Income-Inequality:
U.S. Monetary-Policy and Regulatory Wealth-Distribution Drivers

September 19, 2016

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Abstract

It is argued here that the Federal Reserve should ensure that its monetary policy and regulatory actions include advance consideration of income-inequality impact. Many analyses of the causes of U.S. income inequality focus on structural factors such as challenges to social mobility and austere fiscal policies. Vital though these factors are, they are not amenable to rapid change. Here, we address two policies squarely within the authority of the Federal Reserve – monetary and regulatory – and demonstrate that these have become powerful, albeit unintentional, drivers of disparities in U.S. wealth and income distribution. We find that U.S. income inequality is rising not only due to macroeconomic and fiscal-policy forces, but also because of widening gaps resulting from accommodative monetary policy in the wealth generated by the assets held by the wealthy versus those owned by low- and moderate-income households. We assess not only these wealth-accumulation effects, but also for the first time add to this an assessment of the income-inequality impact of diminishing secure, income-producing deposit facilities for low- and moderate-income households. Obstacles to safeguarding individual savings and to the ability of financial institutions to convert funds into productive assets are also shown to have income-inequality impact.

These effects are likely to continue or worsen unless or until less-regulated non-bank providers step in. We thus assess the income-inequality impact of financial-product migration to non-banks, finding that the wealth-distribution risks of new bank regulations are not cured by migration of critical products for low- and moderate-income individuals to non-bank providers.

This paper represents the views of Federal Financial Analytics, Inc. Funding for this research was provided by The Clearing House Association, L.L.C., which was not granted editorial authority over the paper's content, methodology, or findings. These are solely the responsibility of Federal Financial Analytics, Inc.

In May of this year, Federal Financial Analytics (FedFin) issued an in-depth report assessing the unintended implications of post-crisis regulation on the ability of the Federal Reserve to execute U.S. monetary policy and impose the macroprudential rules it hopes will ensure long-term financial stability.[1] In this and several related papers, we drill down to address in more detail several of the most critical consequences identified in this research. These subsequent papers are research notes – not in-depth analyses – that we hope illuminate critical questions pertinent to current policy and political debate. Here, we take on a question with considerable and immediate policy and political impact: the extent to which post-crisis U.S. monetary policy and financial regulation may have made it harder for Americans to improve their financial well-being. If so, the desired and to some extent realized benefits of monetary policy – economic recovery – and those of the new rules – a safer and more stable U.S. financial system – have been won at high cost to long-term prosperity and political stability.

The Federal Reserve has acknowledged the importance of this issue at a 2015 conference at which Chair Yellen highlighted its urgency and the need for more research.[2] The focus of Chair Yellen's comments was broad social and demographic factors that may drive income inequality, noting studies under way at the FRB. However, we argue here that the Federal Reserve does not have the luxury of time to undertake its usual thorough analysis prior to action. Because U.S. and global political-risk indicators resulting in part from income inequality are blinking red, we turn to what the FRB itself may have unintentionally done to exacerbate these underlying socio-economic trends. To contribute to this work, we here draw to the greatest possible extent on recent research on the policy drivers of income inequality that may be within the reach of the Federal Reserve and financial regulators even as broader debate continues on fiscal policy and other relevant matters.

As with all complex problems, income inequality has complicated causes. Some may well be outside the ambit of policy-maker authority, especially that of the Federal Reserve and other financial regulators. Despite the importance of issues such as educational mobility and infrastructure spending, policies that affect finance are shown here to have profound impact on income inequality because finance now defines economic activity to an unprecedented extent. Perhaps dramatically, a recent op-ed has posited that "[f]inance now represents the most powerful force on earth," citing the $75 trillion of assets under management as proof that risks which once worked their way through national economies now rocket through financial markets with unparalleled force.[3] Subjective though this conclusion is, data on assets under management combined with those deployed through bank lending and other financial activities suggest strongly that financial regulation has profound structural impact. In this paper, we will review recent research addressing monetary- and regulatory-policy initiatives with direct and negative impact on income inequality due to:

- the impact of novel monetary-policy tools, most notably prolonged quantitative-easing initiatives;

