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# Continuous Repayment Structures in Japanese Housing Finance for Elderly People: Applications To Mitigate Counterparty Risk Through U.S. Reverse Mortgage Design

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## Abstract

*What innovations can improve the risk management of the Home Equity Conversion Mortgage (HECM) and HECM mortgage-backed securities (HMBS) programs? The Japanese housing finance sector has relevant insights for reverse mortgage design in the United States. Through the Japan Housing Finance Agency, or JHF, the Special Repayment System for the Elderly program can inform the strengthening of U.S. efforts for senior citizens. As HECM and HMBS counterparties confront challenges with the financial sustainability of their business operations, recurring repayment structures, like those embedded in Japanese housing finance products, can be considered to help alleviate strains on lenders and, more particularly, issuers and servicers.*

*This article assesses the alternative approach of continuous payments from Japanese loan design for elderly people within the American reverse mortgage context. The conclusion is that broad-based collaboration and mutual awareness are required to manage cash flow timing risks and advanced servicing liabilities with stakeholders*

**Abstract (continued)**

*toward strategically advancing HECM and HMBS market development. Collective action to mitigate counterparty risk can ensure the option is preserved—if not bolstered in a responsible manner—for aged homeowners seeking to financially supplement their income at affordable terms while continuing to live in their homes.*

**Introduction**

Reverse mortgages can support the economic security of senior homeowners who lack adequate financial resources to maintain their livelihoods. The benefits of Home Equity Conversion Mortgage (HECM) products are evident, as they enable elderly borrowers to monetize their home equity while concurrently aging-in-place at their pledged residence. Aside from these advantages, the pioneering accrual-based structure has an appeal to HECM borrowers.<sup>1</sup> Mortgagors liquidate a proportion of their home equity and do not make continuous interest rate payments throughout the term of the loan. In lieu of these recurring borrower payments, borrowers repay the entire principal, as well as the full interest amount accumulated at maturity since the reverse mortgage's origination.

Despite borrower attraction to deferred payments, lenders, issuers, and servicers participating in the HECM and HECM mortgage-backed securities (HMBS) programs will incur business operation costs. Issuers and servicers must have sufficient capital resources on two fronts.<sup>2</sup> First, the programs mandate counterparties to provide intermediate funding to borrower draws prior to being sold for securitization into HMBS as participations.<sup>3,4</sup> Furthermore, once HECMs reach maturity—occurring when the unpaid principal balance attains 98 percent of the Maximum Claim Amount (MCA)<sup>5</sup>—counterparties must buy out the loan with associated costs and await reimbursement from the Federal Housing Administration (FHA).<sup>6</sup> The result is distinctive financial exposure for reverse mortgage counterparties for significant periods of time, accentuated with delayed FHA insurance claims, especially when influxes occur in maturing HECM volume.

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<sup>1</sup> The accrual-based structure refers to the manner in which reverse mortgages accumulate owed capital without an immediate cash transaction. Eventually, a disbursement is made repaying the lent money and interest to the lender.

<sup>2</sup> Issuers are business entities in the Ginnie Mae mortgage-backed securities program that aggregate collateral and sell securities to fund their operations. Servicers are commercial organizations that administer and process loan transactions.

<sup>3</sup> Counterparties are defined in this article as the operational stakeholders—consisting of lenders, issuers, and servicers—participating in the FHA mortgage insurance and Ginnie Mae mortgage-backed securities programs.

<sup>4</sup> Ginnie Mae's HMBS program allows for issuers and servicers to include components of the HECM loan beyond principal draws as participations, such as monthly insurance premiums, servicing fees, and guaranty fees (Ginnie Mae, 2017). This mechanism is an important divergence from forward mortgages where pools consist of collateralized principal.

<sup>5</sup> The MCA is the arbitrary amount these reverse mortgages can accumulate prior to FHA buy out as policy determines.

<sup>6</sup> These instances in which the issuer is responsible to use “their own funds” for repurchase “to ensure that security holders receive outstanding principal and interest” is commonly referred to as Mandatory Purchase Events (Ginnie Mae, 2017: 35-4).

The nature of deferred servicing fees and interest rate margins has been a notable barrier to entry for new counterparties. The delayed borrower remittance structure has to some extent limited the deepening of reverse mortgage activities. The concentration of reverse mortgage lending and securitization issuance is disproportionate within a relatively small segment of counterparties for both programs.<sup>7</sup> The consequence is systemic risk that can affect the continued provision of reverse mortgage products at accessible and affordable terms for senior homeowners. The hazard is valid, as reduced programmatic participation has resulted in unrealized potential, as well as reduced stability and constrained growth, which is inherent in the design and administration of reverse mortgages and their securities.

Alternatively, Japan has been actively experimenting with housing finance approaches as their society substantially ages (Feather, 2018). The recent Special Repayment System for the Elderly program—through the Japan Housing Finance Agency (JHF)—is one facet of their efforts in expanding financial means for senior homeowners.<sup>8</sup> The program is different than the American reverse mortgage counterpart as elderly borrowers are required to repay interest rates continuously each month, similar to the payment structure of forward mortgages in both countries. Japanese borrowers likewise do not pay loan principal until maturity, analogous to the product design of the HECM and HMBS.

The following assesses the merits of this Japanese feature, focusing on how continuous repayment could deepen development of the HECM and HMBS programs. Specifically, the recurring payment structure present in the Japanese program can be a means to alleviate a dimension of financial strain imposed on U.S. counterparties with advanced servicing liabilities<sup>9</sup> and cash flow timing<sup>10</sup> in both funding intermediate borrower HECM draws, as well as the mandatory repurchase at FHA assignment at 98 percent of the MCA.

Although benefits for counterparties exist, so do drawbacks. Adapting the HECM and HMBS design in allowing for continuous payment features, similar to those of the Japanese program, can directly affect end-user appeal in the United States, especially as one in five Americans will be age 62 and older in 2019 and beyond (Census, 2017). Additionally, such a change in loan product design can alter investment channeled through capital markets and impact liquidity levels in the HMBS market.<sup>11</sup>

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<sup>7</sup> Although HECMs are a small share of the mortgage portfolio at FHA, these reverse mortgages make up more than one-half of housing loans by dollar volume assigned to the U.S. Department of Housing and Urban Development's (HUD's) balance sheet (FHA, 2016).

