The Policy Challenges and Securitization Implications of Down-Payment Assistance

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Every once in a while it is useful to refresh our understanding of the critical role that down payment plays in mortgage finance, and the ability of low- and moderate-income families (LMI) to buy their first home. This is one of those times. A 2017 Zillow survey of 10,000 American adults found that two in three people who were then renting, across all demographic groups in all 20 major metropolitan regions surveyed, identified saving for a down payment as the top hurdle holding back would-be home buyers (Gudells 2017), while a Fannie Mae survey conducted around the same time found consumers reporting lack of down payment and insufficient credit history running neck and neck as the biggest obstacles to homeownership. See Exhibit 1.

Wealth recovery following the Great Recession has also been uneven, hitting minority families especially hard. The wealth of white households was 13 times the median wealth of black households in 2013, compared with 8 times the wealth in 2010, according to Pew Research Center analysis of data from the Federal Reserve's Survey of Consumer Finances. Likewise, the wealth of white households is now more than 10 times the wealth of Hispanic households, compared with nine times the wealth in 2010" (Kochhar and Fry 2014).

This puts minorities' own retirements at risk and reduces their ability to help their children with a down payment for a starter home. From a longer-term perspective, the nonwhite share of net household growth is expected to reach 88% by 2030, which means most net new homeowners will also be minority, with all the issues surrounding credit access, limited savings, and overcoming down-payment hurdles (Goodman, Pendall, and Zhu 2015).

Two other trends make the down-payment issue of renewed policy interest. Despite a recent deceleration in the growth rate of housing prices, it is estimated that national home prices have risen above pre-recession levels, which requires more upfront cash, as illustrated in Exhibit 2.

Although most research finds higher leverage increases default risk, low-down-payment lending is once again on the rise, so leverage is rising. The share of conventional 30-year purchase loans requiring 10% down or less has risen to 35%, from 5% in 2010 (Barrett and Maloney 2018). And in 2015, the GSEs re-entered the very-low down payment business.

What is new about low-down-payment lending is the growing integration of down-payment assistance (DPA) into the financing of LMI purchases. Using DPA to help low-income families gain a foothold on the home-ownership ladder is nothing new. Since 2004, for example, the non-profit, Neighborhood Housing Services of New York (NHSNYC), an affiliate of NeighborWorks America, has

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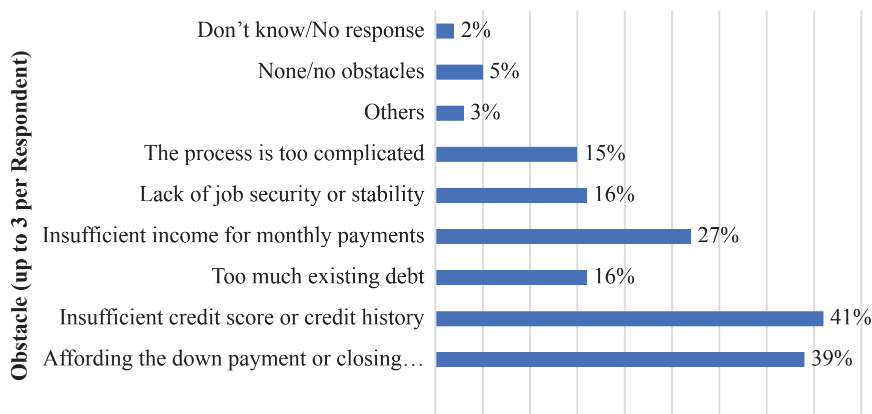
Exhibit 1

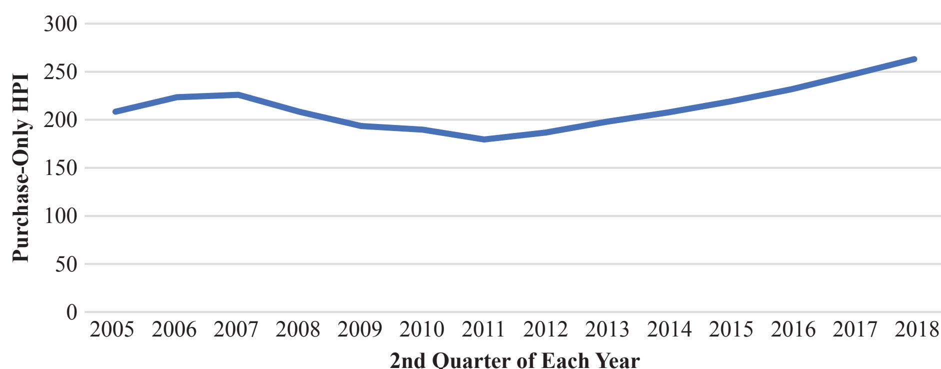
Biggest Obstacles Facing Would-Be Home Buyers



Source: Fannie Mae National Housing Survey, second quarter 2017.

Exhibit 2

FHFA's House Price Index Tops Pre-Recession Levels, Increasing Need for Down Payment Savings



Source: FHFA Purchase-Only Summary.

run publicly or privately funded DPA and closing-cost assistance programs. NHSNYC serves as the fiscal administrator of a NYC-funded DPA program for LMI first-time home buyers featuring up to $15,000 or 6% of their property purchase price in the form of a five-year forgivable loan (NeighborWorks 2016). But what is striking is the rapid proliferation of similar programs across the country—now numbering more than 2,000—and that provide grants or loans to LMI families that further reduce a borrower's required "skin in the game," possibly fundamentally changing the economics of low-down-payment lending (Goodman et al. 2017).

A harbinger of the secondary market's growing comfort with DPA is reflected in Freddie Mac's web page dedicated to down-payment assistance, which includes a customizable DPA flyer that their seller-servicers can personalize with their own logo to let their mortgage-ready borrowers know that "you can help them identify down payment assistance programs" (see http://www.freddiemac.com/purchasemarket/downpayment.html).

THE MAINSTREAMING OF DPA

The vast majority of state housing finance agencies (HFAs) serving the LMI community in their respective jurisdictions have incorporated DPA into their first-time