[1] Federal Financial Analytics, *Square Pegs and Round Holes: The Effectiveness of Monetary Policy and Macroprudential Regulation in the Post-Crisis Regulatory Regime* (May 18, 2016), available at http://www.fedfin.com/images/stories/client_reports/FedFin%20White%20Paper%20on%20The%20Effectiveness%20of%20Monetary%20Policy%20and%20Macroprudential%20Regulation%20in%20the%20Post-Crisis%20Regulatory%20Regime.pdf.
[2] Federal Reserve System, *Agenda and Speakers of the Ninth Biennial Federal Reserve System Community Development Research Conference* (April 2-3, 2015), available at https://www.stlouisfed.org/community-development/economic-mobility-conference-2015/agenda-speakers.
[3] Roger Altman, *The End of Economic Forecasting*, Wall Street Journal, June 23, 2016, at http://www.wsj.com/articles/the-end-of-economic-forecasting-1466723149.

- the limitations new rules place on the ability of regulated financial-services providers to counteract these effects and advance income mobility and wealth accumulation; and
- the extent to which migration of banking services to non-bank institutions might correct for adverse wealth-distribution effects over time.

We conclude that:

- Although the goal of accommodative policy is to generate credit availability and reduced unemployment, slow progress has exacerbated adverse credit-allocation and wealth-accumulation impacts. This results primarily from the benefits quantitative easing provides to the financial assets disproportionately owned by wealthier households versus those owned by low- and moderate-income ones. Real negative returns on the savings of less-wealthy households also decrease income equality and may even contribute to still-wider income distributions in the U.S.
- Credit-allocation and interest-rate incentives from accommodative policy are exacerbated by the post-crisis regulatory framework governing U.S. banks. Although these rules significantly enhance financial stability to the extent stability depends on large banks, they have demonstrable adverse effects on credit availability for products essential to social mobility and on the return possible on traditional deposit products provided by FDIC-insured banks.
- Financial instability has adverse equality results because it most dramatically and adversely affects those with the fewest economic resources. Migration of products essential for more equal wealth distribution to less-regulated providers is likely to increase the risk of boom-bust cycles with additional adverse impact on wealth distribution. Fragmentation of critical activities within the financial-intermediation chain into a series of segregated products offered by both regulated and less-regulated providers is likely also to exacerbate income inequality due to the higher cost of certain products, greater consumer risk, and diminished funding for sustainable credit to lower-income populations.

I. Financial-Policy Impact on Income Inequality

Academic literature often differentiates between income and wealth inequality. In our view, while a useful distinction for research purposes, it is of negligible value for policy analytics. Much of the literature here often uses the terms interchangeably, making it difficult to parse precisely whether it is the prospect of higher wages – i.e., income inequality – that is studied, or that of asset accumulation – wealth inequality. However, more income generally leads to more assets. We thus here do not address definitions, but instead focus on the distribution of income and wealth.

To address these issues, we first turn to a threshold question: Is there in fact income inequality in the U.S. and how has it changed since the financial crisis? A paper from the Bank for International Settlements (BIS) is particularly helpful in this regard.[4] It finds that U.S. income inequality has not only dramatically increased in recent years, especially since the financial crisis, but also that it has outpaced inequality measured in four other advanced economies (Germany, Italy, Spain, and the U.K.) with the

[4] Dietrich Domanski, Michela Scatigna and Anna Zabai, *Wealth Inequality and Monetary Policy* (March 6, 2016), available at http://www.bis.org/publ/qtrpdf/r_qt1603f.htm.

only nation equivalent to the U.S. being France.[5] Using 2002 as a baseline, inequality in the U.S. has grown nearly fourteen percent based upon the BIS' methodology, with most of this growth coming since 2009.

The reason cited for this surge in U.S. income inequality is the dramatic difference since the crisis in the value of the assets that provide the principal sources of wealth for different income quintiles of the U.S. population. The wealthier one is, the more one depends on assets like stocks and bonds, while the farther down the income spectrum one goes, the more likely it is that a home is one's major wealth-producing asset. Further, the more leveraged one is – i.e., the greater one's borrowing to fund asset holdings – the less wealthy one is. As a result, simply owning a home may not be the path to wealth accumulation if the home is mortgaged to a high loan-to-value ratio. In such cases, a person may even have negative wealth – that is, liabilities exceed assets. A recent study by the Federal Reserve Bank of New York has found that fifteen percent of American households have net worth less than or equal to zero, with most of this sample having wealth below zero, a number consistent with the findings of numerous other studies assessing this issue.[6] Although negative wealth is a common feature of younger households, significant increases in recent years are apparently attributable at least in part to growing amounts of student debt.