<sup>8</sup> The JHF program is dually referred to as the “Special Repayment System for the Elderly” and the “Special Repayment Rules for the Elderly” depending on the translation from Japanese to English.

<sup>9</sup> This article defines advanced servicing liability as the mortgage insurance premium and Ginnie Mae guaranty payments that counterparties must advance to the U.S. government.

<sup>10</sup> Likewise deferred cash flow timing—for the purposes of this article—is defined particularly for the programmatic mandate that counterparties must repurchase HECM loans and related HMBS participations that reach 98 percent of the MCA. The assignment of these reverse mortgages to FHA means counterparties must advance interest rate payments to investors and await reimbursement from their filing of FHA mortgage insurance claims for these HECMs. Deferred cash flow can also include the intermediate time between counterparty funding of borrower draws and securitization through the sale of participations to the capital markets. However, for ease of reference, the article uses this definition.

<sup>11</sup> The full faith and credit guarantee of timely principal and interest payments that the U.S. government assures on Ginnie Mae MBS, including HMBS, provides a “high quality bond alternative” in the fixed income space, including U.S. Treasuries (Irving and Schmitt, 2013: 1).

The ensuing sections analyze the strengths and weaknesses of continuous repayment structures for reverse mortgages. Reverse mortgage design can be a tool to mitigate counterparty risk.<sup>12</sup> It is fundamental, however, for stakeholders to understand the largely overlooked contribution counterparties have in enabling the operations of the reverse mortgage programs in the United States. More important than the novel structure of recurring borrower payments for reverse mortgages is the further development of attentive counterparty risk management and inclusive collaboration toward strengthening the HECM and HMBS programs among consumers, government, and industry.

## Special Repayment System for Elderly People in Japan

Japan is popularly referred to as the oldest country in the world for having the largest concentration of elderly persons. As Japanese society experiences accelerated aging, public and private sector entities are exploring innovative approaches to successfully meet the socioeconomic needs of senior citizens among this unprecedented demographic change. Fundamental to these efforts is the need to expand adequate housing supply configured for elderly people.

JHF has several programs to promote access to residences designed and serviced for elderly people (Kobayashi, Konishi and Takeishi, 2017).<sup>13</sup> The Special Repayment System for the Elderly is a housing finance program that provides funds enabling senior homeowners, age 60 and older, to renovate their residences for the purpose of actualizing age-friendly design features (Kojima, 2013).<sup>14</sup> The Special Repayment System, as a component of JHF's urban development lending, also allows for elderly borrowers to purchase reconstructed condominium housing as their residence.<sup>15</sup>

Whether for renovation or urban development loan purposes, lenders provide borrowers with upfront principal in the form of a lump sum principal advance. Borrowers are only required to make continuous interest rate payments during the term of the loan. Specifically, the program eases repayment burden on the borrower, as it provides a "grace period" whereby principal is repaid only when the borrower dies (JHF, 2014: 37). On death, lenders and servicers collect the remaining outstanding loan balance from the borrower's estate.<sup>16</sup>

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<sup>12</sup> Counterparty risk is defined here as the hazard in which FHA lenders and Ginnie Mae issuers and servicers fail in financial and operational terms, resulting in the inhibited provision of HECM and HMBS, as well as substantial costs to the U.S. government.

<sup>13</sup> JHF provides multifamily loans to developers as well. The purpose of this program is to construct rental housing with nursing services for elderly people (JHF, 2016, 2014). The United States has correspondingly made significant investments in housing with assisted living and nursing homes (Manda, 2015). In addition, JHF launched a new rental insurance program to provide lessors with guaranteed lease payments to overcome rental discrimination for elderly people in 2017 (Kobayashi, 2017).

<sup>14</sup> Besides age-friendly housing renovations, the Special Repayment System for the Elderly program began focusing on anti-seismic earthquake modifications (JHF, 2014). The program began in the aftermath of the 2011 Great East Japan Earthquake and resulted in 1,658 loans between 2012 and 2014 (JHF, 2014).

<sup>15</sup> JHF consults with management associations and developers seeking to adapt condominium units for purchase by elderly people through the urban development lending component of the program (JHF, 2016).

<sup>16</sup> In 2017, this mechanism was extended to include loan modifications for elderly homeowners age 70 and older who are delinquent and facing payment difficulties (Kobayashi, 2017).

The open-ended housing finance mechanism for this program is unique for the country's broader sector. Elderly borrowers in Japan often encounter mortgage restrictions when applying for residential loans. Particularly, senior citizen borrowers are required to make all loan repayments by the time they attain 80 years of age (Kojima, 2013). The outcome is that the Special Repayment System provides a means for elderly Japanese households to access financing in an otherwise exclusive market.<sup>17</sup>

Although no home equity liquidation occurs, the Special Repayment System for the Elderly has relevant operations for reverse mortgage financing in the American context. Equivalent to the FHA's provision of mortgage insurance of HECM, JHF provides insurance contracts on Special Repayment System loans from small- and medium-sized financial institutions (JHF, 2014).<sup>18</sup>

The continuous interest payment structures that Japanese senior borrowers must pay is among the differences between the Japanese and American programs. The program requires monthly interest payments on the loan. Some critics argue this is a "not ideal" feature for borrowers, as the loan obligation imposes a financial burden on participating elderly households (Kojima, 2013: 9).<sup>19</sup> Nonetheless, a relatively low-interest rate environment—in which Japanese elders accumulate substantial cash deposits—has made such a concern relatively negligible.

## **HECM and HMBS Counterparties in the United States**

Irrespective of their role as lender, issuer, or servicer, HECM and HMBS counterparties make the underlying legal framework and programmatic policies work in delivering financing to senior borrowers.<sup>20</sup> Undoubtedly, the unprecedented scale of FHA endorsements and Ginnie Mae securitizations—in the historical global development of reverse mortgages—validates the fundamentals of reverse mortgage design and the employed public-private partnerships model in the United States.<sup>21</sup> Notwithstanding, the HECM program has encountered challenges in achieving durable fiscal soundness for FHA's financial health (Szymanoski, Lam, and Feather, 2017).<sup>22,23</sup> The financial

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<sup>17</sup> The Special Repayment System for the Elderly program enables borrowers to withdraw ¥10 million (approximately \$89,380) or less (Kojima, 2013). The Japanese loan is recourse-based, with the borrower retaining the title of the property until obligations are settled. The U.S. HECM loan is nonrecourse for senior homeowners.