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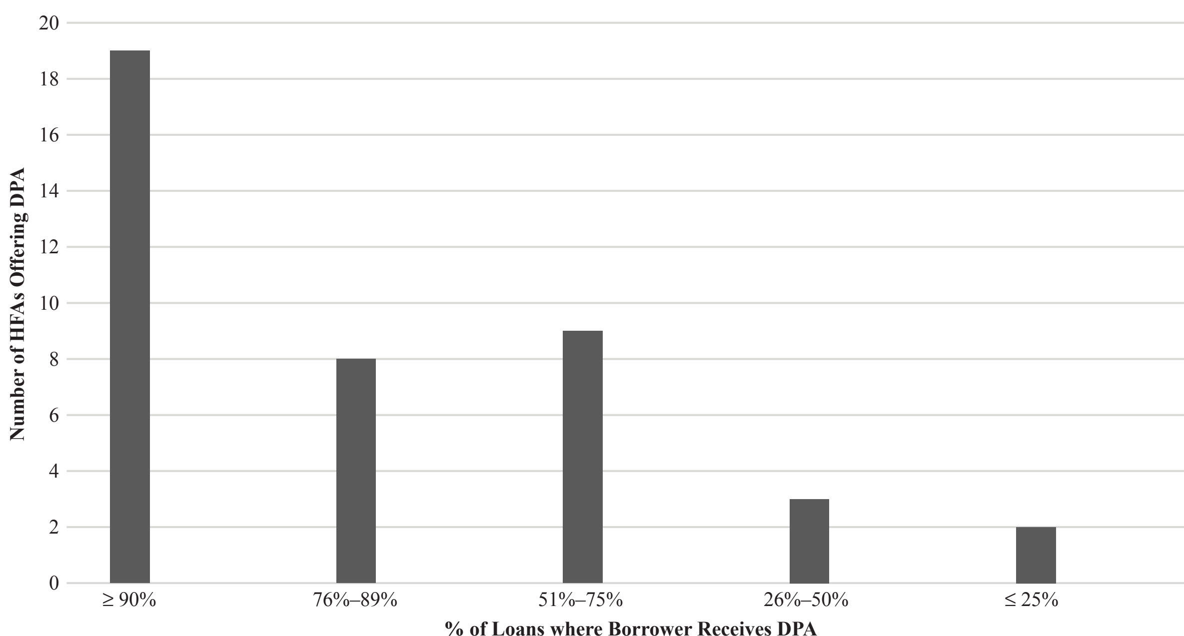
Exhibit 3
DPA Is a Popular Tool



Source: NCHSA (2018, Table 15).

home buyer business models to compensate for their lost financing advantage when the tax-exempt bond market collapsed coming out of the financial crisis (see Exhibit 3).

In 2016, across all 53 members of the National Council of State Housing Agencies (NCHSA), each originated an average of more than 2,100 down-payment-assisted purchase mortgages for low-income, first-time home buyers, with DPA of more than $5,500 (NCHSA 2018). And for 18 of the 44 HFAs rated by Moody's, more than 90% of all production is now DPA-driven (Moody's Investors Service 2017).

With the use of tax-exempt mortgage-revenue bonds (MRBs), the traditional financing vehicle of HFAs, upside down, HFAs were forced to diversify their business models and find alternative, profitable funding sources, which included becoming Fannie and Freddie seller-servicers and Ginnie Mae issuers, selling mortgage-backed securities (MBS) into the secondary market at a premium based upon an incrementally higher mortgage interest rate reflecting the DPA. Because they were no longer able to compete on providing lower cost loans, DPA became the new HFA competitive advantage. Between 2012 and 2017, HFA non-mortgage interest revenues more than doubled as a share of total revenues, which reflects revenues from secondary market sales and fees, as seen in Exhibit 4.

HFAs fund their DPA through a variety of revenue sources, including upfront income from the direct sale of high-priced MBS, especially against the backdrop of the support the MBS market was receiving from the quantitative easing efforts of the Federal Reserve Bank from late 2008 through 2016. As illustrated in Exhibit 5, additional sources of DPA can be found in HFAs own unrestricted funds: Indenture wealth, which is labeled as Bond Proceeds in the exhibit is the equity associated with bond issues that are generally secured on parity in an indenture of trust that has accumulated over time; and Hardest Hit Funds (HHF) in the cases of some states.[1]

From the borrower standpoint and from the standpoint of HFA economics, these DPA dollars are used in a

[1] The US Treasury established the Hardest Hit Fund in February 2010 to provide targeted aid to states hit hardest by the subprime mortgage crisis. Each state housing finance agency gathered public input to implement programs designed to meet the distinct challenges struggling homeowners in their state were facing. HHF is part of the Troubled Asset Relief Program.

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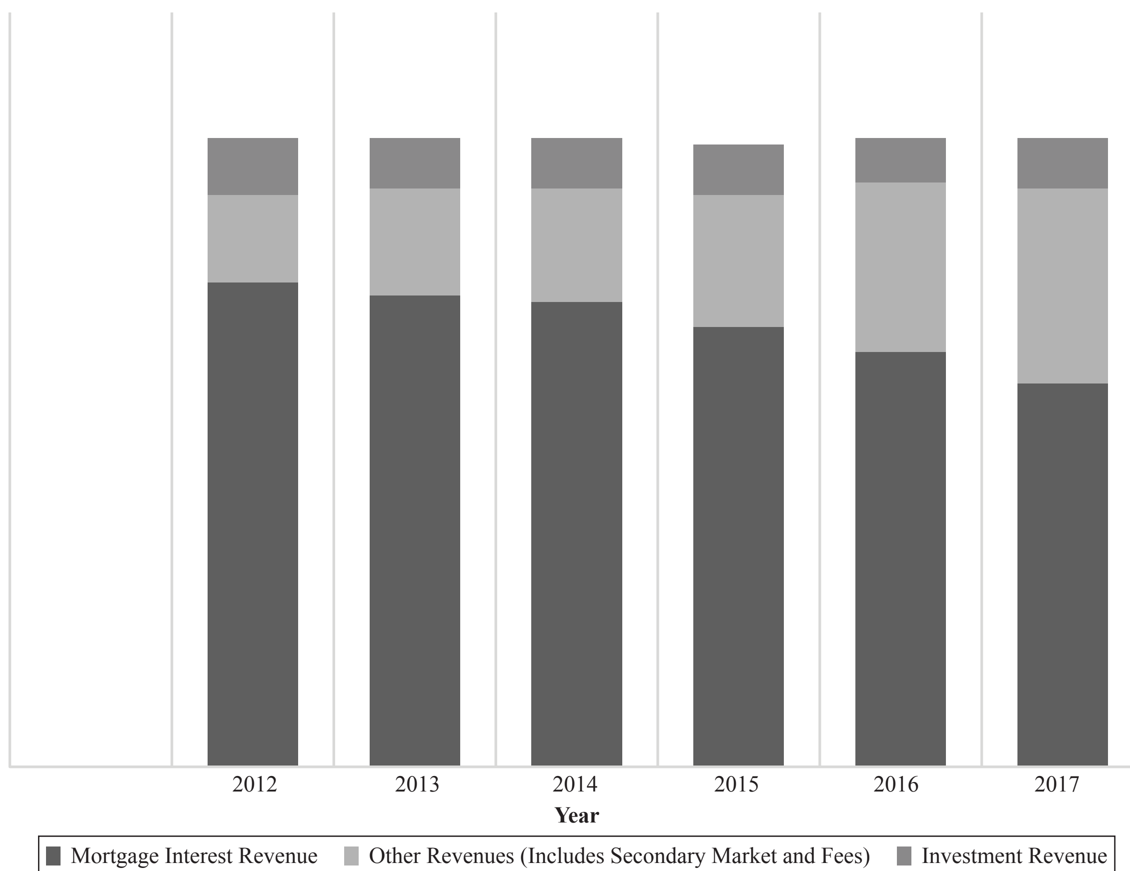
EXHIBIT 4

Proportion of HFA Revenue from Sources Other Than Mortgage Interest



Source: Moody's Investors Service, An Overview of Housing Finance Agencies (HFAs) September 7, 2018.

variety of program designs, the most common of which are summarized in Exhibit 6.