After reviewing wealth distributions by asset ownership, the BIS explains U.S. wealth and income inequality in part by analyzing the role of FRB accommodative monetary policy in spurring the ultra-low interest rates that sparked equity-market booms without also sparking a significant recovery in house prices until well into the late post-crisis period. Literature cited by the paper reaffirms a strong link between FRB policy and U.S. equity and housing prices, the two asset classes that influence inequality the most in the U.S. As a result, in the period immediately following the crisis, the asset-growth differential between the richest quintile and second-poorest quintile was between four and eight percent, furthering inequality as a result of rising stock prices and flat or negative housing returns. Even though housing started to function as an inequality-decreasing force around 2012, stock returns have still grown at a faster rate, resulting in asset growth differentials generally around two percent in this period.

The BIS paper does not address another adverse income-distribution effect from accommodative policy observed in other recent studies.[7] The larger the population segment with high incomes, the smaller consumption is likely to be across the macroeconomy and the greater the challenges to robust recovery. This is because higher-income individuals and households often have accumulated consumption goods and housing in prior years and limit their additional purchases to goods and services in niche or even foreign markets. High-wealth individuals spend as little as five percent of income on consumption versus the average of 78 percent for middle-class individuals and households with incomes between $70,000 and $80,000 in 2014.

[5] *Id*., see Graph 2.

[6] Olivier Armantier, Luis Armona, Giacomo De Giorgi, and Wilbert van der Klaauw, *Which Households Have Negative Wealth?* (August 2, 2016), available at http://libertystreeteconomics.newyorkfed.org/2016/08/which-households-have-negative-wealth.html.

[7] Jeanna Smialek, *Why the Rise of the One Percent Makes Janet Yellen's Job Harder*, Bloomberg, August 3, 2016, at http://www.bloomberg.com/news/articles/2016-08-03/why-the-rise-of-the-one-percent-makes-janet-yellen-s-job-harder.

A study from the Dutch central bank reaches similar conclusions about prolonged accommodative monetary policy in Japan.[8] Although national factors are of course considerably different in Japan, it is nonetheless indicative that the income-inequality driver found in Japan is the one also addressed by the BIS: disproportionate rises in asset prices that benefit the financial assets held by wealthier households (financial instruments) over those available to lower-income individuals (in Japan, housing). A Federal Reserve Bank of Philadelphia[9] study similarly finds that accommodative monetary policy benefits "Wall Street" at the expense of "Main Street." Another recent U.S. study characterizes quantitative easing as "trickle-down economics" because the disparities in asset prices cited by the BIS do not have their desired impact on unemployment.[10] As this study points out, the unemployed lack assets and thus are not directly helped by accommodative policy. Although FRB policy intends to spur employment by generating demand that creates additional employment opportunities, this study concludes that this indirect impact is "tenuous," using data to argue that quantitative easing in fact exacerbates income and wealth inequality, "violating the principles of social justice."

This is harsh criticism, but slow growth despite formidable accommodative policy suggest it warrants careful review. As a former Chairman of the Council of Economic Advisers for President George W. Bush has recently noted,[11] the growth rate of real (i.e., inflation-adjusted) gross domestic product (GDP) per person has averaged 0.44 percent over the past decade compared to the historic norm of two percent, meaning that real income now doubles only every 165 years versus the 35-year norm.

GDP growth is of course positive even when it is not as large as the central bank hopes. However, from an income-distribution perspective, it is important to look below top-level GDP data to see how different income sectors are affected. Despite recent GDP improvement, the percentage of those between ages 25 and 54 in the U.S. who have jobs was 2.5 points lower in 2015 than 2007, considerably less than in the U.K. and Japan despite their lower GDPs.[12] Unemployment declines in this core demographic spell long-term growth challenges and speak to one of the root causes of U.S. political discontent.