<sup>18</sup> JHF seeks to expand the provision of reverse mortgages through the provision of mortgage insurance similar to FHA's HECM insurance program (JHF, 2016).

<sup>19</sup> Another key difference for the Special Repayment loans is the aforementioned recourse-based characteristic (Kobayashi, Konishi, and Takeishi, 2017).

<sup>20</sup> Ginnie Mae issuers are often the servicers as well for their mortgage pools (HUD, 2011). Ginnie Mae enables issuers to enter into servicing agreements with subservicers as well. However, subservicers must also be Ginnie Mae-approved issuers (Ginnie Mae, 2007).

<sup>21</sup> FHA endorsements refer to reverse mortgages approved for mortgage insurance to lenders.

<sup>22</sup> For example, in fiscal year 2016, FHA's Mutual Mortgage Insurance (MMI) Fund suffered economic value losses valued at \$7.7 billion. This cash outflow from the MMI Fund was greater than those annually incurred following the global financial crisis from 2008–2009 (FHA, 2016; Szymanoski, Lam, and Feather, 2017).

<sup>23</sup> Critics cite recent modifications, beginning in 2011, as the cause for Mutual Mortgage Insurance Fund "volatility" for the HECM Insurance Program (FHA, 2016: 50). The critics contend the dual purpose of the modification—for consumer protection and fiscal soundness—have limited borrower demand and negated business incentives for deepened counterparty participation.

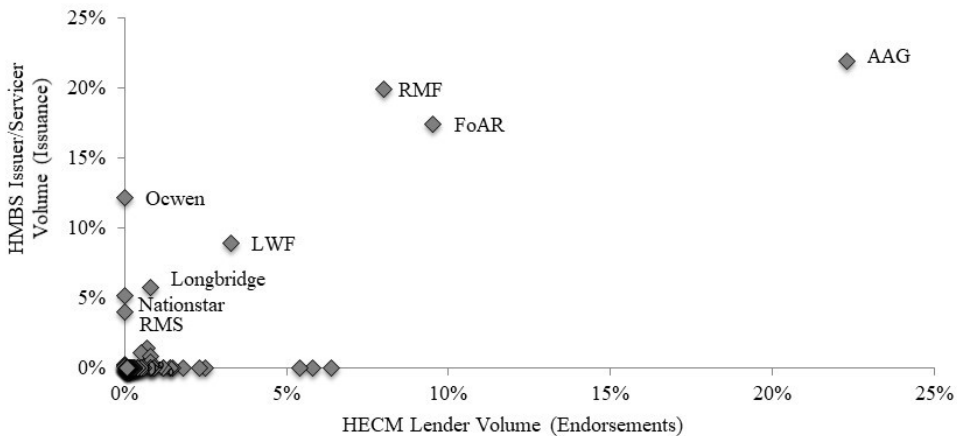
issues FHA confronts with HECMs relate to an array of credit, interest rate, policy, and other economic risks.<sup>24</sup> Principal among risks for HUD and U.S. taxpayers is the threat of counterparty insolvency.

The risk among counterparties is disproportional in both programs. In 2017, the top eight HECM lenders composed 63.2 percent of the primary reverse mortgage market (RMI, 2017). The secondary market is concentrated to an even greater extent. During the same year, the six leading HMBS issuers furnished more than four in five of total Ginnie Mae guaranteed reverse mortgage securities. Moreover, for all intents and purposes, one entity services most of the issuers in these programs. The condensed nature of both primary and secondary market actors poses systemic risks to the future provision of reverse mortgages.

As observed in exhibit 1, overlap is common with several counterparties in the reverse mortgage industry. For instance, American Advisors Group, Reverse Mortgage Funding and Finance of America Reverse are the top three market leaders for both lending HECMs and issuing and servicing HMBS.<sup>25</sup> If several counterparties default, especially those from the HMBS program, then

**Exhibit 1**

**Comparing HECM and HMBS Counterparty Production, January–December 2017**



AAG = American Advisors Group. FoAR = Finance of America Reverse. HECM = Home Equity Conversion Mortgage. HMBS = HECM mortgage-backed security. Longbridge = Longbridge Financial LLC. LWF = Live Well Financial. Nationstar = Nationstar Mortgage. Ocwen = Ocwen Loan Servicing. RMF = Reverse Mortgage Funding. RMS = Reverse Mortgage Solutions. Sources: RMI, 2017; Ginnie Mae disclosure data

<sup>24</sup> Recent FHA changes in mortgage insurance premium rates and Principal Limit Factors underscore the ongoing policy efforts to “sustain the HECM program as a viable financial resource” (FHA, 2017: 2).

<sup>25</sup> Besides their dominant status, these three counterparties are nonbank financial institutions. The prominence of such nondepository institutions in the housing finance sector is a recent market change since the 2008–2009 global financial crisis (Ginnie Mae, 2016, 2014). FHA also stated this change to smaller nonbank lending partners “increases counterparty risk exposure” (FHA, 2016: 50). Accordingly, less than 1 percent of HMBS issuers were banking institutions in 2017. For HECM counterparties, approximately less than 10 percent are deposit-based entities in 2017.

operations could potentially cripple reverse mortgage operations. In such a scenario, the outcome would be ominous, especially given the U.S. government obligations through the provision of mortgage insurance and the full-faith and credit guarantee by FHA and Ginnie Mae respectively.