These include grants that are essentially gifts that never have to be repaid; forgivable loans (loans that become grants over time as they are forgiven); loans with deferred payments, which only have to be paid (in full) upon sale, refinancing, or complete pay down of the first mortgage; and loans above and beyond the primary mortgage that have to be paid down in parallel with the first mortgage (Warden 2018). With respect to grants, some programs make the borrower pay a slightly higher mortgage rate to cover the cost, which has become a target of financial regulators.

HFAs frequently mix and match these DPA program designs with different funding sources. Colorado funds a combination of grants and loans through TBA sales, Delaware uses a combination of agency and state resources to fund a mix of grants and deferred loans, while Nebraska uses recycled bond funds to support its DPA loans.

DPA is likely to continue as a feature of most HFA programs with the ongoing recovery of the tax-exempt market and potentially with better balance sheet results than are possible selling premium-priced DPA-enhanced MBS. In a rising rate environment and with a flatter yield curve, the economics of tax-exempt financing will continue to improve relative to secondary market sales. For example, MRB issuance surged 27% in 2017, to $5.67 billion from $4.47 billion a year earlier (Zagorski 2018). The potential return of full-spread bond-financed lending increases HFA funding options for creating sustainable sources of down-payment assistance. The goal is to create programs that are both profitable and sustainable and that optimally serve their mission. Exhibit 7 compares the profitability of the tax-exempt bond with MBS sale options for the range of DPA program designs identified

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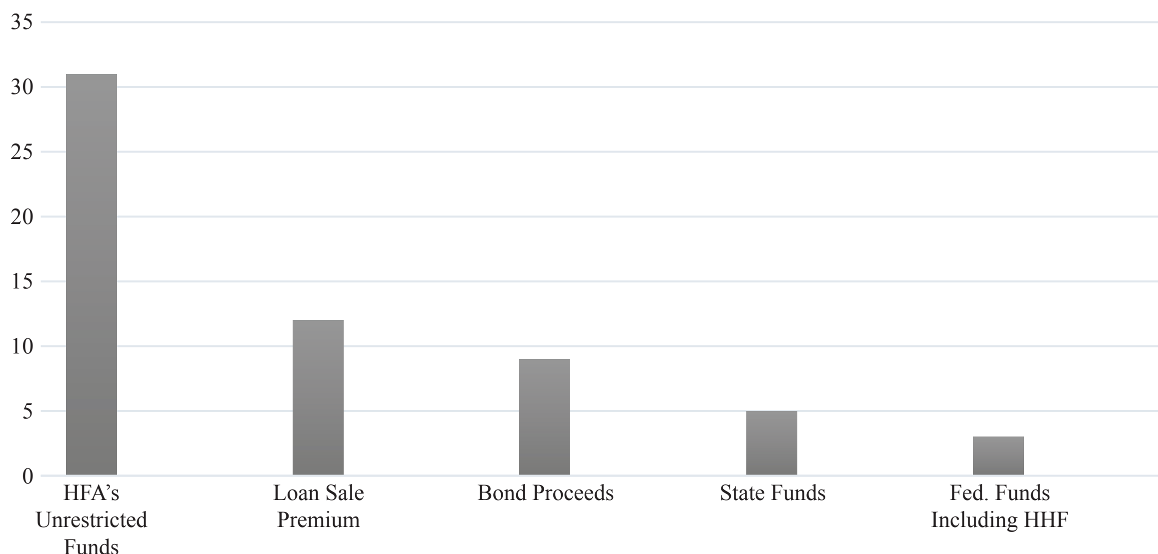
EXHIBIT 5

Sources of Housing Finance Agency DPA Funding



Note: Loan sale premium is the amount HFAs' clear on sales in the secondary market to Fannie Mae, Freddie Mac, and Ginnie Mae.
Source: Moody's Investors Service (2017).

earlier, under various prepay assumptions. Note that under the stated financial assumptions, specific forms of DPA generate negative discounted present value from a TBA sale. Prepayment speeds also affect the economics of DPA programs through their effects on DPA principal recovery, which we will explore more fully in a later section.

Another indication of the integration of DPA into first-time home buyer lending is also reflected in FHA data. Due in part to more HFAs becoming Ginnie Mae issuers, more than 30% of purchase mortgages in fiscal 2017 now carry DPA (US HUD 2017a). According to the US Department of Housing and Urban Development (HUD), in FY 2017, approximately 31% of FHA purchase mortgages received gift funds; see Exhibit 8.

Another 6% had some type of secondary financing, which is a type of down-payment assistance provided by a government entity. Combined, nearly 40% of all purchase mortgages received either gift funds or secondary financing (US HUD 2017a).

PREMIUM PRICING FACES GREATER REGULATORY SCRUTINY

The rapid growth of DPA is not without its critics, especially the use of "premium pricing"—packing on fees to closing costs and charging a higher interest rate—as a way to recover grant-financed DPA. A few nationwide lenders launched 1% down-payment products that piggybacked on Freddie Mac's 3% down program, where the originators paid up to 2% of the down-payment costs. The borrowers, who were typically lower income and first-time home buyers, would only have to come up with the remaining 1%. Regulatory concerns were based on the likelihood that the borrowers don't always realize that they were the ones financing the "gifts" from their lenders over time through higher loan payments (Scotsman Guide 2017). In mid-2017, the Federal Housing Finance Agency (FHFA), the regulator of Fannie Mae and Freddie Mac, directed the GSEs to end their purchases of low-down-payment loans that included lender contributions to the buyers' down payments (Scotsman Guide 2017). "Under a revised policy, borrowers will need to come up with at least 3% of the value of the house from their own personal resources for the down payment, although some of the money can come from traditionally allowable sources, such as gifts from relatives" (Harney 2017). In August 2018, Fannie Mae issued clarifications to its Community Seconds second lien program that premium pricing to reduce or fund a borrower's down payment is not in the best interest of the borrower or long-term sustainable homeownership and would no longer be permitted to