Importantly, the BIS study cautions that its findings – startling though they are on U.S. income inequality – should be viewed as under-estimating the adverse distributional impact of accommodative policy because the data on which high net-worth reporting are derived are notably unreliable, especially with regard to unreported assets. Even more troubling, the BIS analysis notes that lower-income individuals in the U.S. may be particularly at risk because study data do not include pension rights. Given that the U.S. increasingly lacks a defined-benefit system other than Social Security and that pension plans are at growing risk due to persistent low interest rates, this phenomenon may well exacerbate income inequality in the absence of incentives that promote retirement savings.

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[8] Ayako Saiki and Jon Frost, *How Does Unconventional Monetary Policy Affect Inequality? Evidence from Japan* (May, 2014), available at http://www.dnb.nl/binaries/Working%20Paper%20423_tcm46-307334.pdf.

[9] Nils Gornemann, Keith Kuester, & Makoto Nakajima, *Doves for the Rick, Hawks for the Poor?: Distributional Consequences of Monetary Policy*, 1 (June 30, 2015), available at http://www.eui.eu/Documents/DepartmentsCentres/Economics/Seminarsevents/Kuester.pdf.

[10] John P. Watkins, *Quantitative Easing as a Means of Reducing Unemployment: A New Version of Trickle-Down Economics*, 48 Journal of Economic Issues no. 2 (December, 2014), available at http://www.tandfonline.com/doi/abs/10.2753/JEI0021-3624480217.

[11] N. Gregory Mankiw, *One Economic Sickness, Five Diagnoses*, New York Times, June 17, 2016 at http://www.nytimes.com/2016/06/19/upshot/one-economic-sickness-five-diagnoses.html?_r=0.

[12] Narayana Kocherlakota, *The U.S. Recovery Is Not What It Seems*, Bloomberg, August 18, 2016, at https://www.bloomberg.com/view/articles/2016-08-18/the-u-s-recovery-is-not-what-it-seems.

Many of these challenges are, while profound, the remit of the U.S. Congress and the President. Like her predecessors, Chair Yellen has also frequently called on them to rebalance fiscal policy so that the burden of economic recovery does not fall solely on the central bank.[13] However, it is also important to recognize that even the Federal Reserve had no idea that it would be forced to maintain its emergency actions in 2008 through at least 2016 or that economic growth would be so slow and uncertain despite trillions in quantitative easing. Nor did it recognize or desire that ultra-low interest rates would be an increasingly "normal" fact of U.S. economic life in concert with very low inflation and, by some measures, even some deflation. Again, some of the causes of this problem – e.g., geopolitical instability – are beyond the FRB's control. Further, advocates of accommodative policy believe that its income-inequality effects will be offset as financial conditions improve.

However, this remains to be seen. Monetary and regulatory policy are powerful market drivers that determine financial-market configuration unless or until changed and often in ways that are irreversible even then. Our prior paper[14] addresses these "sunk costs" in more detail. It is therefore critical that policy-makers recognize the extent to which actions within their own reach have had adverse income-inequality effect. To the extent these can be remedied without offsetting risk, social welfare would be substantively increased at considerable public benefit.

II. Regulatory Drivers of Income Inequality

It is of course clear that the Federal Reserve did not intend that its accommodative policies would have the adverse effects found by these studies. To some extent these inequality drivers derive from the external factors cited also by Chair Yellen such as the failure of U.S. fiscal policy to offset these and other downward drags on employment in the wake of the Great Recession. However, research and analysis of recent market developments indicate that the new regulatory framework also plays a significant income-inequality role by diverting funds that could otherwise be intermediated into productive assets, creating a new source of downward drag unprecedented in recent U.S. post-crisis recovery scenarios. Unless these regulatory drivers of procyclicality are gradually rebalanced by new providers of relevant financial services, they may prove a permanent cause of lower GDP growth and contribute to income inequality.