Should economic market conditions falter, unsavory lending practices and mismanagement grow or unintended consequences from policy modifications occur, FHA and Ginnie Mae could be unexpectedly called on to rescue the HECM and HMBS program.<sup>26</sup> In such a scenario, large-scale servicer and issuer default likely would necessitate that the U.S. government engage and support the proper sale and transfer of portfolios, loan pools, and mortgage servicing rights.<sup>27</sup>

Were confidence inhibited, and few interested parties sought reverse mortgage portfolio acquisition, the government could possibly take over management and administration, acting as a counterparty of last resort, due to outstanding obligations with senior borrowers and investors.<sup>28</sup> This active government role with HECMs, HMBS, or both products would likely result in capital infusions of taxpayer dollars. The bailout, depending on the political climate,<sup>29</sup> could attract undue attention and potentially jeopardize efforts to return the HECM and its securitization to their former status or anything closely resembling it.<sup>30</sup> In such scenarios, the consequence likely would be inhibited access to reverse mortgages for senior citizens. Reduced access would mean few options for senior citizens seeking to bolster their retirement security and age in place.

Strategic approaches to counterparty risk management are essential to prevent and mitigate possible counterparty failures. U.S. government processes already exist to strengthen controls and avoid such losses for forward mortgages. FHA evaluates these lenders across specific default and delinquency metrics. In instances of “excessive default and claim rates compared to peers,” FHA monitors—and can limit, if not terminate—any counterparty’s Lender Insurance (LI) authority in originating and underwriting reverse mortgages with mortgage insurance (FHA, 2014a: 1; 2014b).

Correspondingly, Ginnie Mae launched the Issuer Operational Performance Profile (IOPP) to measure operational and default performance in early 2015 (Ginnie Mae, 2017a).<sup>31</sup> Similar to LI authority at FHA, the IOPP helps inform the amount of commitment authority Ginnie Mae approves to issuers forming the underlying collateral pools for HMBS securities (Ginnie Mae, 2017a).

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<sup>26</sup> HMBS issuers can encounter mismanagement issues special to HECM and HMBS. One example is the assignment of HECMs to FHA once the outstanding balance crosses more than 98 percent of the MCA. Improper operational management by counterparties can result in unrecoverable claims from FHA once loans exceed the 98-percent benchmark.

<sup>27</sup> Ginnie Mae has used its authority to seize mortgage pools from defaulted issuers in several cases to ensure investors received timely principal and interest payments (Whalen, 2017). The defaulted portfolios have been auctioned to the highest bidder to resume administrative processes and servicing.

<sup>28</sup> Ginnie Mae seeks to counter issuer default risk through “Master SubServicer,” or MSS, arrangements. Through MSS, Ginnie Mae-contracted agents provide full servicing support to defaulted issuer pools.

<sup>29</sup> Some critics have argued the “subsidize[d] risks” of “taxpayer funds” merit limiting the government’s role in the HECM insurance program (Shadab, 2012: 1).

<sup>30</sup> In such a catastrophic scenario, where interest or confidence in the programs is severely limited, immediate financial relief could immediately come from FHA’s Mutual Mortgage Insurance Fund or Ginnie Mae’s collection of guarantee fees. In instances where these resources are not enough, additional capital infusions could come from the U.S. Department of the Treasury, which would probably need authorization and appropriation from the U.S. Congress.

<sup>31</sup> Ginnie Mae monitors issuer financial risk for liquidity and corporate credit and default risk based on delinquency ratios for securitized loans (Ginnie Mae, 2016a; GAO, 2011).

## Counterparty Financial Burdens With Deferred Payments

Beyond extending operational performance assessments to HECM lending as is done with HMBS and issuer activity, reverse mortgage design is another tool that can mitigate counterparty risk. Compared with forward mortgages and mortgage-backed securities, the structures of HECM and HMBS have distinctive liabilities for the involved counterparties. The exceptional accrual-based structure presents, in part, certain financial burdens for those actors delivering financing to borrowing senior homeowners. Realignment of borrower payment schedules and counterparty advances can mitigate risks that limit issuer and servicer participation in these reverse mortgage programs.

Like forward mortgages, cash flow for reverse mortgages consists of lent capital, transaction costs, and accumulated interest. Different is the gradual buildup of interest and embedded costs during the duration of the loan. Although servicers regularly submit monthly statements to the borrowers, the costs are, in some sense, imperceptible to the mortgagor, as minimal financial burden is realized during the life of the borrower.

The borrower pays the aggregated loan amount on the reverse mortgage's maturity. Besides voluntary prepayment or the mortgagor moving out of the pledged residence, the loan regularly matures when the borrower passes away. In instances of mortality, the borrowers' heirs have the option of paying the accrued obligation amount from another source of funds or selling the home to use proceeds to compensate counterparties.<sup>32</sup> As such, the senior borrower routinely does not witness the settling transaction that concludes the life of the reverse mortgage.

Despite the somewhat discrete nature of reverse mortgage costs borrowers realize, counterparties are keenly aware of the cash flow schedule, because it largely determines the financial viability of their business. For the average senior borrower, costs usually represent a significant, albeit relatively small component of their borrowing. For lenders, issuers, and servicers, these costs determine financial viability of their businesses and the accessibility of HECMs for prospective senior homeowners.

Alone the sums of interest rate payments and fees are smaller components than principal, as modeled in exhibit 2, for the typical cash flow of a HECM loan and related HMBS costs. However, accrued interest for the average reverse mortgage, during the typical American life expectancy, is commonly 34 percent of the total loan amount value.<sup>33</sup> Fees and closing costs are less, accounting for 6 percent. Upfront and annual mortgage insurance premiums to FHA are between 8 and 9 percent.<sup>34</sup>

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<sup>32</sup> FHA rules for HECM lenders ensure heirs will not have to pay more than the full loan balance or 95 percent of the appraised value, whichever is less. In situations where the loan balance is worth more than the home, heirs will not have to pay the excess amount (FHA, 1994).

