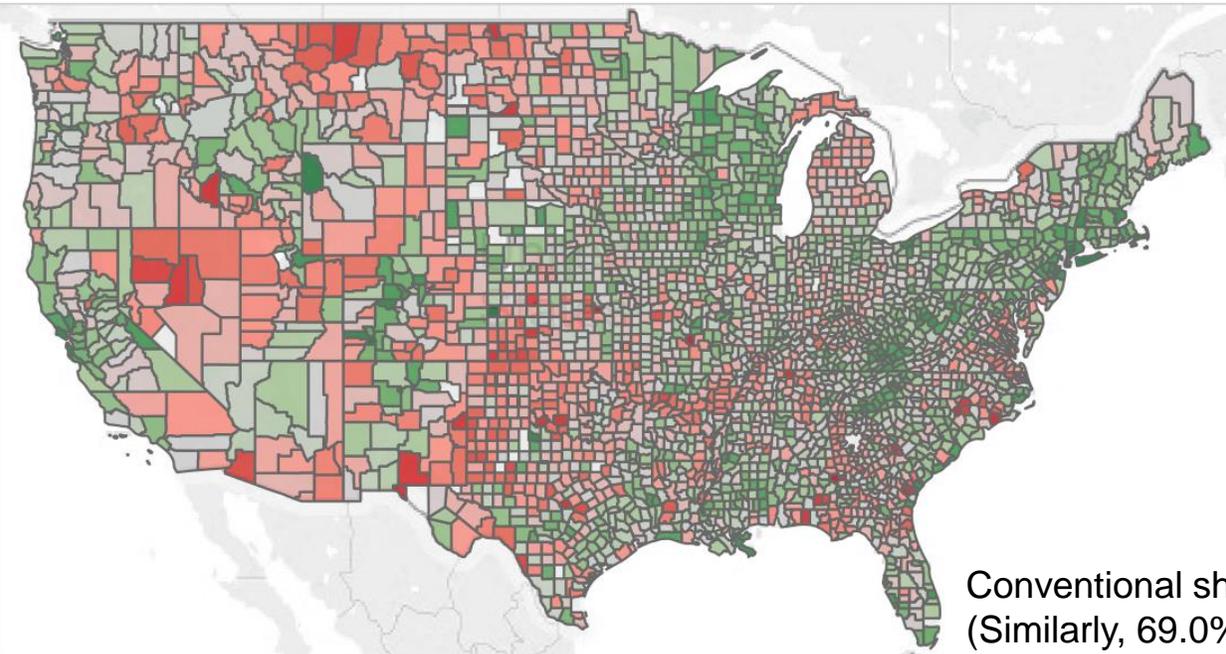
Rural Loan Guarantors*

FSA/RHS Share of Rural Loans

Conventional Share of Rural Loans



Farm Service Agency/Rural Housing Service (FSA/RHS) share of rural loans averages 8.6% (For urban loans the share is only 5.1%)



Conventional share of rural loans averages 69.5% (Similarly, 69.0% for urban loans)

