

# Regulatory Reform and Housing Finance: Putting the “Cost” Back in Benefit-Cost

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## Introduction

The impulse for regulatory reform in the aftermath of the U.S. housing bubble is both understandable and appropriate. The housing bubble was characterized by under-regulation (mortgage origination) and over-regulation (the housing government-sponsored enterprises’ excessive affordable housing goals). Getting the regulation of housing finance right was, and remains, a policy priority.

Getting regulation right means balancing benefits and costs. Even in ordinary circumstances, this laudable goal is difficult to realize in practice. Since the bubble burst in the housing market, there has been a virtual tsunami of changes to the environment facing the mortgage finance industry. Credit standards and minimum down payments have increased, and access to credit has become a challenge for even qualified buyers. Stringency in the private sector has shifted mortgage production to the government-sponsored enterprises (GSEs) and Federal Housing Authority (FHA), where the observed standards of originations have risen as well. The net result has been a visible drag on the housing market and the economy.

However, more regulatory impacts are in the offing with the implementation of Dodd-Frank legislation and the Basel III accords. These well-intended regulations proposed to shore up weaknesses in the mortgage finance system at the behest of Congress and the international financial community may go further than desired and risk undermining long-term growth in the housing market and U.S. economy.

This paper seeks to illuminate the regulatory debate by estimating the impact of recent regulation on mortgage origination, housing construction, and macroeconomic activity. We find using conservative economic assumptions that the bottom line effects of proposed Dodd-Frank and Basel III regulations may include up to 20 percent fewer loans, resulting in 600,000 fewer home sales. In turn, the resulting tightened lending and reduced sales are estimated to cost up to 1,010,000 housing starts, 3.9 million fewer jobs, and a loss of 1.1 percentage points from GDP growth over the next three years.

<b>Summary Table: Impact of Dodd-Frank and Basel III Rules</b>						
	<b>Housing Starts</b>		<b>GDP Growth</b>		<b>Employment</b>	
	<i>Baseline</i>	<i>D-F &amp; B3</i>	<i>Baseline</i>	<i>D-F &amp; B3</i>	<i>Baseline</i>	<i>D-F &amp; B3</i>
<b>2012</b>	770,000	770,000	2.2%	2.2%	133.3m	133.3m
<b>2013</b>	1,510,000	1,110,000	3.3%	2.5%	136.1m	135.4m
<b>2014</b>	1,560,000	1,250,000	3.0%	2.7%	138.8m	137.2m
<b>2015</b>	1,620,000	1,320,000	2.4%	2.4%	140.2m	138.6m

## Regulatory Reforms and Housing Finance

Among the most important aspects of the regulatory environment are two parts of the Dodd-Frank (D-F) regulation that will impact the mortgage finance industry: the Qualified Mortgage rule (QM) and Qualified Residential Mortgage rule (QRM). The former defines standards for how mortgages can be originated. The latter defines the characteristics of mortgages that can be securitized and sold to investors without requiring that the securitizer retain 5 percent of the risk.

While some aspects of the QM and QRM will help to create the standards and safety needed to protect consumers and to draw private investors back to the mortgage-backed securities (MBS) market, others will overlay high costs and limit access to credit for a large number of potential borrowers in good standing, driving consumers from the private mortgage market. Looking under the surface, together these regulations contain six features that will limit future mortgage production for a broad swath of borrowers that includes those with the ability to repay a loan:

- The implementation of a 43 percent back-end debt-to-income (defined as total debt, including for example, housing debt, car loans and student loans) ratio (QM),
- Rebuttable presumption (QM),
- Full documentation, limits on exotic features (interest only, negative amortization, etc.) and Adjustable Rate Mortgage (ARM) rate resets (QM and QRM)
- Higher down payment requirement of 20 percent (QRM), and
- A high credit standard roughly equivalent to a 690 FICO (QRM).<sup>1</sup>