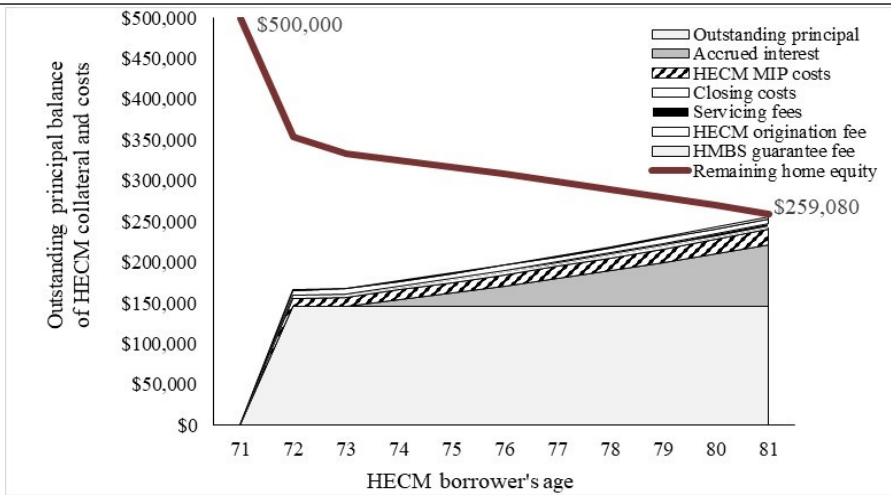
<sup>33</sup> The average loan amount has approximately a principal balance of \$300,000 with an interest rate of 5 percent in 2016 (FHA, 2016). This calculation assumes all costs are financed into the HECM for a single lump sum disbursement.

<sup>34</sup> The HECM mortgage insurance premiums reflect the change in the upfront premium structure from 2 percent of the maximum claim amount and the annual premium structure from 0.5 percent of the outstanding reverse mortgage balance in 2017 (FHA, 2017). The increased annual premiums for the outstanding HECM balance rather than the principal limit means greater financial resources are required for issuers to advance these payments to FHA. Additionally, the updated Principal Limit Factor is applied October 2, 2017, and forward.



**Exhibit 2**

**HECM and HMBS Cash Flow Model for Typical Senior Borrower With Lump Sum Disbursement<sup>a</sup>**



HECM = Home Equity Conversion Mortgage. HMBS = HECM mortgage-backed security. MIP = mortgage insurance premium. Note: "Closing Costs" include fees related to appraisal, HECM counseling, credit report, flood certification, escrow settlement and closing, document preparation, recording, courier, pest inspection, survey, and title insurance.

<sup>a</sup> Besides the detailed interest rate amounts, fees, and closing costs, senior HECM borrowers must also make property tax and flood and hazard insurance payments, otherwise the program deems such delinquencies as loans in default. The costs for flood and homeowners insurance are on average \$700 and \$964 per year. Property taxes are typically 1 to 1.5 percent of home value, approximately \$6,250 for the average home annually.

Together, the approximate 49 percent sum constitutes a substantial component of the total loan amount. Although interest rate index and margin are one-half of these costs, they represent the largest component of the overall HECM amount after the principal the borrower receives. These interest payment amounts are critical, however, as they support the operating costs and earnings for reverse mortgage stakeholders, including counterparties and the U.S. government.

Both HECM and HMBS counterparties rely on interest rate margins as profit to grow their business. However, reverse mortgage counterparties—particularly issuers and servicers—have longer term revenue collection timelines, often times years after origination.<sup>35</sup> Issuers and servicers often recoup cash flow from securitization, after funding borrower draws.

Once the unpaid principal balance of HECMs reaches 98 percent of the MCA, counterparties must also buy out the loans and the substituent HMBS participations providing principal and interest rate payments to investors. The result is more capital-intensive for reverse mortgage counterparties funding borrower draws, as well as HECM assignments to FHA. In this respect, the accrual-based structure poses greater counterparty risk than the continuous payment schedule of forward mortgages with interest rate payments paid monthly.

Borrowers typically pay few out-of-pocket costs when their reverse mortgage is issued. Should the senior borrowers not have the funds immediately on hand to pay closing costs, origination fees and

<sup>35</sup> According to publicly available financial filings from issuers, the average loan life for HECM is often fewer than 5 years.

the upfront mortgage insurance premium, lenders provide the option for payment to come from the principal drawn from the HECM. In these cases, lenders receive payments from the borrower's principal drawn at issuance. As a result, HECM lenders receive many of their costs at issuance at the borrower's expense, either in direct transfer or from financing through the loan's principal drawn.<sup>36</sup>

Once the HECM is issued, the nature of the cash flow substantively changes; issuer and servicer revenue sources start accruing. Interest rate payments accumulate, and the borrower pays them only when the HECM becomes due and payable. Without intermediate funding through the securitization of HECM participations, servicing fees are similarly collected and transferred to servicers only when the reverse mortgage matures.

Alternatively, FHA's annual mortgage insurance premiums (MIPs) and Ginnie Mae's guaranty fees are paid to the U.S. government each and every month. The fees are calculated based on the outstanding principal balance on the HECM loan and its securitized participations. Although the U.S. government receives these payments regularly throughout the life of the loan, these fees do not transfer from the borrower to the servicer. Instead the administrating counterparty must advance monthly the insurance premium and guaranty fee to the U.S. government from the issuer and servicer's own corporate funds.

The components of HECM and HMBS revenues are either paid to the program stakeholder or deferred, as exhibit 3 summarizes. At issuance, lenders and the FHA receive their fees, costs, and upfront MPI either directly from the borrower or from the principal drawn through the HECM.<sup>37</sup>

After issuance, counterparties pay FHA and Ginnie Mae monthly their annual MIPs and guaranty fees. These payments, however, are advanced from issuer and servicer funds. FHA and Ginnie Mae insurance premiums and guaranty fees are subordinate to issuer, servicer, and investor interest rate payments and servicing fees.

The servicing and administration obligations for HECM and HMBS counterparties have significant liabilities due to the nature of which revenues are disbursed. Per exhibit 4—sans securitization and

### Exhibit 3

#### HECM and HMBS Stakeholder Revenue Sources

Stakeholder	Revenue Item	Are Payments Deferred?
Lender	Closing costs	No, can be financed into HECM and paid from principal.
Lender	Origination fees	No, can be financed into HECM and paid from principal.
FHA	Upfront MIP	No, can be financed into HECM and paid from principal.
FHA	Monthly MIP	Yes, but counterparty must advance monthly.
Ginnie Mae	Guaranty fee	Yes, but counterparty must advance monthly.
Servicer	Servicing fee	Yes, obtained at maturity.
Issuer and investors	Interest rate index and margin	Yes, both components disbursed at maturity.