% Conventional



% FSA/RHS

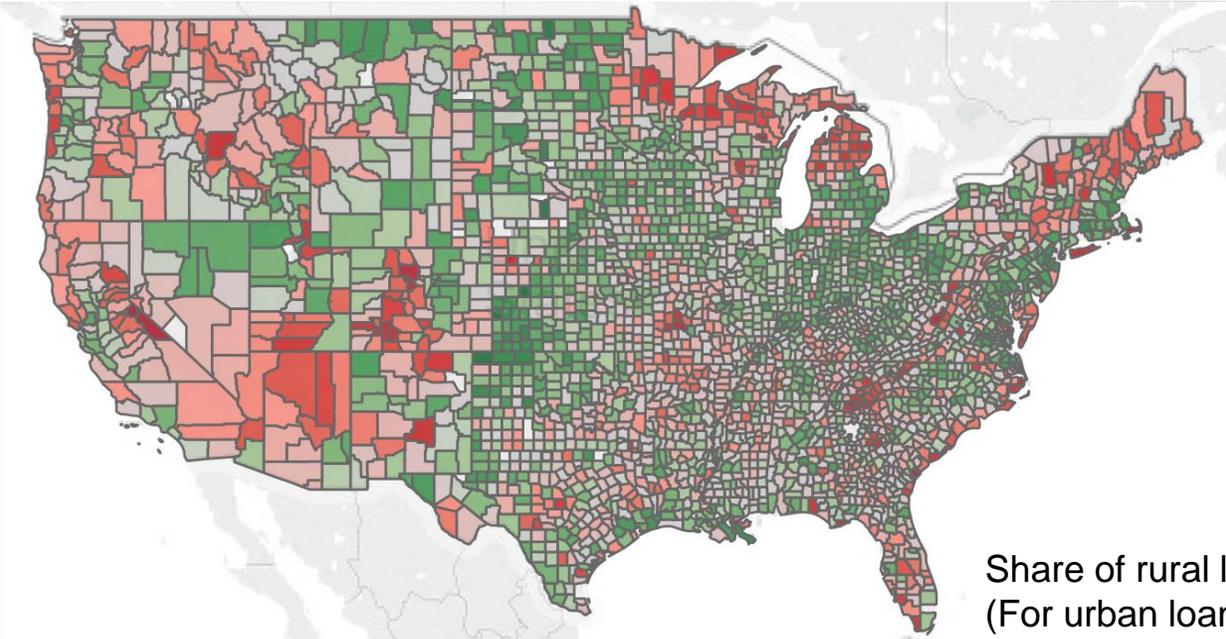


* Statistics based on HMDA PMM first-lien originations for owner-occupied single-family and manufactured housing, 2004-2014.



Rural Property Type*

Share of Rural Loans for Owner-Occupied Properties



% Manufactured Housing

0%

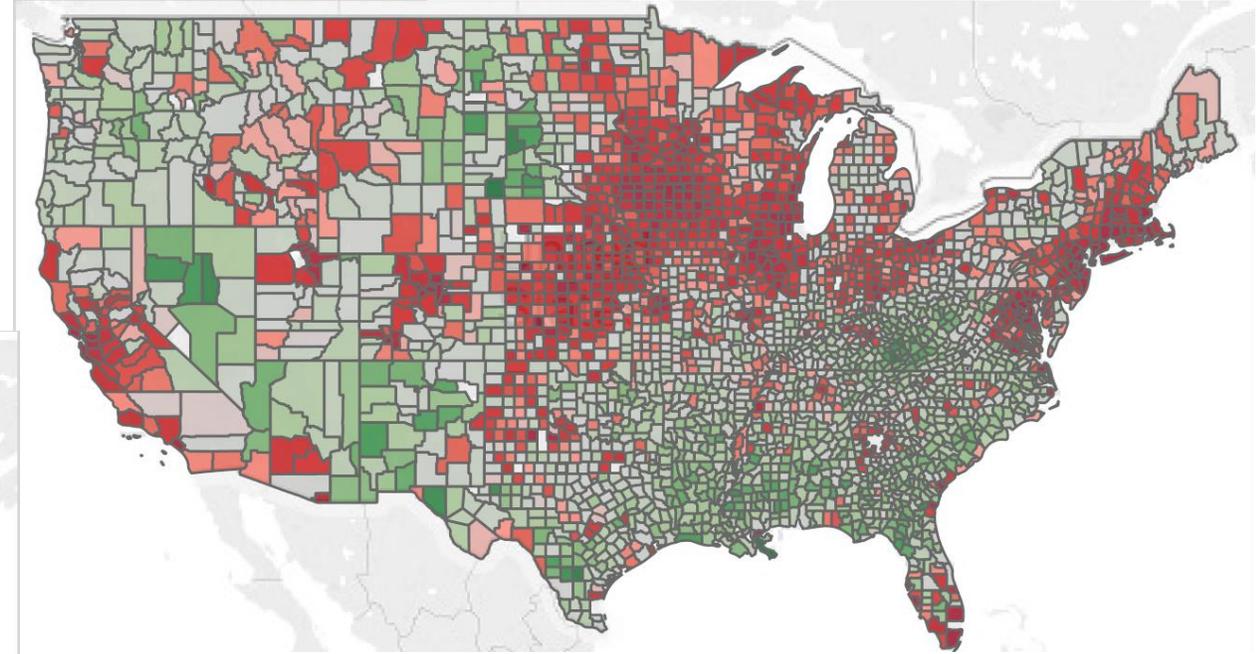
% Owner-Occupied

23%

73%

100%

Share of Rural Loans for Manufactured Housing



Share of rural loans for manufactured housing averages 7.5%
(Only 1.1% for urban loans)

Share of rural loans for owner-occupied properties averages 83.4%
(For urban loans the share is higher, at 87.1%)

* Statistics based on HMDA PMM first-lien originations for single-family and manufactured housing, 2004-2014.