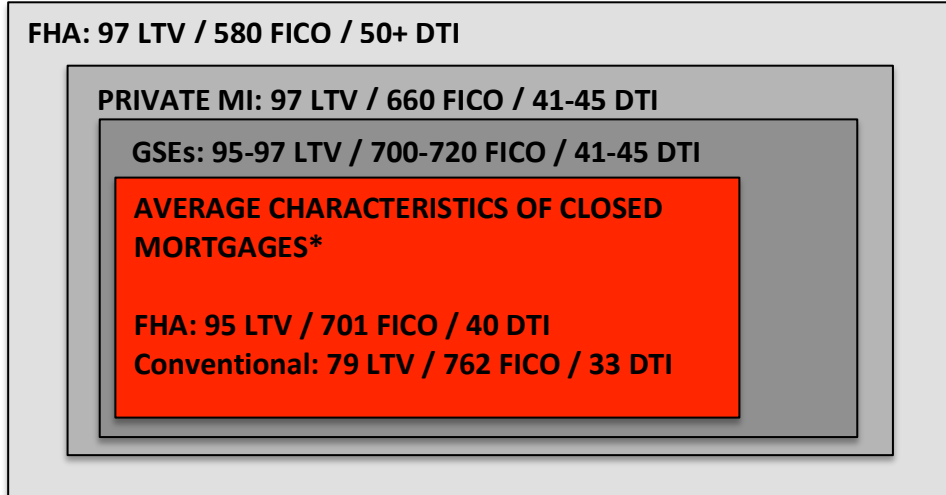
In addition to D-F, the new Basel III (B3) rules requiring banks to hold more capital will also impact credit availability, the cost of credit, and mortgage finance. U.S. regulators have chosen to augment – not merely adopt – the B3 capital rules with an additional risk-weighting scheme that will raise the amount of capital banks must have in order to hold mortgages in portfolio with down payments less than 20 percent. These rules are likely to have a significant impact on mortgages that do not meet standards for underwriting and ability to repay as defined by the regulators; as well as for most second liens. The regulations do not permit banks to use mortgage insurance (MI), a departure from current rules, to hedge the risks of low down payments, increasing their stringency.

Taken as a whole, QM, QRM, and B3 will limit the amount and variety of mortgages that banks will hold in portfolio. They will also cause banks to be cautious in how they originate loans for sale to the GSEs and FHA for fear of writing loans that will not be accepted and would then have to be held in portfolio. One way to think about the impact, especially the caution in originating loans that may end up in portfolio, is that the rules essentially make permanent current credit conditions in which originators have independently scaled back activity in response to the legal and reputational costs associated with GSE “put-backs” and the risk thereof (See Figure 1).

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<sup>1</sup> FHFA: Mortgage Market Note 11-02, April 11, 2011

FIGURE 1. CURRENT TIGHTENING OF PURCHASE CREDIT BOX: ACCEPTABLE LOAN PROFILE VS. REALIZED



\*Ellie Mae – September 2012

Together D-F and B3 will raise the cost of borrowing for millions of homebuyers, and tighten access to credit beyond pre-boom standards, a period of much more responsible lending than in the lead-up to the housing crisis. Banks will be forced to be more cautious in the types of loans they originate, even those sold to the GSEs and FHA. The tightening of credit would reduce access to affordable mortgages for many first-time homebuyers and trade-up buyers alike, reducing the volume of new buyers necessary to support trade-up buyers. The restriction in private lending will likely also drive consumers to government programs like the Federal Housing Authority (FHA) and the GSE's, which are exempt from the QRM requirements.<sup>2</sup>

These restrictions on private mortgage origination and housing market activity are a significant cost of the new regulatory regime; one that properly should inform the extent to which the new rules are sensible. To the extent that these regulations overreach, they violate the balance of benefits and costs that characterize efficient regulation, and will merit reform. Discussion of any reforms is beyond the scope of this paper. We turn now to documenting the plausible magnitude of these costs.