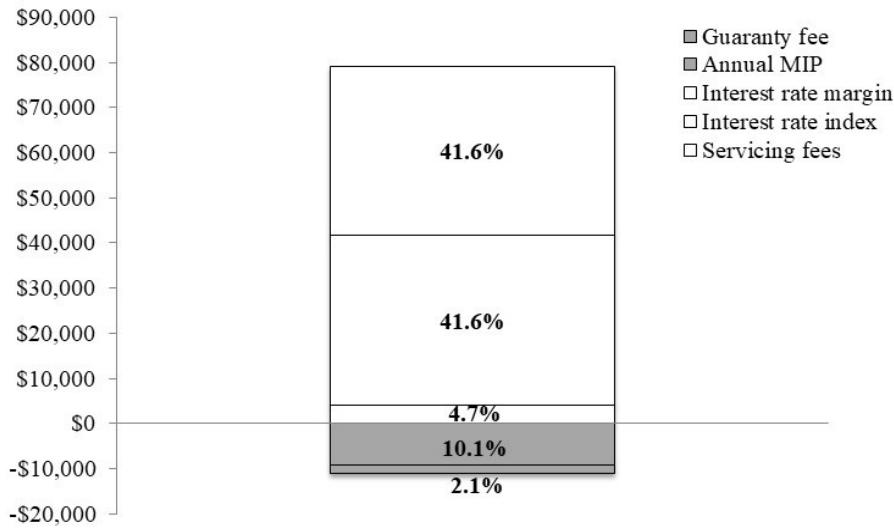
*FHA = Federal Housing Administration. HECM = Home Equity Conversion Mortgage. HMBS = HECM mortgage-backed security. MIP = mortgage insurance premium.*

<sup>36</sup> Depending on the HECM lender's evaluation of borrower risk, the mortgagee can waive or discount origination fees and omit certain closing costs.

<sup>37</sup> Without the upfront MIP payment, "FHA cannot endorse the mortgage" (FHA, 1994: 7–3, 4).

**Exhibit 4**

**Estimating HECM and HMBS Counterparty Revenue Liabilities per Whole Loan<sup>a</sup>**



Color Code	Financial Type	Value	Percentage
	Advanced servicing liabilities	\$10,989	12.2%
	Counterparty revenues <sup>a</sup>	\$79,230	87.8%
	Sum	\$90,219	100%

HECM = Home Equity Conversion Mortgage. HMBS = HECM mortgage-backed security. MIP = mortgage insurance premium.

<sup>a</sup> The estimates are made for typical lump sum disbursement for HECM collateral home value of \$500,000 at an adjustable rate, increasing from a 4.65 percent interest rate during the average life expectancy of a senior borrower of 72 years of age in 2016.

<sup>b</sup> Counterparty revenues include costs for servicing and interest rate index obligations to lenders. As such, counterparty profits are likely less than these figures, especially when considering business expenditures.

purchase of participations from the capital markets—counterparties must advance 12.2 percent of the revenues they will receive to FHA and Ginnie Mae in the form of the annual MIP and guaranty fee. This amount can be around \$10,989 per HECM loan serviced.

Inevitably, reverse mortgage counterparties—retaining the whole loans on their portfolio—will earn revenues from the substantially larger deferred interest rate payments as well as servicing fees. For the typical loan during an average American life expectancy of 81 years, revenues can amount to \$79,230. The issuer and servicer only receive these revenues when the HECM and HMBS become due and payable, typically years later following origination and securitization. Minus the costs, the profit per reverse mortgage loan is estimated to be equivalent to or less than advanced servicing liabilities that are reimbursed to the counterparty on HECM maturity.

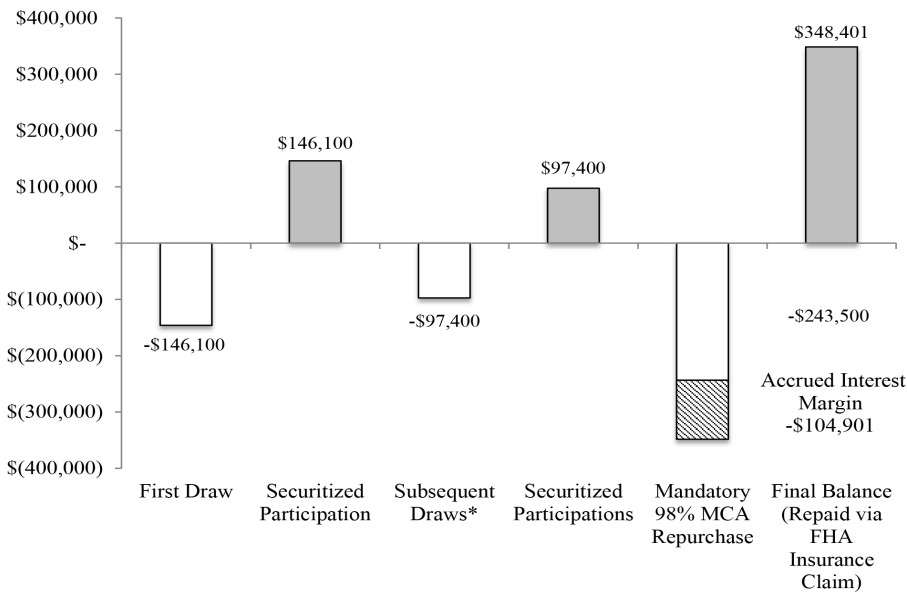
The revenues are substantial for counterparties, which must already have substantial cash available to participate in HECM and HMBS for these advanced payments. For counterparties without the

requisite cash reserves, they likely will explore participating in other businesses. The forward mortgage market could be more appealing as these products have recurring interest rate payments, lower net worth requirements, and fewer obligations delaying cash flow.<sup>38</sup>

Counterparties typically receive financial cash flow relief through HMBS securitization as exhibit 5 illustrates. Many counterparties sell the HECM participation securities to support the funding of borrower draws. However, the counterparty must buy out the loan and its accrued costs once the unpaid balance of a HECM reaches mandatory 98 percent of the MCA. The buy out provides interim funding and thereby gives investors a more definitive timeline when their accrued interest and principal payments, as well as reimbursement for their purchase of participations consisting of MIPs and guaranty fees. The consequence, however, is that counterparties must reassume these costs—an estimated cost of \$104,901 for interest rate margin payments per loan, as exhibit 5 indicates—and wait for FHA to offset these costs and revenues.<sup>39</sup>

**Exhibit 5**

**Modeling HECM and HMBS Issuer-Servicer Cash Flow Advances and Deferred Reimbursement From Investors and FHA per Multiple Disbursements**



FHA = Federal Housing Administration. HECM = Home Equity Conversion Mortgage. HMBS = HECM mortgage-backed security. MCA = maximum claim amount.