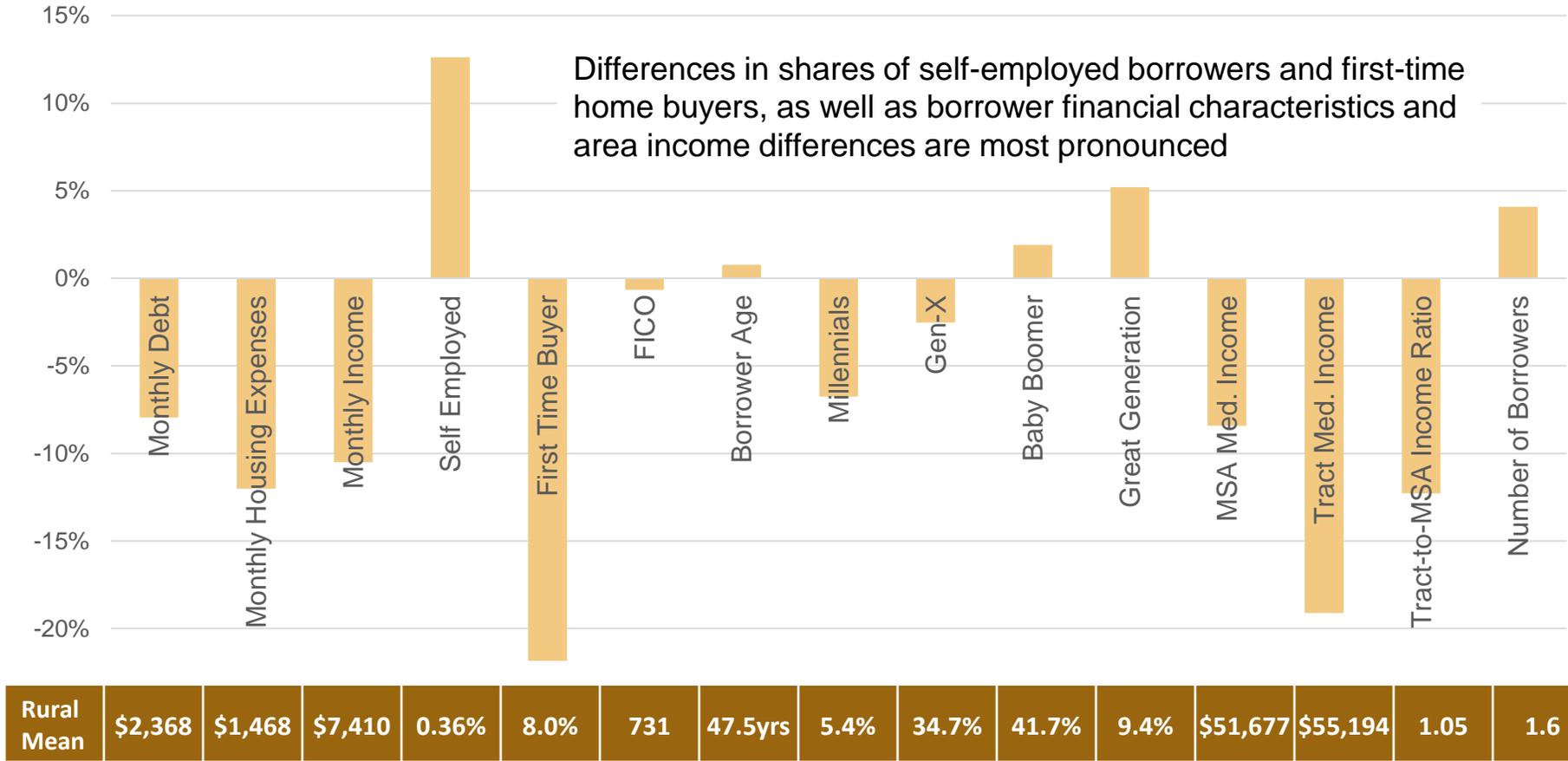
HOW IS RURAL LENDING DIFFERENT?

* Method for analyzing differences between urban and rural borrower and loan attributes using data on Fannie Mae loan acquisitions is detailed in the Appendix.



Socio-Demographic Attributes*

Difference Between Rural and Urban Areas as a Percentage of Urban Mean
(Negative Values Indicate Rural Lower than Urban)