### **Estimating the Housing and Macroeconomic Impact of D-F and B3**

The channels by which restricted mortgage credit would impact housing markets and the macroeconomy are straightforward. Tighter credit would reduce the number of new and existing home sales. In turn, residential construction would suffer and fewer dollars would be spent on the goods and services that would otherwise accompany home construction and purchases. In addition, housing inventories would either rise or decline at a slower rate, which would slow price growth. A decline in home prices would reduce housing wealth and cause a decline in personal consumption expenditures.

Quantifying these channels is another matter entirely. There is a wide array of estimates of the QRM's impact on mortgage rates, but less so for the QM or B3<sup>3</sup>. And conventional macroeconomic models do not have a channel for imposing an increased cost of credit from a regulatory source.

<sup>2</sup> The FHA is exempted and the GSEs are exempted while in receivership.

<sup>3</sup> See MBA comment letters on QM and QRM: <http://mba.informz.net/MBA/data/images/qmcommentletter070912.pdf> and [http://www.cognops.com/wp-content/uploads/2012/10/mba\\_basel\\_iii\\_comment\\_letter\\_final.pdf](http://www.cognops.com/wp-content/uploads/2012/10/mba_basel_iii_comment_letter_final.pdf)

We take another tack. To begin, note that the credit environment of 2009 through 2011 has the same characteristics as embodied in the proposed regulatory regime. Following the implosion of the subprime market and recession, banks independently raised credit standards to shore up their books, to comply with enhanced supervision, to provide for future product liquidity, and to prevent against potential repurchase requests or reputation risk. Full or near-full documentation is now the norm and access to exotic mortgage products is very limited. The average FICO score on FHA and conforming loans rose substantially. Down payment requirements outside of the FHA also rose, splitting the market and pushing borrowers with loan-to-value (LTV) greater than 80 to FHA. The average FICO score for *accepted* FHA purchase loans in September of 2012<sup>4</sup> was 701, well above the 660 mark that denotes a prime mortgage.<sup>5</sup> At the same time, the average characteristics for *rejected* conforming purchase loans were a FICO of 729, LTV of 81 percent and debt-to-income ratios (DTI) of 24 percent on the front-end and 43 percent on the back-end. Shown previously in Figure 1, the current tightened credit standards that have limited the number of potential borrowers and pushed market share towards FHA are similar to the same credit restrictions that will result from the proposed regulatory regime.

This tight credit regime is quite consistent with imposition of D-F and B3.<sup>6</sup> In particular, we observe:

- Stringent average origination characteristics (FICO, LTV, and DTI) well within the proposed requirements as a result of regulatory uncertainty and put-back and reputation risk<sup>7</sup>, which are utilized as a proxy for tighter origination behavior under QM (rebuttable presumption) and B3 (capital weight risks enhancing potential put-backs);
- Tighter adherence to documentation;
- Low usage of exotic loans; and
- Shift of high LTV and high DTI lending to the FHA.

In short, we think of this period as a useful observation on the conditions “after” imposition of regulations.

As a proxy for market conditions “before” the regulations, we assume that mortgage originations in 2001 are close to historic norms, and not reflective of the loose credit underwriting common during the height of the housing boom<sup>8</sup>.

To make the comparison, we constructed the distribution of mortgage production in 2001 and 2011 from the McDash database from Lender Processing Services (LPS). The distribution is based on FICO<sup>9</sup> scores measured at origination with exotic product features excluded.<sup>10</sup> Our goal is to construct a baseline 2011 distribution that would prevail in the absence of D-F and B3. The key assumption in doing so is that we assume that if

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<sup>4</sup> Ellie Mae. “Originations Insight Report.” August 2012

<sup>5</sup> OCC Mortgage Market Metrics Report. First Quarter 2012

<sup>6</sup> The average *accepted* conforming loan for a purchase had a FICO of 763, LTV of 79%, and DTIs of 21% and 33%.

<sup>7</sup> Solomon, Deborah. “What Will It Take to Get Banks to Make More Loans?”. Bloomberg News. Sep 11, 2012

<sup>8</sup> Demyanyk and Van Hemert (2008) demonstrated that there was a monotonic deterioration of sub-prime loan quality from 2001 to 2007 as well as increased average LTV, low doc share, and lower rate spread. An ideal base year would be much earlier (mid to late 1990s), but there is limited data available for an earlier base year.