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EXHIBIT 6

Primary Types of HFA DPA Programs

Program Type	Program Description	Sample HFA Programs	Some Pros/Cons
1. Grant	DPA funds are given away at closing with no required repayment.	• South Dakota HDA: Up to 3% (49%) (Considering a change) • Colorado (3%) (87%) • Iowa FA: (2,500) (75%)	• Tends to provide less cash upfront • Recovery may be expensive to borrower (via higher interest rates)
2. Forgivable Second (Loan that becomes a grant over time)	DPA funds are initially provided as a second mortgage loan. However, the second mortgage loan is forgiven and no repayment is required at predetermined point in time (e.g., 7 years), or over time (e.g., 20% per year over 5 years).	• Ohio HFA: up to 5% DPA, 100% of second is forgiven in year 7 (90%) • North Carolina HFA: up to 5% DPA 20% of second is forgiven years 11-15 (84%) • RI Housing: Up to 15% of Price; repay up to 15 years (90%) • Illinois HDA: 4% up to $6,000 and forgiven monthly over 10 years	• Like grant • Though recoverable upon early retirement of loan (early repayment) • Generally no interest rate attached to this product
3. Payable-on-Sale Second (Deferred Payment; generally 0% percent interest)	DPA funds are made as a second mortgage loan. The borrower makes no payments on the second mortgage as long as the first mortgage loan is outstanding. The full amount of the second mortgage loan is due at the same time as the final payment (prepayment or maturity) of the first loan.	• California HFA: up to 4% DPA with 0% interest rate (92%) • Florida HFC: up to $7,500 DPA with 0% interest rate (99%) • Michigan SHDA: (up to $7,500) (87%) • Illinois HDA: 5% up to $7,500	• Recoverable in full, but only upon retirement of loan • Allows for "revolving fund," although long/slow recovery • 10-Year Rule tracking may pertain to any second loan outstanding past 10 years (if included in TE yield calcs.)
4. Amortizing Second* (Various interest rates)	DPA funds are made as a second mortgage loan. The second mortgage loan has required monthly payments, and frequently has a shorter maturity (i.e., 10 years) than the first mortgage loan. Additionally, the second mortgage loan is due if the first mortgage loan is repaid	• Kentucky HC: up to $6,000 10-year amortizing loan with a rate of 5.50% (89%) • Mass Housing: up to 3% or $12,000 15-year amortizing loans with a rate of 1.00% • Illinois HDA: 10% up to $10,000 10-year amortizing loan with a rate of 0%	• Stable DPA revenue stream • Ongoing recovery facilitates revolving fund • Increase to monthly payment may create borrower payment affordability concerns

*Note: * There may be additional considerations, such as cost of servicing, depending on HFA's partnerships and contracts.*

EXHIBIT 7

Bond PV Profit vs. MBS Sale

Estimate of PV Profit-MBS Sale vs. Bond Sale (1,2,3,4,5,6)
$100 million in First Loans with 5 Points of DPA-15% Loss
Mortgage Rates Set to Achieve Full Spread ("FS") on Tax-Exempt Bond Sale w/3.54% Bond Yield

			PV Profit of GN Program ($ in mm)					
	Est. FS Mtg Rate		100% PSA		150% PSA		200% PSA	
Program	**GN**	**FN**	**TBA**	**TE Bond**	**TBA**	**TE Bond**	**TBA**	**TE Bond**
1) Grant	5.35%	5.74%	(2.19)	4.11	(2.19)	2.38	(2.19)	1.09
2) Forgivable Second	5.19%	5.58%	(0.77)	3.78	(0.31)	2.74	0.08	2.01
3) Pay-on-Sale Second	5.03%	5.42%	0.39	4.00	0.67	3.03	0.86	2.27
4) Amortizing Second	4.89%	5.28%	0.82	3.67	0.85	2.64	0.87	1.87

1) Prelininary, subject to change. Rates as of 6/8/2018. For illustrative purposes only. Additional analysis required prior to execution.
2) Assumes a PV Rate of 3.00%. (approximately yield on 10-year Treasury).
3) Assumes 0.06% G-fee for GN and 0.45% G-fee for FN & 0.25% ongoing servicing fee + 1 point upfront paid by borrower for lender fees.
4) Assumes DPA can be included in the yield calculation with a 15% loss (subject to discussion with tax-counsel).
5) Estimate of Upfront Costs (excludes bond negative arbitrage).
6) Assumes Strip PAC structure.

Notes: For illustrative purposes only. 85% recovery assumed for all programs with 5 points of DPA.

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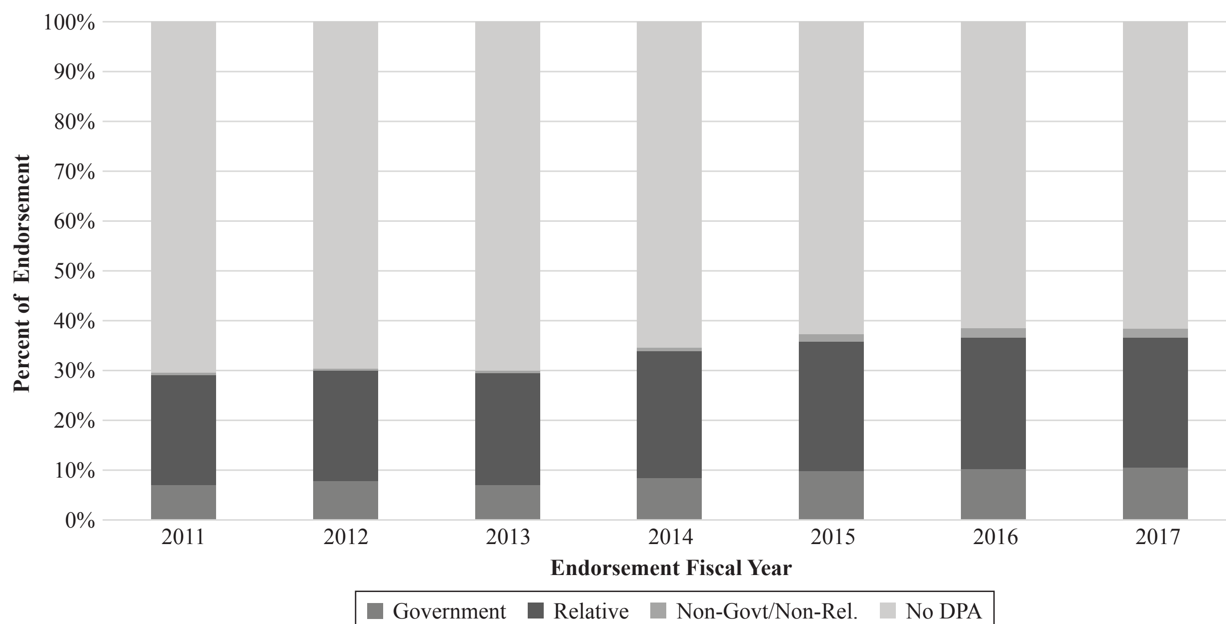
Exhibit 8

FHA Purchase Activity by Type of DPA



fund any portion of the borrower's down payment, including funding of a Community Seconds or other second mortgage loan (Fannie Mae 2018).

Similarly, for more than two years now, FHA/HUD and the HUD's Inspector General have been at odds over whether certain Housing Finance Agency down-payment assistance programs violate applicable FHA law and regulations. Based upon a series of audits, the IG determined that the audited FHA lenders permitted down-payment assistance gift funds derived from a premium priced mortgage and that the assistance was not in the form of true gifts or grants because they were repaid by the borrower through higher interest rates and fees in violation of law and FHA rules.

According to the IG, this is how the disputed program works:

> A Housing Finance Agency provides down payment assistance in a grant to the borrower. FHA mortgagee provides the primary financing to the borrower in the form of an FHA-insured mortgage loan. Upon origination, the FHA loan is sold to US Bank, which securitizes the loan through a Ginnie Mae security and services the mortgage. Although not parties to the FHA loan, the HFA and US Bank required the FHA lender to inflate the interest rate on the loan. The HFA providing the down payment assistance and US Bank had previously determined what interest rate above the market interest rate would be necessary on the FHA loan to net a premium payment from the investor when the loan was securitized. The HFA, US Bank, and the FHA mortgagee agreed that the premium payment would reimburse the HFA for the down payment and pay other program related fees. The increased interest rate was up to 1.5% above the market rate for FHA loans (Office of Inspector General 2015).