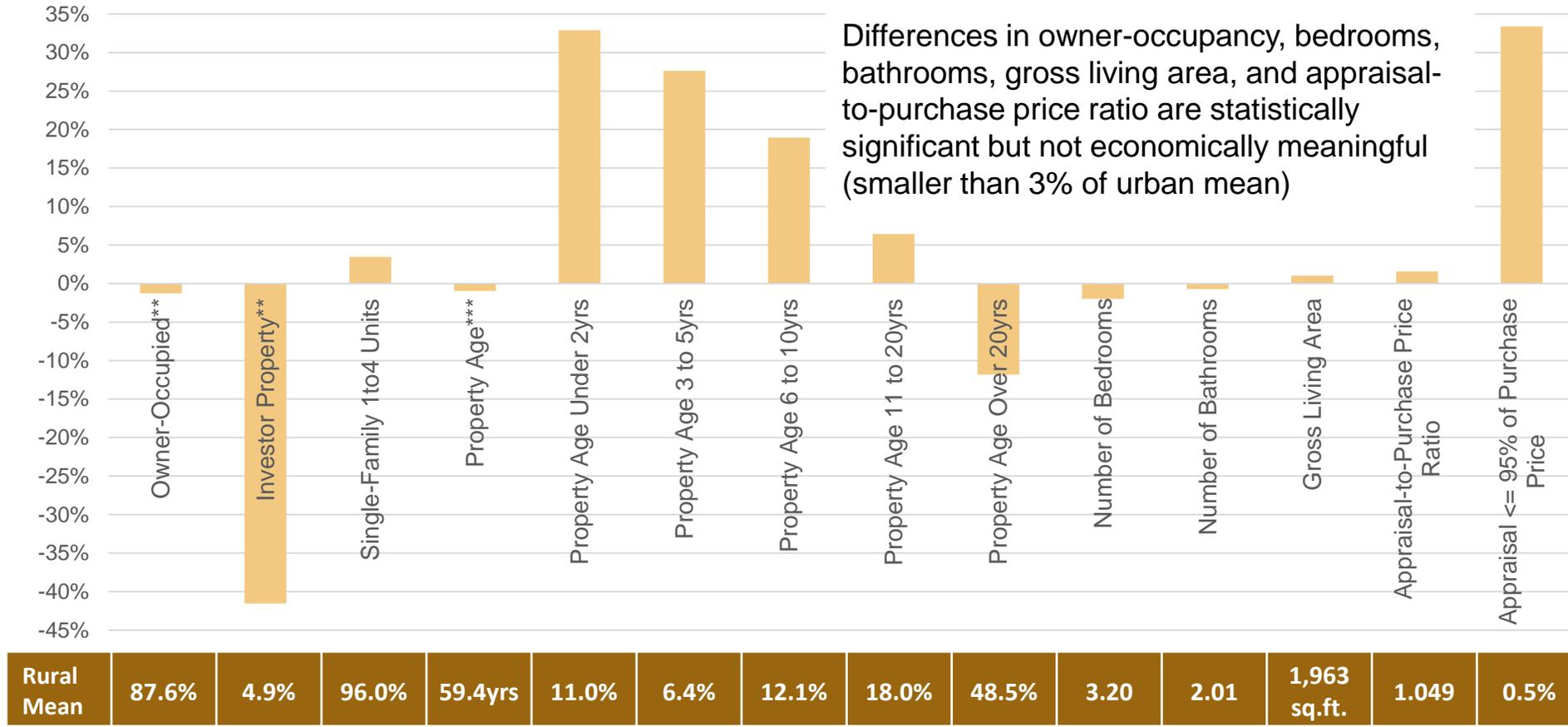


* Statistics based on Fannie Mae acquisitions of PMM and REFI loans on owner-occupied homes, 2004-2015.



Property Attributes – Small Relative Differences*

Difference Between Rural and Urban Areas as a Percentage of Urban Mean
(Negative Values Indicate Rural Values are Lower than Urban)



Differences in owner-occupancy, bedrooms, bathrooms, gross living area, and appraisal-to-purchase price ratio are statistically significant but not economically meaningful (smaller than 3% of urban mean)

* Statistics based on Fannie Mae acquisitions of PMM and REFI loans on owner-occupied homes, 2004-2015.

** Owner-Occupied and Investor Property shares are calculated based on a sample of all loans; not just loans for owner-occupied homes.

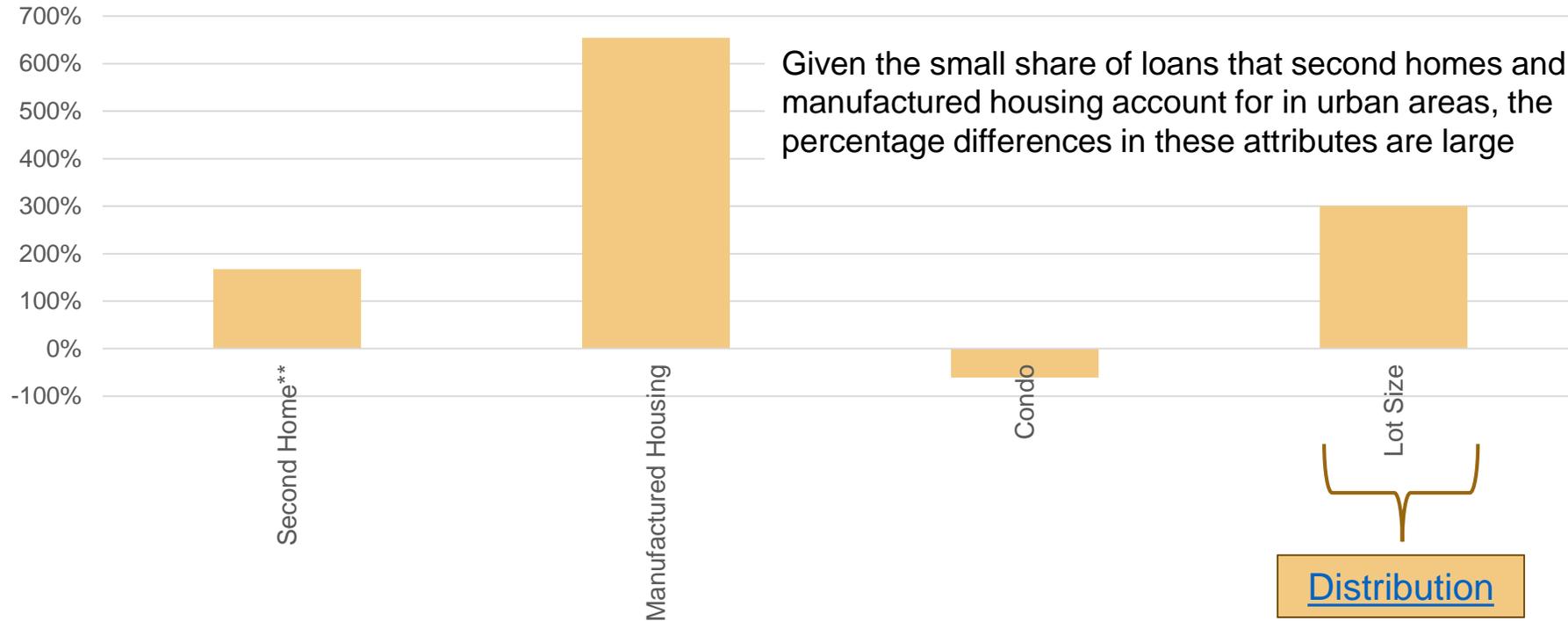
*** Indicates difference is not statistically significant at the 5% confidence level.