<sup>9</sup> A distribution in two dimensions, LTV and back end DTI would be ideal. However, data on DTI is incomplete in most datasets and problems with collection of this statistic have been cited in the past (see Zandi and De Ritis: “Reworking Risk Retention”). Furthermore, one would expect a consumer to shop their mortgage to options that allow for higher DTI like FHA.

<sup>10</sup> For example, it excludes interest only mortgages, negative amortization mortgages, option ARMS, and ARMs with an initial rate resets less than 7 years.

credit were available today under normal, 2001 conditions, the volume of originations for FICOs greater than 690 would be the same. (Notice that a FICO of 690 is well above the 660 threshold for prime loans and is the figure estimated by the FHFA to coincide with the QRM credit requirement.)

Knowing this, and assuming the 2011 baseline distribution would mirror the 2001 distribution, permits us to estimate the total volume of originations that would have been originated in 2011 without D-F and B3. Not all mortgages are documented in the LPS data; we can use available information to impute the size and distribution of these “shadow” mortgages.<sup>11</sup> Because of employment issues, lower FICO scores, and down payment requirements not present in 2001, the resulting distribution likely overstates mortgage production in 2011. In order to be conservative, we assume that any loan with either a FICO or DTI in the LPS dataset could be fully documented, but for caution we assume 4.5 percent to 9.0 percent of the estimated 2011 “shadow” purchase production cannot be documented.<sup>12 13</sup>

The bottom line is the difference between the baseline 2011 estimate and the actual 2001 mortgage production. Our estimate is that tighter credit standards would lead to roughly 14 percent to 20 percent fewer loans.

This decline in purchase lending would reduce total home sales by 9 percent to 13 percent and a similar decline for existing home sales. However, cash purchases of existing sales increased in recent years and accounted for roughly 31 percent of existing purchases in 2011. This high share of cash purchases may be unsustainable, which would increase the impact of restricted credit on home sales. In this sense, ours is a conservative estimate of the impact.

### **Limited Housing Credit and the Economy**

We translate our estimate of the regulation-induced mortgage reduction into impacts on the macroeconomy. The decline in existing home sales in turn reduces expenditures on goods and services related to the purchase of a home. Fewer existing home sales allow slack to remain in the supply of housing, weighing on home price appreciation and new construction activity. In addition, the wealth effect is muted by slower home price growth. Using this analytical framework, estimates for the impact of lower existing home purchases were produced using the Macroeconomic Advisors economic model.

The baseline scenario – one in the absence of D-F and B3 rules – is provided along with our estimated impact of D-F and the B3 rules.<sup>14</sup> The baseline takes into account that banks, on their own accord, have begun reacting to the potential rules, and as such these regulations have already had some effect. The impacts of tight lending in 2011 and combined effect of D-F and B3 are as follows.

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<sup>11</sup> The majority of 2011 loan production that is not documented can be imputed as long as a DTI or FICO score is present; those without either were dropped to make a more conservative estimate.

<sup>12</sup> 10 percent of these “shadow” loans with  $620 < \text{FICO} < 680$  would drop out due to employment issues; 20 percent of these “shadow” loans with  $\text{FICO} < 620$  would drop out due to employment issues; 33 percent of these “shadow” loans with  $\text{FICO} < 620$  would drop out due to the FHA’s 10 percent down payment requirement for loans with  $\text{FICO} < 580$ , new since 2001 (See Footnote 13)

<sup>13</sup> See Harriet Newberg, “Recent Trends and Their Implications for the Future.” Federal Reserve Bank of Philadelphia. December 2011. Table 10 contains a distribution of FHA lending by FICO range in 2004 with shares below 580 and below 570 with  $\text{LTV} < 90$ . We assume that slightly more loans with  $\text{LTV} < 90$  are bunched between 570 and 580 and that this is representative of the universe of mortgages with low FICO scores.