<sup>a</sup> This model has multiple draws and participations to illustrate the issuer-servicer cash flow process on HECMs with additional disbursements. For this reason, the resulting sum of interest rate payments is less than equivalent lump sum disbursements, as exhibits 2 and 4 showed.

<sup>38</sup> In 2015, Ginnie Mae raised net worth requirements requiring HMBS issuers to have \$5 million (Ginnie Mae, 2017b). HMBS issuers have a higher net worth requirement than single-family and multifamily mortgage-backed securities counterparts for Ginnie Mae securities at \$2.5 and \$1 million respectively (Ginnie Mae, 2017b).

<sup>39</sup> Already counterparties incur costs from defaulted HECM loans, approximately one in five of which are defaulted and therefore ineligible to be assigned to FHA.

The reverse mortgage industry is concerned that HMBS counterparties must “wait” because FHA cannot process HECM insurance claims fast enough (NRMLA, 2016: 3). Specifically, the processing times can be lengthy for the assigned HECMs at 98 percent of the MCA. Delayed FHA claim processing can become even more deferred, as mandatory purchase events have been predicted to affect 81 percent of the active pool count by 2020 (Ginnie Mae, 2015). In 2018 alone, nearly 34,000 HECMs are expected to be assigned from counterparties to FHA (Ginnie Mae, 2015). Further delays in FHA insurance claim processing can severely constrain the financial viability of counterparties and threaten the HECM and HMBS programs.<sup>40</sup>

Regardless of the supporting cash flow to counterparties from investors, the deferred cash flow, particularly the mandatory repurchase event at 98 percent of MCA, constitutes a significant barrier to entry for counterparties and underscores the capital-intensive nature of reverse mortgages compared with their forward analogs. Such barriers to entry for both new and expanded counterparties merit stakeholder consideration on whether to modify HECM, and thereby HMBS programmatic policies. Permitting the option for continuous repayment structures would have various implications for each participant beyond solely reverse mortgage counterparties.

## **Policy Implications in Permitting Recurring Interest Rate Structures**

Continuous repayment structures, like those utilized in Japan’s Special Repayment System for the Elderly program, can help toward mitigating financial burdens on HECM and HMBS counterparties, especially with the advanced servicing liabilities and deferred cash flow for issuers and servicers. Deciding whether to permit recurring interest rate payment structures in reverse mortgages has significant policy implications for each stakeholder. In considering the inclusion of payment structures with this option, consumers, industry, investors, and policymakers must thoroughly understand and opine on the ramifications of such policy change.

For senior citizens, continuous interest rate payments can add a significant financial burden and affect their participation in the HECM program. Traditionally, senior borrowers have sought reverse mortgages in instances when they are cash-poor homeowners. If recurring interest rate payment structures were to be permitted into the HECM program, borrowers would need to have either the needed money on hand or reduced principal draws allocated for monthly interest rate payment amounts.

Recent HECM program changes in the reverse mortgage have sought to reposition the product into a financial planning tool rather than a product of last resort. For these borrowers, seeking to bolster their retirement security, adding the aforementioned 9- to 10-percent interest rate payment options of the total loan value may not jeopardize the financial wellbeing for this intended group of senior households. Moreover, such a change would be less impactful for borrowers in a low-interest

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<sup>40</sup> Aside from reverse mortgage design through recurring interest rate payment structures, Ginnie Mae could consider monitoring the issuance of head and tail HMBS participation typologies. Specifically, tracking tail participations—the subsequent uncertificated portions of the HECM—could help assess the financial burden on issuers and servicers who may rely on securitization of guaranty fees and annual MIPs to derive temporary cash flow from investors through their purchase of HMBS pools.

rate market environment. Should counterparties be able to verify that continuous interest rate payments would lower business costs and thereby provide better financing terms on HECMs, consumers and advocate groups may be more receptive in considering the potential allowance of these structures.

Lenders, especially those specialized in HECM origination, may not be affected by the allowance of continuous interest rate payment structures. The business model of many lenders primarily derives revenue from originating fees and closing costs paid at or before issuance of the reverse mortgage. Further the borrower already pays these fees and costs either out of pocket or through principal draws.

Conversely, HMBS issuers and servicers likely would benefit from allowing recurring interest payment structures in the HECM. The current obligations of advanced servicing liabilities and delayed cash flow add an extra burden on secondary mortgage market actors. Issuers need to fund all HECM borrower draws, prior to securitization, and finance repurchase when FHA assignment occurs in addition to property disposition for loan defaults. Certainly, many counterparties have overcome these challenges and achieved success, as indicated by the super majority HMBS market share that the three largest businesses amassed. Regardless, continuous interest rate payments may help improve appeal and minimize financial barriers to entry for new operators.

The participating U.S. government entities, FHA and Ginnie Mae, require their MIPs and guaranty fees to be paid continuously throughout the duration of the HECM until maturity. The requirement is logical given the government's role in enabling the reverse mortgage market. The payment precedence of annual MIPs and guaranty fees also reinforces the primacy of the American taxpayer in supporting the reverse mortgage market more than issuer and servicing interest rate payments and servicing fees.