[Distribution](#)



Property Attributes – Large Relative Differences*

Difference Between Rural and Urban Areas as a Percentage of Urban Mean
(Negative Values Indicate Rural Values are Lower than Urban)



Rural Mean	7.5%	1.8%	2.2%	104,269 sq.ft.
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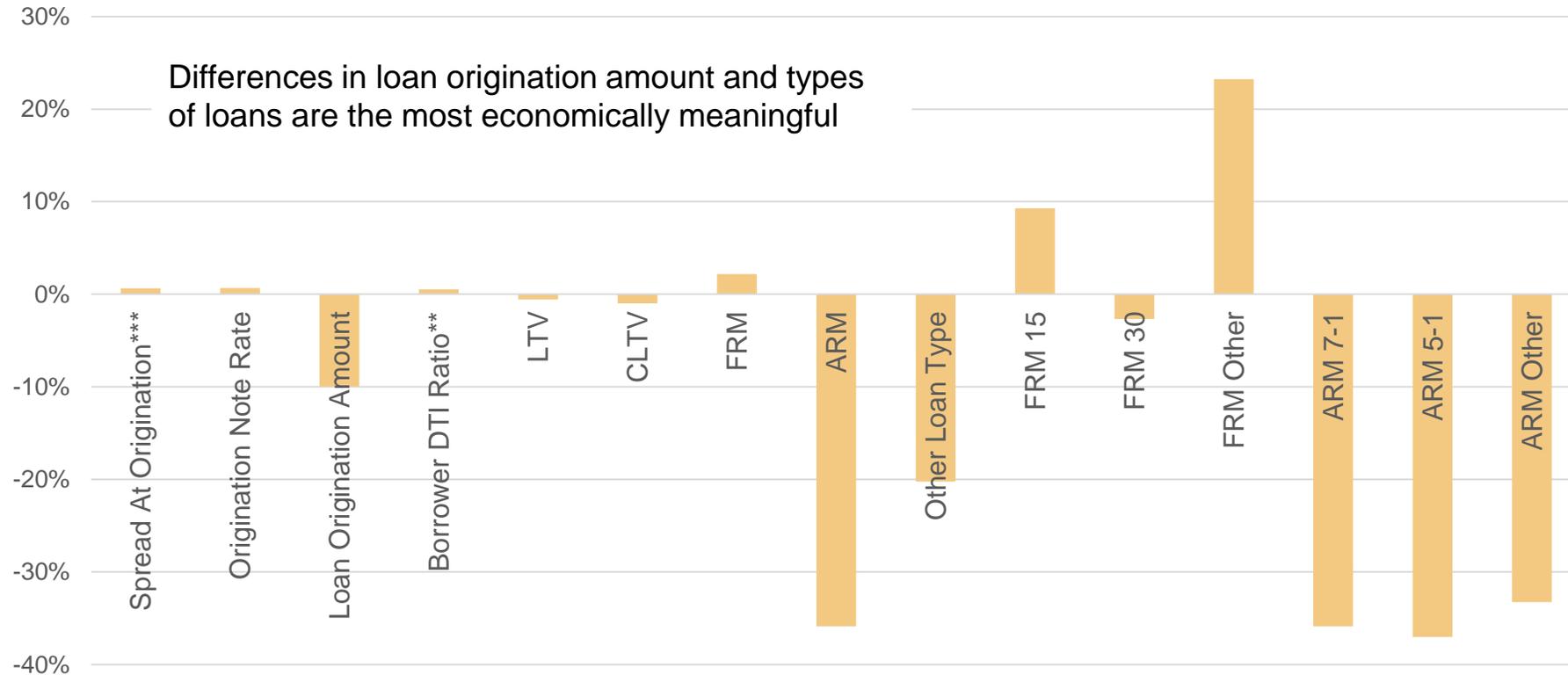
* Statistics based on Fannie Mae acquisitions of PMM and REFI loans on owner-occupied homes, 2004-2015.