<sup>14</sup> In practice, banks on their own accord have begun reacting to the potential rules, and as such these regulations have already had some effect.

- A decline in home sales of 600,000
- Up to 1,010,000 fewer housing starts from 2013 to 2015, clipping 1.1 percentage points from GDP growth and resulting in 3.9 million fewer jobs over that time frame
- Though prices have risen in 2012 due to reduced inventories, long-term price growth could be stunted by the implementation of D-F and B3, lowering the potential housing wealth impact. 600,000 fewer home sales would translate into an equivalent amount added to inventory. The combined effect of fewer home sales and additional inventory would push the month's supply from the 6-month level observed in 2012 closer to a 9-month supply, which historically has been associated with moderate price declines. Though the price impact is difficult to assess, if the price delta (the difference between what the price growth would have been with and without credit restrictions) is 10 percent, then the reduced housing wealth accumulation would lower consumer spending by \$80 billion to \$130 billion or roughly an additional 0.3 percent off GDP growth per year and 200,000 fewer jobs.

This analysis is dependent on the size of the reduction in housing starts assumed. A sensitivity analysis was conducted that spans a range of changes in housing starts and their impact on the economy. The range of potential impacts from D-F and B3 is displayed below. In comparison to the baseline projections, new regulations would result in 260,000 to 1,010,000 fewer housing starts, 0.3 to 1.1 percentage points off of GDP growth, and 800,000 to 3.9 million fewer jobs from 2013 to 2015. Figures 2, 3, and 4 below show the differences in housing starts, GDP growth, and the employment level between the baseline estimate of 400,000 additional housing starts and the resulting impacts from the D-F and B3.