In May 2016, HUD's Deputy Secretary issued its decision supporting FHA on the grounds that the down-payment proceeds came out of the Ginnie Mae secondary market transaction, the borrower signed no separate security instrument for the DPA, the borrower could prepay or refinance the loan at any time without penalty, and that there was no expectation of repayment of the DPA, making it a true gift or grant. While the standoff continues, HUD is taking a hard look at certain DPA providers whose premium prices may be excessively high. One of the larger DPA providers singled out for

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special scrutiny is the Chenoa Fund, which is sponsored by a Native American tribe, Utah's Cedar Band of Paiutes (Gopal 2018).

Under its business model, Chenoa resells the higher-priced FHA loans to investors at a premium, generating revenue for its operations. Chenoa holds a second mortgage that takes the place of a down payment, which allows customers the option of paying a market rate on the first mortgage and a higher one on the second. Only one-third of its customers—20% of whom are African American and 28% Latino—choose this second option, the vast majority opting for the higher-priced first mortgage (Gopal 2018) After the housing crash in 2008, Congress prohibited DPA in conjunction with FHA financing from any party with a financial interest in a transaction but exempted programs sponsored by federal, state, or local government programs, which make up the majority of the 2,000+ down payment assistance programs across the country. But Chenoa, chartered by a tribal sponsor, is the only provider of DPA offering premium priced loans scarcely within its sovereign jurisdiction but primarily to non-tribal borrowers across the country.

While most studies find that putting up higher down payments lowers defaults (US HUD 2017b), a credible body of analysis finds that "low down payment loans that are well underwritten have historically experienced manageable default rates, even under significant economic or market stress" (Zandi and deRitis 2011). But what we lack is an empirically informed understanding of whether the provision of DPA affects loan performance and the yields and prepayment speeds on conventional and government-insured MBS. The remainder of this article addresses these issues.

WHAT WE KNOW ABOUT DOWN-PAYMENT AND DEFAULT RISK

There is strong theoretical and empirical research consensus that relative down-payment and default risk are inversely related (see, for example, Deng, Quigley, and Van Order 1996; Foster and Van Order 1984; Kau, Keenan, and Kim 1994). Holding constant other risk factors, Lam, Dunsky, and Kelly (2013) found that lifetime delinquency and foreclosure rates increase monotonically and nonlinearly as original loan-to-value ratios (LTVs) rise. The magnitude of the impacts is sensitive to the borrower's credit score and debt-to-income levels. Furthermore, there are appreciable differences across the GSE and FHA segments of the mortgage market in terms of borrower responses. Deng, Quigley, and Van Order (1996) determined that default rates for loans with LTV ratios above 95% are three or four times higher than default rates for 90%–95% LTV loans and that the default rates for the latter are about five times as high as for those with an LTV below 80%. While agreeing with the larger point that a higher LTV raises default risk, Urban Institute research has found no significant differences in the default rate of loans with down payments of 3%–5% from loans with down payments of 5%–10% (cited in Theodos et al. 2015).

A recent HUD-sponsored review of the empirical literature on default and foreclosure risk also recalibrates the importance of down payments on loan performance, illustrating the importance of down payment as a compensating factor to offset other risk factors. Two examples from this study are as follows: Were a borrower's credit score to *decrease* by 100 points (for example, from 680 to 580), the combined loan-to-value ratio (CLTV) would have to decrease by 20 percentage points to maintain the same modeled probability of default with a loan at the higher credit score. Similarly, an increase in the borrower's debt-to-income ratio (DTI) from 40 to 45 would require a decrease in CLTV of 2.19 percentage points to compensate for delinquencies and a decrease in CLTV of 0.46 percentage points to compensate for defaults (US HUD 2017b).

We close this section with an important qualification. An important body of research also documents a variety of lending strategies, and risk mitigation policies have been shown to improve the performance of LMI lending. These include, among others, home buyer education and counseling, the deployment of preventative servicing strategies, enhanced screening processes, which are well summarized by Moulton and colleagues (Moulton, Record, and Hembre 2018).

Drilling Down: How DPA Affects Default Risk

There is a long history of seller-financed DPA within the FHA program that arose out of a 1998 decision by HUD to "allow several nonprofit corporations to develop programs offering down payment assistance using funds provided by home sellers. These programs gradually grew in importance, accounting for almost one-fifth of FHA originations during 2004–2008" (Guttentag 2017). Prior to recent resurgence of the HFA use of DPA, the dominant

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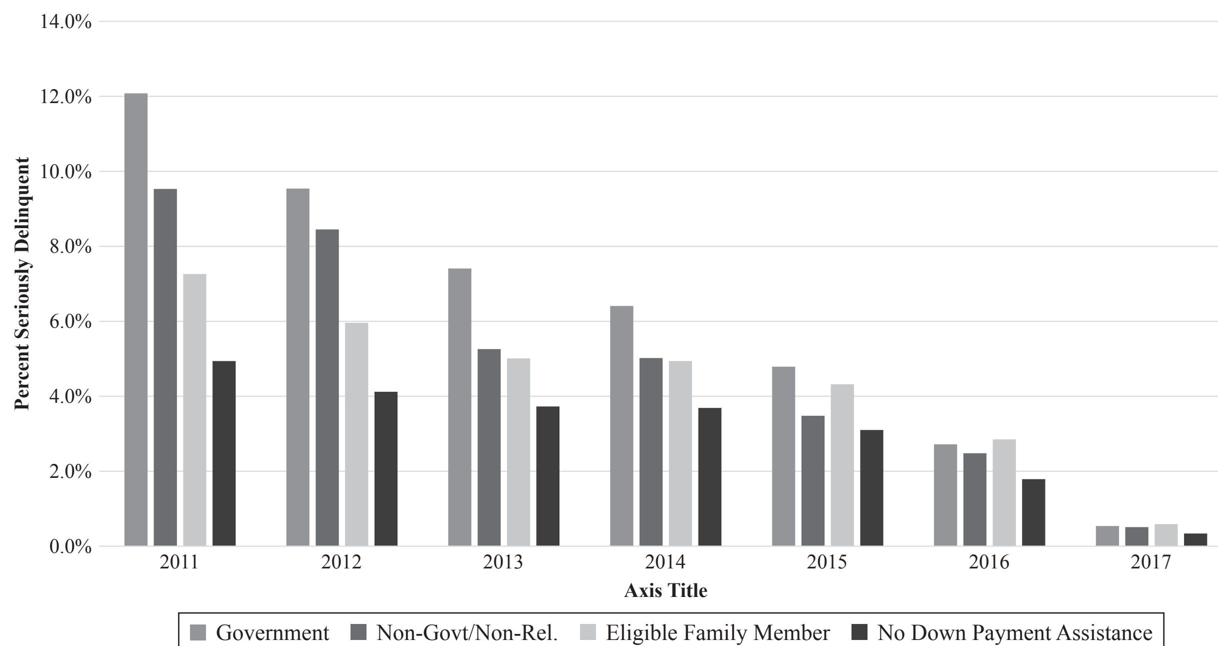
EXHIBIT 9

Serious Delinquency Rate of FHA Purchase Mortgages by DPA Type



Source: FHA (2017, Table B-18).

form of DPA was a grant, generally between 2.5 points and 4 points, sometimes forgivable, and generally with an increased rate on the first to compensate for the DPA of 12–15 basis points per point of DPA; (e.g., 4 points equals +50–60 bps). The amount of DPA has increased, and forms are more varied, and the first may have greater basis point increase relative to a non-DPA loan.