** Second home share difference is calculated based on a sample of all loans; not just loans for owner-occupied homes.



Loan Attributes*

Difference Between Rural and Urban Areas as a Percentage of Urban Mean
(Negative Values Indicate Rural Lower than Urban)



Rural Mean	3.8 bps	5.04%	\$166.9k	37.0	70.4%	71.8%	96.3%	3.6%	0.07%	27.2%	61.4%	7.8%	0.7%	1.9%	0.9%
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* Statistics based on Fannie Mae acquisitions of PMM and REFI loans on owner-occupied homes, 2004-2015.

** Indicates the difference is not statistically significant at 5% confidence level.

*** Spread at origination difference is displayed as a percentage of mean urban origination note rate.

EVOLUTION OF RURAL LENDING IN THE LAST DECADE



How was the experience over the last decade across the urban/rural divide?

- **Socio-Demographic Attributes***
 - Rural borrower incomes and median tract incomes fell relative to those of urban borrowers and census tracts during the 2008-2012 period
 - The difference in percentage of first time homebuyers increased post 2008
 - The difference in borrower age has been increasing since 2004, with a slight reversion of the trend in the 2009-2011 period
- **Property Attributes***
 - The difference in rural/urban owner-occupancy became more pronounced during the 2008-2012 period
 - During this same 2008-2012 period, the difference in property size decreased, while the average lot size difference increased
- **Loan Attributes***
 - Rural/Urban differences in spread at origination and mortgage rate have become less pronounced over the last decade
 - Borrower DTI differences between Rural/Urban loans increased during the 2008-2013 period

* Statistics based on Fannie Mae acquisitions of PMM and REFI loans on owner-occupied homes in 2004-2015.



How different was the experience over the last decade across rural areas?

- **Socio-Demographic Attributes***
 - Differences in borrower age and the share of borrowers that are Millennials across rural areas have been widening
 - Differences in borrower FICO scores, monthly housing expenditures, and share of first-time homebuyers across rural areas were widest in the 2005-2008 period and have since decreased
- **Property Attributes***
 - Differences in property age were widest in the 2005-2008 period, decreased in the subsequent years, and have started to become wider since mid-2010
- **Loan Attributes***
 - Differences in loan type (FRM or ARM) across rural areas were widest in the 2005-2008 period and have since decreased
 - Difference in loan origination were also widest during that period then decreased and have been increasing slightly since mid-2010

All the above point toward differences across rural areas being most pronounced during the lead up to the housing crisis and having normalized since. Some differences remain post-housing crisis, which are indicative of the differing vitality of housing markets across rural areas in the post-crisis period.

* Statistics based on Fannie Mae acquisitions of PMM and REFI loans on owner-occupied homes in 2004-2015.



Contrasting Current Rural Loans Across Areas (2013-2015)*

State Name	Borrower Age	FICO Score	Loan Amount (\$1,000)	Property Age	Monthly Income (\$)	Monthly Housing Expenditures (\$)	DTI Ratio	Manufactured Housing**	Second Homes**
States with highest rural share of total state loans and low number of loans in HMDA:									
MT	44	761	190	17	6,155	1,312	34.6%	3.8%	9.8%
ND	37	752	189	18	7,298	1,374	32.7%	2.6%	1.8%
SD	40	762	148	20	6,169	1,143	32.6%	1.3%	5.7%
VT	45	751	160	34	6,093	1,325	36.3%	0.9%	21.3%
WY	42	756	200	20	6,909	1,331	33.7%	4.9%	5.1%
Average	41	756	177	22	6,525	1,297	34.0%	2.7%	8.7%
Avg. No VT	41	758	182	19	6,633	1,290	33.4%	3.2%	5.6%
States with large share of total rural market and above average share of state loans that are rural: AL, IN, KY, MN, MO, NC, OK, SC, TN, WI									
Average	45	749	140	20	5,856	1,064	32.5%	2.1%	10.2%
States with highest number of rural loans in HMDA but with rural loans accounting for a small share of total state loans:									
CA	48	754	261	26	7,609	1,947	37.3%	3.4%	11.4%
TX	44	743	177	10	7,752	1,493	34.3%	1.4%	8.3%
Average	46	748	219	18	7,681	1,720	35.8%	2.4%	9.8%

* Median attributes based on Fannie Mae acquisitions of PMM loans on owner-occupied homes in 2013-2015.