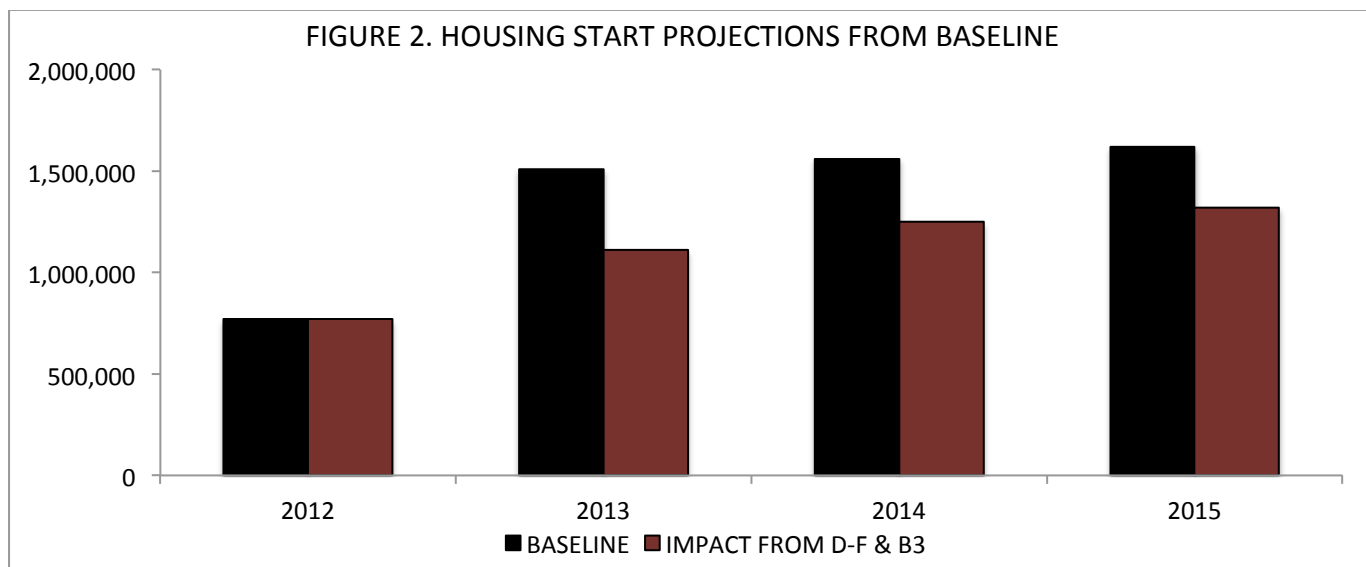


FIGURE 3. GDP GROWTH PROJECTIONS FROM BASELINE

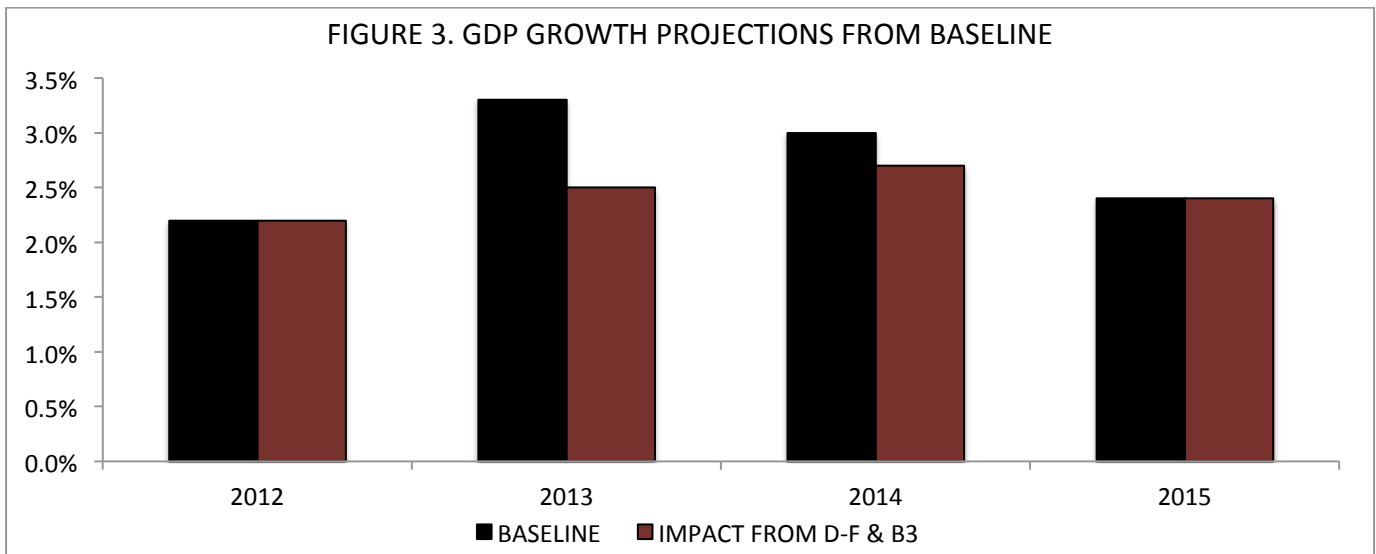
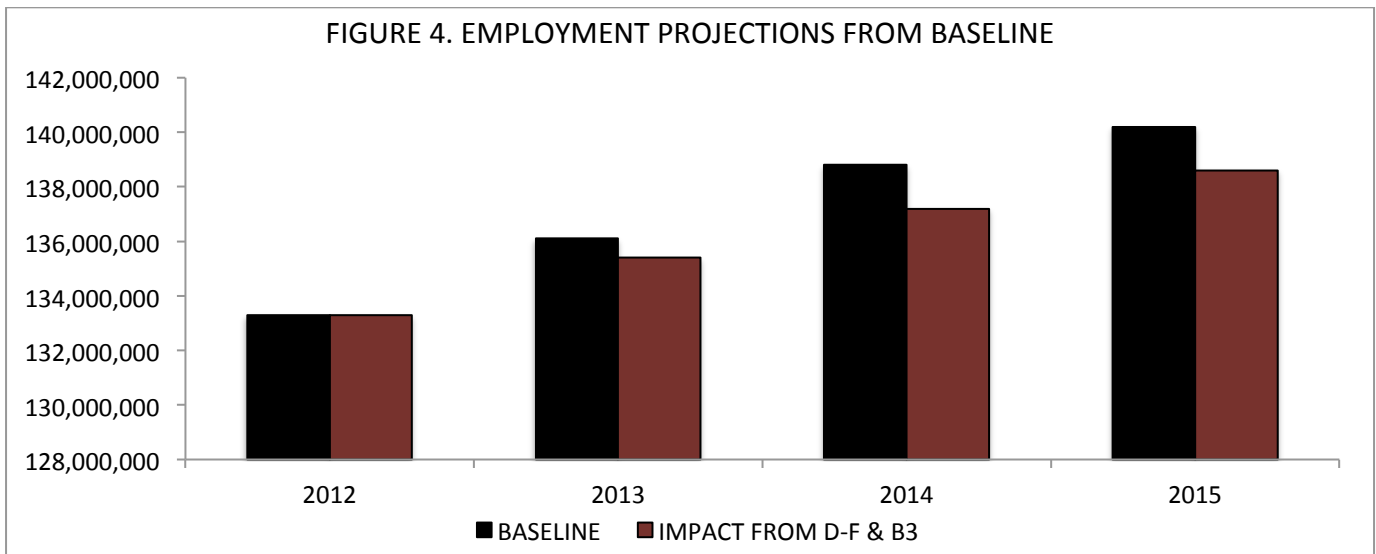