Back in the day, a Government Accounting Office (GAO) study confirmed that seller financed DPA resulted in disproportionately high loss rates to FHA, attributing much of the problem to the higher sales prices of comparable homes and the home buyers having less equity in the transaction (US GAO 2007). This is what led Congress in 2008 to prohibit DPA in conjunction with FHA financing from any party with a financial interest in a transaction, other than governmental programs. The exemption of governmentally sponsored programs from having a financial interest in their DPA programs was based upon the belief that these jurisdictions would act in the best interests of their customer constituents. HUD's recent decision to once again take a hard look at some down-payment assistance programs is because of the underperformance of some publicly sponsored DPA programs (US HUD 2018).

Both early payment default rates (not shown) and serious delinquency rates (SDQ) shown in Exhibit 9 are generally higher for FHA purchase loans with DPA than loans than without DPA, and within the DPA pool, higher SDQ rates are disproportionately higher with mortgages where down-payment assistance came from governmental entities rather than gifts from family.

As noted, earlier in the discussion of premium pricing, within the governmental entities bucket, FHA has singled out "tribal providers" for potential new regulation not only because of their high fees but because they serve a national consumer market rather than their own local Native American consumers, thus lacking a strong interest in keeping the best interests of their customers at the heart of their business models (Gopal 2018).

Although this analysis of HUD performance data does not control for differences in borrower or other attributes, we summarize in the remainder of this section relevant literature on the relationship between DPA and default risk, with an emphasis on the incremental effects of DPA on loan performance controlling for other factors. We start with a brief discussion of a few studies that examine no-down-payment lending. Focusing just on FHA in a 2008 paper, Kelly's (2008) examination of the

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performance of HUD's zero-down-payment mortgages found that borrowers who had their own skin in the game have a significantly lower likelihood of defaulting than those who receive down-payment assistance from relatives, government agencies, or nonprofits (Freeman and Harden 2015). Mass Housing, a state HFA, originated nearly 10,000 Soft Second down-payment loans, almost two-thirds (65.0%) of which were still active at the end of 2006. Foreclosures on Soft Second borrowers have been very rare, with just 35 borrowers—less than one-half of 1% of the total—having lost their homes to foreclosure during the 16-year program history.[2]

In 2003, Congress established the American Dream Downpayment Initiative (ADDI) to provide assistance through HUD with down payments and closing costs because lack of savings was a critical barrier to homeownership for most low-income families. Because of ADDI's limited program history at the time HUD began its assessment, and because HOME[3]-assisted home buyers were similar to those assisted by ADDI, HUD jointly estimated annual foreclosure and delinquency rates for both HOME- and ADDI-assisted borrowers who purchased homes during the period from 2001 through 2005. The foreclosure rates found among HOME/ADDI loans averaged roughly a quarter lower than the corresponding rate for FHA loans over the five-year period in general. Importantly, the foreclosure rates among HOME/ADDI-assisted buyers were on average 40% lower than for seller-financed down-payment assistance programs, which were extensively used at that time (Carr et al. 2008).

Regarding the use of seller-financed DPA, a US Government Accountability Office (GAO) study of DPA found that loans with assistance from seller-funded nonprofits performed worse than loans with assistance from other sources, which GAO attributed to the higher sales prices of comparable homes bought with seller-funded assistance and the home buyers having less equity in the transaction (US GAO 2007). This is what led Congress in 2008 to prohibit DPA in conjunction with FHA financing from any party with a financial interest in a transaction, other than governmental programs.

Moving on to the evaluation literature, in their assessment of an Ohio State Housing Finance Agency down-payment assistance pilot, Moulton and Saunders found higher rates of default relative to the HFA's standard low-down-payment program. DPA borrowers "were riskier than non-DPA borrowers and that specific attributes of the DPA program itself (higher monthly payments and/or less equity) created increased default risk for borrowers" (Moulton and Sanders 2011).

Moulton, Record, and Hembre (2018) found that HFA-sponsored loans have a significantly lower risk of default and foreclosure than loans originated by other lenders. Regarding why HFA loans performed better, Moulton et al. attributed three-fourths of this effect on reduced default and nearly half of the effect on reduced foreclosure related to observed HFA origination and service delivery practices that are not duplicated by other lenders, including better screening, required housing counseling, and the use of preventive servicing.

Significantly, they also analyzed how down-payment assistance affects default risk. Using data from a limited portion of their mortgage database that contained information on DPA—about 36% of HFA borrowers receive DPA, compared with 22% of non-HFA borrowers—Moulton et al. found that "the relative risk of default (vs. prepayment) is about 20% lower for HFA borrowers than it is for otherwise similar non-HFA borrowers and the relative risk of foreclosure (vs. prepayment) is about 30% lower for HFA borrowers" (Moulton, Record, and Hembre 2018).

Securitization-Related Impacts of Down-Payment-Assisted Loan Collateral

It's broadly recognized that first mortgage loans to LMI borrowers exhibit slower prepay speeds than to other borrowers. Moulton and her colleagues add a twist to this generalization, finding slower prepayment speeds for HFA borrowers compared with otherwise similar, non-HFA borrowers. They attribute some of the difference to HFA borrowers being less likely to refinance their loans when it may be in the money to do so, "either because of lack of information, transaction costs associated with refinancing, or barriers presented by higher rates of subordinate financing."

Prepay speeds for DPA-linked mortgage loans are critically important to the economics of HFA lending and to investors in MBS. For HFAs, the shorter the duration, the less time over which the spread is earned

[2] See Massachusetts Soft Second Loan Program, http://www.mahahome.org/sites/default/files/SSP2007.pdf.

[3] The Home Investment Partnership program is HUD's largest Federal block grant to state and local governments designed exclusively to create affordable housing for low-income households.

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on a bond sale. The same applies if the DPA is in the form of a grant and premium pricing is used to recover some or all of that cost. Even with a benign MRB market, very high prepay speeds can tilt the economics of HFA lending in favor of an upfront sale of an MBS into the TBA market over bond financing. This may be particularly the case if the DPA takes the form of a second mortgage loan which may affect the refinance behavior of the LMI borrower. Recall that Exhibit 9 illustrates the effects of prepayment rates on MRBs under the assumption that the efficient and liquid MBS direct sale market prices in prepayment expectations to the price at which an MBS may be sold.

To better advise their MBS clients, securities analysts are also paying more attention to how down-payment assistance affects prepay speeds of mortgage pools, including whether nuanced changes in the form that the DPA funding takes changes overall MBS prepay profiles, the topic to which we now turn.