Regulatory downward drags currently include:

- constraints on the ability of banks to gather deposits. These affect not only intermediation of deposits into loans by reducing the "fuel" needed for intermediation, but also the ability of low- and moderate-income individuals to find safe stores of value for their hard-earned funds that permit saving for wealth accumulation. Ultra-low rates also sharply reduce the return on the traditional deposit products and retirement-savings instruments on which low- and moderate-income individuals have long relied. Ultra-low rates may also create additional incentives for non-productive short-term consumption due to the challenges of accumulating savings

[13] Federal Reserve Board (FRB) Chair Janet L. Yellen*, Speech at the "Conference on Economic Opportunity and Inequality," Boston, MA* (October 17, 2014), available at http://www.federalreserve.gov/newsevents/speech/yellen20141017a.htm.
[14] Federal Financial Analytics, *Square Pegs and Round Holes, op. cit.*

sufficient for wealth-accumulating investments (e.g., homes and automobiles used for employment transport acquired without high-cost financing);

- requirements that banks hold large volumes of high-quality liquid assets (HQLAs) which reduce balance-sheet capacity for productive assets such as corporate and small-business loans; and
- additional regulatory constraints largely derived from new capital rules on the ability of banks to make the types of loans that advance employment. Banks could perhaps retain earnings and thus meet both capital requirements and macroeconomic-growth goals, but this would come at significant and adverse investor cost that reduces the long-term ability of banks to provide the full array of financial-intermediation services.

A. Impediments to Turning Cash into Wealth

We turn first to the ability of individuals to safeguard their funds and pay for desired investment in ways that address income inequality. Income inequality is often considered to be solely a question of credit availability but – important though this is as we shall discuss – a fundamental feature of a wealth-producing economy is giving individuals and families of modest means places other than the proverbial mattress in which to house funds and execute transactions that safely and at minimum cost accomplish desired goals.

Ultra-low interest rates compound these challenges because the savings low- and moderate-income individuals may gather do not earn returns sufficient to finance first-time home ownership, affordable automobile purchases, or stable retirement. To the extent there is even modest inflation, ultra-low rates also serve as a source of negative wealth accumulation because those savings individuals are able to amass actually decrease in real value.

Insights into the extent to which these savings could be generated and the ability of low-and moderate-income individuals to build wealth is found in a recent paper from the Council of Economic Advisers (CEA) of the U.S. President.[15] It is focused on financial inclusion – that is, reducing income inequality by expanding access to retail financial services. Global policy-makers are also focused on the critical importance of financial inclusion as a path to wealth accumulation, with the Basel Committee on Banking Supervision (BCBS) recently proposing a series of supervisory steps designed to facilitate bank entry into this arena and address the risks non-banks pose.[16] This Basel proposal notes that two billion people worldwide lack needed financial services and that access to sound places to hold deposits is a critical first step to wealth accumulation.

The CEA paper analyzes how the ability of low- and moderate-income people to open bank accounts, transact financial business, and get loans affects income inequality. To the extent that financial institutions provide a reliable store of value for ordinary citizens, the CEA paper finds that individuals and families are able to smooth consumption over time because they need not immediately spend their salaries or other proceeds to derive value from their hard work. Reliable stores of value also provide a

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[15] White House Council of Economic Advisers, *Financial Inclusion in the United States* (June, 2016), available at https://www.whitehouse.gov/sites/default/files/docs/20160610_financial_inclusion_cea_issue_brief.pdf.

[16] Basel Committee on Banking Supervision (BCBS), *Consultative Document: Guidance on the application of the Core principles for effective banking supervision to the regulation and supervision of institutions relevant to financial inclusion* (December 2015), available at http://www.bis.org/bcbs/publ/d351.pdf.

cushion against emergencies that would otherwise deplete wealth and set a family back to scraping by or, still worse, to a cycle of high-cost indebtedness.

According to this paper, nearly 100 percent of U.S. households in the richest two quintiles had a transaction account in 2013, but 21 percent of households in the bottom quintile did not.[17] New FRB data provide a similar picture, showing that only 0.9 percent of individuals with incomes greater than $100,000 in 2015 were unbanked – i.e., they did not have checking, savings, or money market accounts; for individuals with incomes under $40,000, that number is 15.9 percent.[18] Interestingly, the FDIC has found that the number of unbanked households that have used prepaid cards doubled between 2009 and 2013,[19] noting that these cards generally come from non-banks but are used in lieu of traditional banking services.