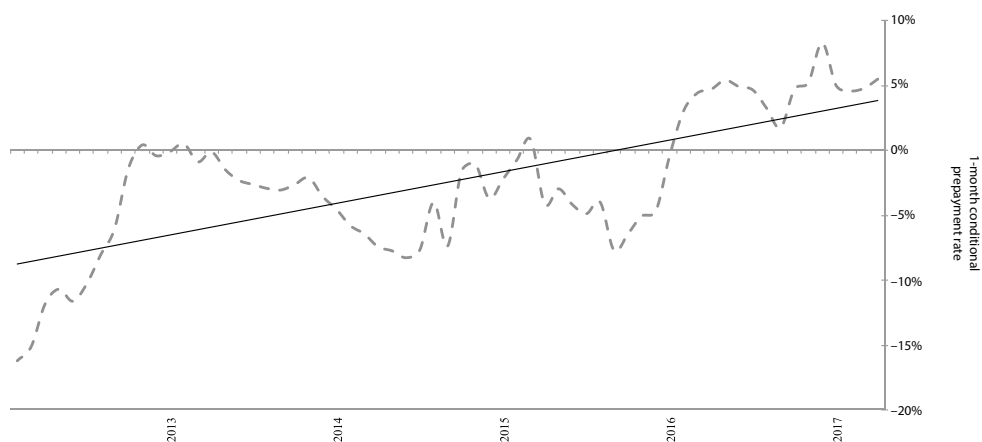
FHA's provision of mortgage insurance alleviates credit risk concern for lenders and investors while expanding access to such financing for senior homeowners. Ginnie Mae concurrently improves investment into HMBS with the full-faith and credit sovereign guaranty from the U.S. government for the timely principal and interest rate payments to bondholders. The channeling of investment into HMBS improves liquidity in the secondary reverse mortgage market and provides more affordable terms for the financing of HECMs for senior borrowers.

The proposed continuous interest rate structure can affect investment into HECM securities and liquidity into the HMBS market. At present, investors are encouraged to buy HMBS pools since interest rate payments can be 30 to 50 basis points higher than the yields on conventional collateralized mortgage obligations or CMOs. The recurring structure, however, likely would transition interest rate payments to a monthly cash flow schedule for HMBS investors. The change may also affect the prepayment rate on such securities.

If borrowers are aware of the financial burden recurring interest rate payments present, then end-users may be more likely to voluntarily repay reverse mortgage obligations to reduce prospective cost liabilities. For this reason, such a change may increase prepayments and shorten overall HECM and HMBS pool durations. The recent shift to faster prepayment speeds for the HECM during the 30-year Ginnie II Single-Family MBS, as exhibit 6 illustrates, may counter specific investor concern of increased prepayment speeds. Oppositely, the new structure could also result in even faster rates on HMBS pools.

## Exhibit 6

### HECM to G2SF (30-Year) Prepayment Spread, January 2013–March 2018



G2SF = Ginnie II Single-Family Mortgage-Backed Securities. HECM = Home Equity Conversion Mortgage.  
Sources: NVA, 2018; Ginnie Mae Disclosure Data

## Conclusion

Disproportionate risks exist in the HECM and HMBS programs despite the relatively small share of reverse mortgages within FHA's insured and Ginnie Mae's guaranteed portfolios.<sup>41</sup> Primary among hazards is counterparty risk that can imperil the future provision of affordable reverse mortgage products in primary and secondary markets, where HECM and HMBS are largely the only vehicle for the consideration of senior homeowners.<sup>42</sup> In the event of a major counterparty or sectorwide default, few issuers and servicers may be able to take on additional risks, forcing the U.S. government to directly act.

The present concentration in the reverse mortgage market, in terms of HECM lending and securitization, merits consideration of innovative approaches in limiting potential risks that contribute to sweeping failures with counterparties. As such, it is in the interest of the U.S. government to strengthen the HECM and HMBS programs. Beyond government contingency plans and oversight through monitoring the performance and operations of HECM and HMBS counterparties, reverse mortgage product design is a complementary tool for consideration in mitigating counterparty risk. Among approaches, it may be prudent to strategically reduce barriers to entry and overcome operational deficiencies in both programs to increased counterparty participation.

<sup>41</sup> In 2016, HECMs constituted 3.9 percent of FHA's single-family insured mortgages (FHA, 2016). Correspondingly, HMBS were around 3.2 percent of Ginnie Mae's outstanding guaranteed MBS (Ginnie Mae, 2016b).

<sup>42</sup> No mainstream reverse mortgage products alternatively exist; similarly, neither private-label entities nor the government-sponsored enterprises securitize reverse mortgages.

The accrual-based HECM and HMBS structure is certainly one of the many innovative features of the reverse mortgage in the United States.<sup>43</sup> However, issuers and servicers have made a largely unrecognized contribution to certain deficiencies embedded in this reverse mortgage cash flow structure. Moreover, the constant efforts of issuers and servicers in financially adapting cash flow between funding ongoing borrower HECM draws, selling pooled participation securities to the capital markets and repurchasing HMBS pools, as they are assigned to FHA, deserves recognition. In addition, alternative payment structures need to be explored with regard to reverse mortgages in the United States. The Japanese approach, as evidenced through the Special Repayment System for the Elderly, can provide a prospective solution for consideration to alleviate certain financial burdens placed on counterparties.

Recurring payment structures can improve management of cash flow timing risks and assuage advanced servicing liabilities unique to the design of HECM and HMBS products. However, permitting continuous interest rate payments into HECMs and HMBS structures has profound ramifications. Recurring interest rate payments may provide more certainty into counterparty business operations but may also significantly affect other stakeholders, particularly borrowers and investors.

The exploration of recurring payment structures necessitates close collaboration and validation with stakeholders. Continuous interest rate structures have the potential to deepen counterparty participation and reduce the business risks and costs associated with reverse mortgages. The outcome can be more affordable terms for senior homeowners seeking to strengthen their retirement security.

## Acknowledgments

The author thanks the anonymous reviewers for their constructive comments as well as John Getchis from Ginnie Mae for his technical counsel on various aspects of the secondary mortgage market and capital markets. The author also thanks Masahiro Kobayashi and Osamu Takahashi from the Japan Housing Finance Agency for their work that inspired this research. The author recognizes Alven Lam for enabling this study through the U.S.-Japan Housing and Innovation Forum on Urban Housing and Financial Innovation facilitated through the U.S. Department of Housing and Urban Development and Ginnie Mae.

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<sup>43</sup> The U.S. government, through HUD, pioneered the innovative approaches. "FHA was the first organization to insure reverse mortgages on a national scale" (FHA, 2016: 17). Likewise Ginnie Mae executed the first HECM securitization through the HMBS program.



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