** Share of all state's Fannie Mae acquisitions of PMM loans in 2013-2015.



Conclusion

- Rural loans account for between 14% and 20% of conventional owner-occupied loan originations by loan amount and volume, respectively
- The analysis conducted indicates that there are important differences between urban and rural areas in terms of borrower attributes, property attributes, and loan characteristics
- Differences across rural areas are also highlighted, indicating that rural loans should not be viewed as one homogenous group

APPENDIX



Details on Sizing the Rural Market

- To obtain an estimate of the rural market size, this project makes use of the Home Mortgage Disclosure Act (HMDA) data from 2004 to 2014
 - Market sized via total loan number and total origination amount method
- Analysis of HMDA data is restricted to first-lien loans originated in a given year
 - Further breakdowns are made by whether loans are conventional, for owner-occupied properties, and whether they are purchase money or refinance loans
- Loans categorized into either rural or urban are based on the census tract as defined by the Federal Housing Finance Agency (FHFA)
 - Latest rural areas definition detailed in the December 2015 “Enterprise Duty to Serve Underserved Markets Proposed Rule” (DTS Rule)



Details on How Rural Lending is Different

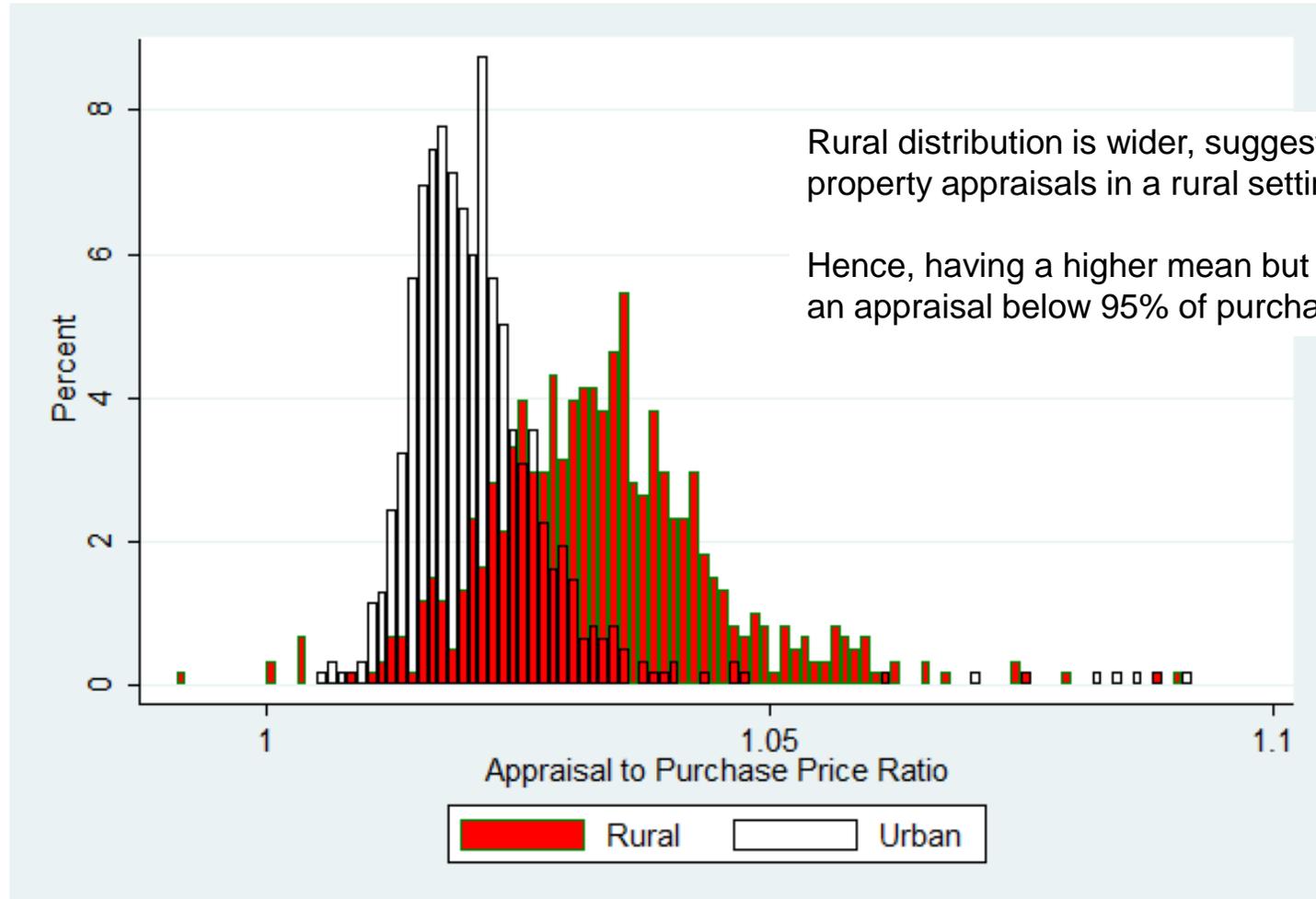
- Throughout, comparisons are made between Fannie Mae acquisitions of purchase money and refinance loans on owner-occupied homes in rural versus urban areas for 2004 to 2015
- Reported differences between urban and rural loans are the rural indicator coefficient estimates from regressions of state monthly average attributes of urban and rural loans that control for acquisition year, refi status, and state

$$Attribute_{mo,re,st,yr} = \alpha + \beta * Rural + \lambda_{re} + \lambda_{st} + \lambda_{yr} + \varepsilon_{mo,st,re,yr}$$