B. Regulatory Constraints on Bank Deposit-Taking Capacity

It is important to note at the outset that there are no known regulatory constraints on the ability of banks to take the deposits needed to build individual wealth accumulation and convert them through intermediation into credit and capital formation. Indeed, the new body of U.S. regulation expressly favors core non-business deposits, especially the insured ones housed in smaller accounts favored in both the final liquidity-coverage-ratio (LCR) regulation[20] and the proposed net-stable-funding (NSFR) one.[21] The challenge for bank deposit-taking capacity instead derives from:

- the interplay of these liquidity rules with other requirements, most notably the leverage-capital rule governing all larger banks[22] and the enhanced supplementary leverage ratio (SLR) applicable to the very largest U.S. banks;[23]
- the impact of ultra-low rates in the midst of slow economic growth that suppresses credit demand; and

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[17] White House Council of Economic Advisers, *Financial Inclusion in the United States, op. cit*. at 3 & 7.

[18] FRB, *Report on the Economic Well-Being of U.S. Households in 2015*, 27 (May, 2016), available at http://www.federalreserve.gov/2015-report-economic-well-being-us-households-201605.pdf.

[19] Federal Deposit Insurance Corporation (FDIC) Chairman Martin Gruenberg, *Speech to the Urban Financial Services Coalition, Washington, D.C.,* (June 24, 2016), available at https://www.fdic.gov/news/news/speeches/spjun2416.html.

[20] Office of the Comptroller of the Currency (OCC), FRB, and FDIC Liquidity Coverage Ratio: Liquidity Risk Management Standards (LCR), 12 C.F.R. §§ 50, 249, & 329 (2014), available at https://www.gpo.gov/fdsys/pkg/FR-2014-10-10/pdf/2014-22520.pdf.

[21] OCC, FRB, and FDIC Net Stable Funding Ratio: Liquidity Risk Measurement Standards and Disclosure Requirements, 12 C.F.R. §§ 50, 249, & 329 (2016), available at https://www.fdic.gov/news/board/2016/2016-04-26_notice_dis_c_fr.pdf.

[22] FDIC Regulatory Capital Rules: Regulatory Capital, Implementation of Basel III, Capital Adequacy, Transition Provisions, Prompt Corrective Action, Standardized Approach for Risk-Weighted Assets, Market Discipline and Disclosure Requirements, Advanced Approaches Risk-Based Capital Rule, and Market Risk Capital Rule, 12 C.F.R. §§ 303, 308, 324, 327, 333, 337, 347, 349, 360, 362-365, 390, & 391 (2013), available at https://www.fdic.gov/news/board/2013/2013-07-09_notice_dis_a_res.pdf.

[23] OCC, FRB, and FDIC Regulatory Capital Rules: Regulatory Capital, Revisions to the Supplementary Leverage Ratio, 12 C.F.R. §§ 3, 217, & 324 (2014), available at https://www.fdic.gov/news/board/2014/2014-09-03_notice_dis_c_fr.pdf.

- non-bank competition for selected deposit-like products empowered in part by exemption from many rules governing banks of all sizes.

Space in a research note does not permit full consideration of each of these constraints on bank deposit-taking capacity, but issues to consider include:

- The leverage rule is likely to reduce a bank's capacity to hold the HQLAs required by the LCR, NSFR, and other liquidity standards, an issue sure to be exacerbated as the largest banks also issue the significant volumes of long-term funding mandated under proposed total loss absorbing capacity (TLAC) requirements.[24] For banks to function as financial intermediaries and not investment houses taking proprietary risks, banks must deploy funding from deposits into the assets that provide their principal source of profitability. The more assets on a bank's balance sheet subject to high capital requirements regardless of risk (e.g., the imposition of the SLR on riskless assets like excess reserves held at the Federal Reserve), the greater the difficulty banks have in holding assets that promote economic growth, comply with capital regulation, and ensure sufficient return on investment to be viable, competitive private enterprises. A 2015 FedFin paper explores this issue in more depth.[25]
- Regulatory preferences for deposits are likely to increase competition for them, especially as rates rise and funds flow back into banks from riskier investment vehicles. However, the crowding out effect of HQLAs on the asset side and TLAC on the funding side limits the ability of banks to accept deposits unless they add still more leverage capital and/or are able to find new, profitable lending opportunities. In fact, many banks are already declining to accept certain deposits or charging for them. These constraints may well gradually diminish as rates rise and create new lending opportunities consistent with balance-sheet capacity, but they remain near-term challenges to wealth accumulation and capital formation.
- The Federal Reserve's rule governing the capital requirement imposed on the largest U.S. bank holding companies includes not only a capital requirement based on expected drivers of systemic risk agreed upon by international regulators, but also an additional criterion addressing the extent to which the company relies on short-term wholesale (i.e., non-household) funding.[26] Because banks must generally use unsecured wholesale funding for the HQLAs required by the liquidity rules, they must gather additional deposits to fund new loans. The final standards acknowledge this, but nonetheless discount the value of these deposits for purposes of setting the capital "surcharge." This in part reflects the view that there is run-risk (i.e., deposit flight) even in the presence of federal deposit insurance. This may perhaps be appropriate in terms of possible risk, but it essentially double-charges banks for holding required HQLAs and funding