FIGURE 4. EMPLOYMENT PROJECTIONS FROM BASELINE



Over time, the economy would adjust to the regulatory shock, return to full employment, and there would no further drag on GDP growth. However, the economy would be at a lower level of GDP as the impact is “baked in.”

**Additional Impacts**

Our approach has been to isolate and quantify the impacts of D-F and B3. However, in practice these impacts have already begun to affect housing markets as banks anticipate the new rules. And there are many impacts of this regulatory effort that are not captured here, but which merit consideration. In the past, more than 20 percent of small business owners have used equity in their homes to raise capital for their business or to use as “collateral to purchase business assets”.<sup>15</sup> Small businesses are important for job creation, so slower price growth would make it more difficult for the economy and employment to expand.

<sup>15</sup> NFIB. “Small Business Credit in a Deep Recession.” February 2010. P.18

Slower price growth implies slower growth of home equity. Under such conditions, mortgaged homeowners would be more vulnerable to foreclosure in the event of health issues, death of a family member, or unemployment.<sup>16</sup>

In a similar way, slower home equity appreciation would reduce trade-up buying, which would reduce spending on redecoration and the like. Slow price growth would also make it more difficult to refinance, especially given the higher requirements for refinances under the QRM.

Finally, American consumers have expressed a clear preference for the stability of the 30-year fixed rate mortgage. The premium capture reserve, a rule that would force mortgage bond securitizers to hold even more capital beyond proposed risk retention rules, would create a disincentive for banks to offer the 30-year fixed rate mortgage and a smaller role of the government in the secondary market would shrink support for it as well.

### **Summary and Conclusions**

In January of 2013, the release of the final QM, QRM, and Basel III regulations is expected. These rules will dramatically reshape the primary and secondary mortgage market for the next generation. If done correctly, they could provide the safety and security for both consumers and investors necessary to sustain a housing recovery and beyond. But if these regulations are implemented in an overly strict fashion, they will lower the trajectory for homeownership and the economy for generations to come.

We have attempted to shed light on the magnitude of the impacts. We find using conservative economic assumptions that the bottom line effects of proposed Dodd-Frank and Basel III regulations may include up to 20 percent fewer loans, resulting in 600,000 fewer home sales. In turn, the resulting tightened lending and reduced sales are estimated to cost up to 1,010,000 housing starts, 3.9 million fewer jobs, and a loss of 1.1 percentage points from GDP growth over the next three years.

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<sup>16</sup> Foote, Christopher, Kristopher Gerardi, and Paul Willen. "Negative Equity and Foreclosure: Theory and Evidence," *Journal of Urban Economics*, 2008, 64 (2), 234-245.