The Effects of the Expanding the Use of Second Liens on Prepays

With reduced reliance of premium pricing within the MBS space, second lien use is on the rise both to ensure borrower adherence to program requirements and to secure the DPA providers' financial interests. For example, analysts at Nomura structured products research assessed prepayment speeds in three HFAs that have recently ramped up their use of second liens. For HFAs in Arizona, Nevada, and Colorado, the issuance of DPA second liens increased to 44% to 71% in 2018 versus 2% to 29% in 2017 (Nikodem et al. 2018). As the Nomura analysts report, this trend has implications for securitizations and investors because the terms of the second liens (such as maximum loan amount, interest rate, term, and forgiveness options) can affect the prepayment profiles of the loans and loan pools that collateralize MBS. Tracking Nomura, we discuss in the following how loan-level prepayment speeds are affected by the use and terms of the second liens securing DPA.

The first thing we can say is that early prepay trends indicate that purchase loans with a second lien prepay more slowly than DPA loans without a second lien where the assistance takes the form of a grant (Nikodem et al. 2018). For example, in Arizona with US Bank–serviced loans with second liens, 12 WALA (12-month weighted average loan age) prepaid at only 4 CPR (constant prepayment rate) for loans with a second lien versus 20 CPR for loans without a second lien (50–75 bps incentive), as shown in Exhibit 10.

Second, Nomura analysts found that house price trajectories also affect prepay speeds. Prepays on loans with similar second lien terms are higher for states with higher home price appreciation (HPA). For example prepays on California HFA loans are around 2–3 CPR faster than Florida HFA loans for 12WALA loans.

Finally, the prepayment behavior of HFA loans with second liens also depends on the terms of the second lien, especially the forgiveness of the second lien. The more punitive the terms of the second lien, the better the prepay protection provided. Nomura provided this example: Florida HFA offers 30-year second liens to first-time LMI home buyers at a zero interest rate that is not forgivable and is due upon home sale, borrower refinancing, or use of another home as a primary residence. These loans exhibit relatively benign prepays despite rate incentives because the borrower would have to come up with the extra cash to pay off the second lien and refinance the first lien. Conversely, many states offer second liens with forgiveness provisions. The US Bank AZ and NV HFAs offer a 0% interest three-year second lien that is forgiven at a monthly rate of 1/36. Prepay protection provided by these loans gradually erodes with time because the extra cash required to pay off the second lien reduces with time (Nikodem et al. 2018).

The Effects of DPA on Prepay Speeds of MBS

The Security Industry and Financial Markets Association (SIFMA) sets the ground rules for and facilitates the forward trading of MBS issued by Fannie Mae, Freddie Mac, and Ginnie Mae in what is known as the to-be-announced (TBA) market.[4] Through the adoption of Good Delivery Guidelines, SIFMA defines the parameters under which mortgage pools can be considered fungible and thus do not need to be explicitly known at the time a trade is initiated, a key to creating a maintaining a highly liquid market. Good Delivery Guidelines are silent with respect to down-payment assistance.

In light of this lack of guidance, analysts and investors have begun to pay more attention to the presence of DPA in securitizations. At the MBS level, it is not only the presence and features of DPA repayment or

[4] See SIFMA, TBA Fact Sheet, https://www.sifma.org/wp-content/uploads/2011/03/SIFMA-TBA-Fact-Sheet.pdf.

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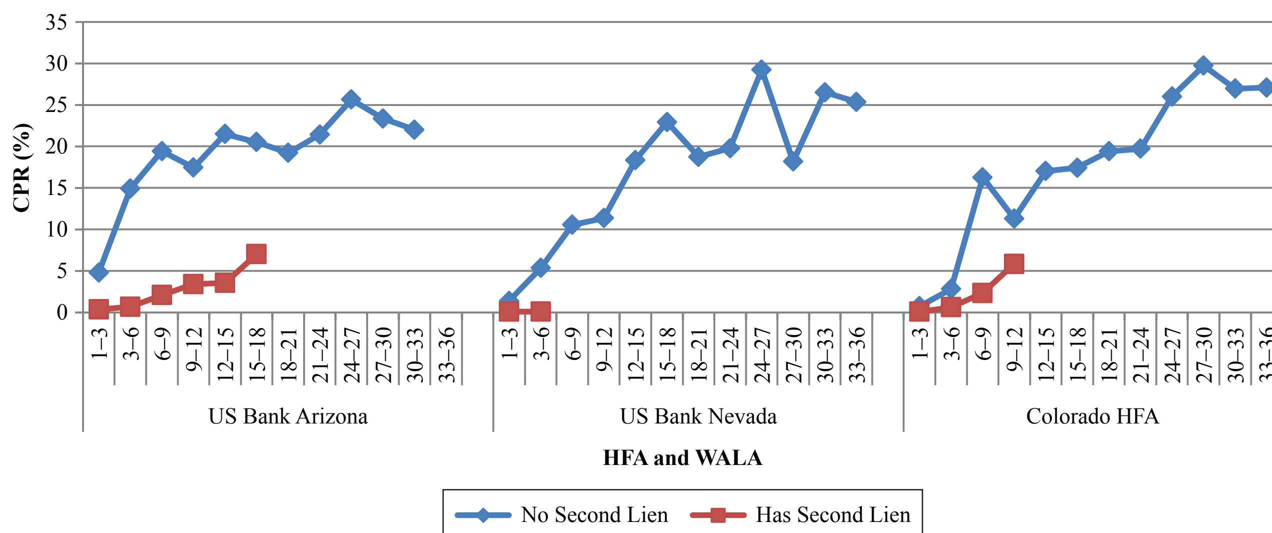
EXHIBIT 10

Fannie HFAs: Prepays for HFAs with Recently Introduced Second Liens, 50–75 bp Incentive



Note: Jan 2016-Now prepays for loans with 50–75 bp incentive.
Sources: Nicodem et al. Securitized Products Weekly, Global Markets Research, Nomura, September 7, 2018.

forgiveness requirements that influence prepay profiles but also the relative share of loans with and without DPA in the underlying loan pools. The more diluted the DPA, the less influence it has on overall MBS prepay profiles. In the following discussion, we review two different estimates conducted specifically for this article of the effects on prepayment of DPA assistance on purchase loans in recent Ginnie Mae MBS issues.

Both MBS-level estimates are directionally similar in that the prepayment profiles of the DPA component of loans pooled in the Ginnies differ from non-DPA loans, and are meaningfully slower. The first estimate focuses on Ginnie Mae MBS issued between January 2017 and January 2018, as seen in Exhibit 11.

Actual payments on loans in these MBS pools were observed for July 2017–July 2018 to allow for six months of loan seasoning. The population was separated by the Down Payment Assistance Flag ("Y" or "N" flag) in the Ginnie disclosure data. Conditional prepayment rates (CPRs) were observed for both populations using "Refinance Incentive" as the economic influence. CPRs include voluntary prepayments and default prepayments. The data and chart contained in Exhibit 12 indicate the following:

- DPA loans represented slightly less than 7% of the observed population.
- DPA loans have lower response to refinance incentive than non-DPA loans.
- For the observation period, the CPR difference is meaningful to the higher coupon MBS.
- As expected, lending practices indicate DPA loans are originated at a higher note rate, slightly higher LTV, and slightly lower FICO score than non-DPA loans.