- Where:
 - mo = acquisition month
 - re = refinance indicator (λ_{re} is refinance indicator variable)
 - st = state (λ_{st} is state indicator variable)
 - yr = acquisition year (λ_{yr} is acquisition year indicator variable)
- β coefficient reported in the charts shows the difference between urban and rural loans for each attribute



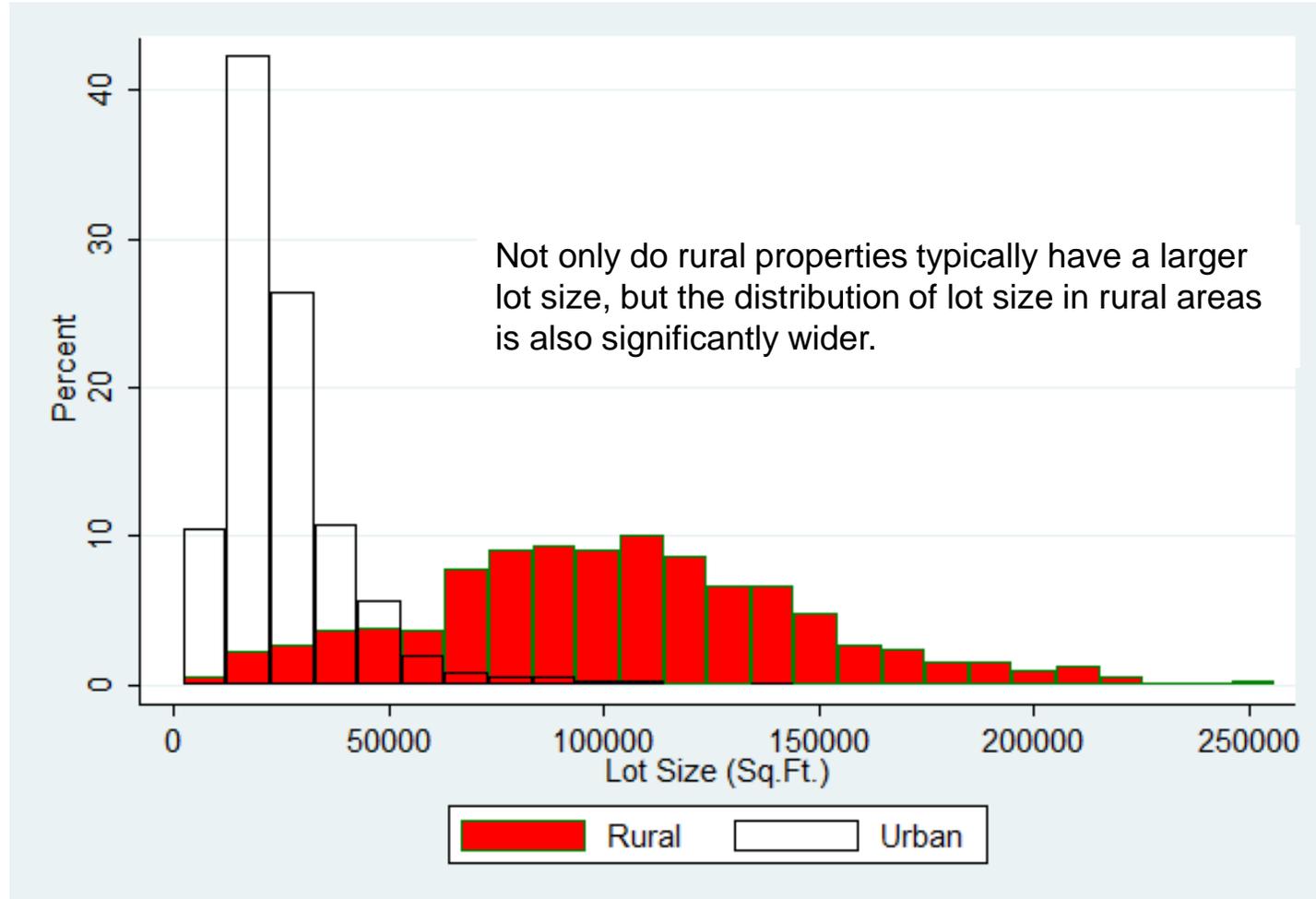
Distributional Differences in Property Appraisal Relative to Purchase Price in 2015



Histograms shows distribution of state monthly mean appraisal to purchase price ratio in Fannie Mae acquisitions of purchase money and refinance loans on owner-occupied homes in 2015.



Distributional Differences in Lot Size in 2015



Histograms shows distribution of state monthly mean lot size in Fannie Mae acquisitions of purchase money and refinance loans on owner-occupied homes in 2015.