The second estimate (Exhibit 12) is derived from Ginnie pools issued between September 2017 and August 2018, where DPA loans represented slightly more than 8% of observed loans. Analysis indicates that there is a slower ramp for FHA loans with down-payment assistance, but the speed picks up a bit after about two years.

This profile is possibly the result of the second lien and HPA attributes discussed at the beginning of this section. Forgivable second liens slow early prepayments, and when fully forgiven, speeds mirror the profiles of loans without DPA. For non-amortizing, zero-interest second liens securing DPA that must be repaid at resale or refinancing, rapid equity growth in high-HPA areas allows the second lien to be repaid out of those gains.

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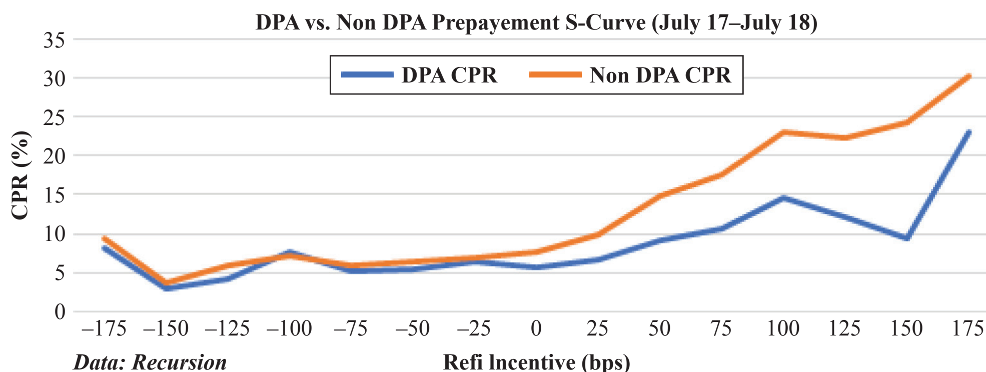
EXHIBIT 11

Comparing Ginnie Mae Prepayment Rates on DPA Loans Pooled into Ginnie Mae MBS

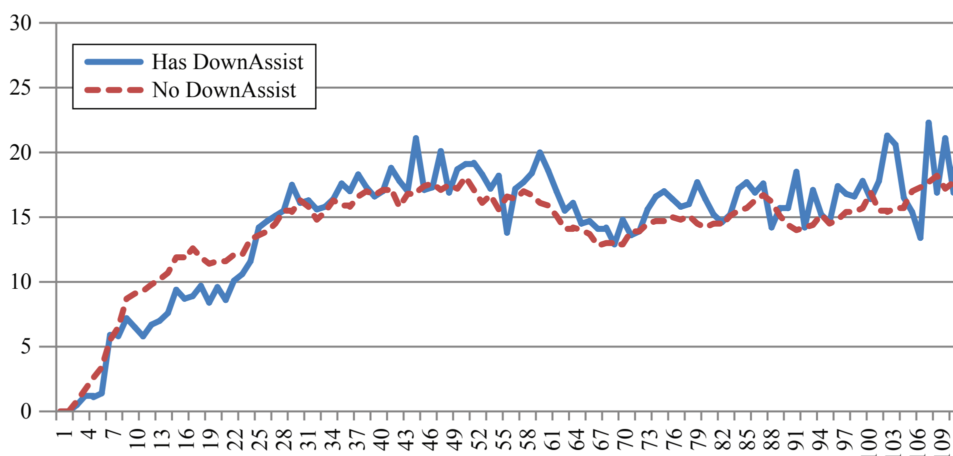


July 2017–July 2018 Ginnie Mae MIP Issuance DPA vs. None

DPA FLAG	CURRRPB	WAC	WAOLSIZE	WALSIZE	ORIGLTV	DTI	CS	Percent
N	362,174,268,090	4.13	296,382	296,060	94.33	42.3	690	93.1%
Y	26,748,958,391	4.33	278,420	277,849	96.13	43.6	679	6.9%
Total	388,923,226,481							

EXHIBIT 12

Prepayment Effects of DPA in Ginnie Mae Securities, September 2017–August 2018 Vintage



CONCLUSIONS

Down-payment assistance has become an important component of mortgage finance for a growing segment of first-time home buyers and a source of competitive advantage for state housing finance agencies. When Congress banned seller-financed DPA in 2008, lawmakers continued to allow family and non-family gifts toward down payments and exempted local government-sponsored sources of assistance as long as it is in the form of a gift and the provider receives no financially benefits from the transaction. Lacking a clear regulatory definition of financial benefit, the burden of compliance has fallen largely upon mortgage originators who face indemnification demands by FHA for violating DPA gift provisions, as the earlier discussion of the HUD/Inspector General's

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dispute spotlighted earlier. Even after HUD tightens requirements, however, because of the large number of lightly regulated DPA providers using the local government exemption, the compliance burden will continue to fall on mortgage originators, including state HFAs, whose strong diligence and oversight has kept them out of HUD's crosshairs.

HUD is expected to address the abuse of premium pricing in the coming months through regulatory action, which should continue to allow a modest boost in the first mortgage rate as long as it can be justified on the basis of a borrower's heightened risk attributes, but ban its use as a way to recover DPA "gifts." This should further accelerate the transition of DPA funding to the use of second lien financing.

There is a policy interest in understanding more about whether DPA compounds the credit risk of very low down-payment lending—the thin empirical literature on this topic seems to suggest that it might, as well as the form the DPA takes. Clearly, more research is needed on this topic, and NCHSA, the trade organization for the most diligent providers of DPA, would do well to sponsor a carefully designed study of the performance of DPA mortgage lending to LMI first-time home buyers.

While bond analysts pay little heed to credit risk because their investor clients are protected against principal loss by a government guarantees, they have begun to pay special attention to how the form and presence of DPA affect prepay speeds. The Nomura analysis summarized earlier illustrated how loan-level DPA prepays vary with the form of funding and the home price trajectories in their respective markets. But the overall trend is clear: The transition to second lien funding as a means of partial or full recovery of DPA slows prepays, which is an investor-positive. The securities-level analyses also demonstrate a positive relationship between loan duration and DPA, although the impact on prepay speeds of underlying loan pools depends also upon how large a portion of collateral has DPA. Although both FHA and Ginnie Mae provide flags for identifying loans with DPA, these data are underutilized and should be used in the future to sharpen investor metrics, reduce taxpayer losses, and contribute to the development of more sustainable affordable lending programs and policies.

Finally, it should be noted that prepays impact the economics of a grant program much more than they do second lien programs (though, to be sure, timing of the receipt of the loan bears on economics). However, a major uncertainty with a seconds program is the magnitude of expected losses, especially in the context of a potential economic downturn; the present value analysis comparing the economics of an MRB execution versus an MBS sale used a 15% loss rate based on current benign market conditions. But the current round of lending with higher DPA via seconds has yet to see an economic downturn, so the loss assumption may have to be revisited as we enter the late innings of the current economic cycle.

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