[24] FRB, Total Loss-Absorbing Capacity, Long-Term Debt, and Clean Holding Company Requirements for Systemically Important U.S. Bank Holding Companies and Intermediate Holding Companies of Systemically Important Foreign Banking Organizations; Regulatory Capital Deduction for Investments in Certain Unsecured Debt of Systemically Important U.S. Bank Holding Companies, 12 C.F.R. §§ 217 & 252 (2015), available at https://www.gpo.gov/fdsys/pkg/FR-2015-11-30/pdf/2015-29740.pdf.

[25] Federal Financial Analytics, *Where the Money goes and Why it Matters: The Market and Policy Impact of Reduced Custody-Bank Deposit Capacity* (August 4, 2015), available at http://www.fedfin.com/images/stories/client_reports/FedFin%20Study%20-%20The%20Market%20and%20Policy%20Impact%20of%20Reduced%20Custody-Bank%20Deposit%20Capacity.pdf.

[26] FRB Regulatory Capital Rules: Implementation of Risk-Based Capital Surcharges for Global Systemically Important Bank Holding Companies, 12 C.F.R. §§ 208 & 217 (2015), available at https://www.gpo.gov/fdsys/pkg/FR-2015-08-14/pdf/2015-18702.pdf.

them. The solution to this may be simply for the largest banks to shrink as some wish, but disruptions in the near term and questions in the long term (see below) about the extent to which non-banks may be able or wish to replace large banks will at the least prolong income inequality.

- The LCR and pending NSFR differentiate deposits into preferred categories, penalizing "non-operational deposits" and thus creating a direct constraint on the ability of banks to serve as stores of value for large and small businesses. Funded-loan commitments (i.e., credit advances backed by compensating balances) are often a first step to business investment, but these are also constrained by the new liquidity rules.
- The LCR and NSFR also penalize securitization as a source of funding for new credit creation, forestalling loan origination by banks for the secondary market in areas such as residential mortgages and mid-market loans.
- Ultra-low interest rates constrain the ability of banks to hold higher-return assets that could offset some of the profit constraints resulting from larger HQLA and similar holdings, in part because holding large volumes of higher-return assets poses significant credit and interest-rate risk and reliance on investment fund vehicles also may lead to liquidity risk. Investment funds are less concerned about these risks because investors – not the asset managers that organize them – bear these risks. Competition from these funds has significantly challenged bank deposit-taking for large-denomination funds critical to credit and capital formation. Assets under management (AUM) at investment funds have grown from approximately $10 trillion in 2008 to approximately $18 trillion at year-end 2015.[27]

C. Additional Regulatory Constraints on Employment-Generating Activities

As discussed, bank deposit-taking capacity affects income inequality because, to the extent it is constrained:

- low- and moderate-income individuals have fewer safe stores of value in which to house the funds needed for financial security and wealth accumulation;
- businesses of all sizes are subject to still stronger incentives to house cash in assets that do not necessarily contribute to the generation of production; and
- banks are deprived of the fuel – deposits – needed to engage in financial intermediation through loans that support employment.

From a balance-sheet perspective, it is helpful to think of financial intermediation as the process of accepting liabilities and then using them to garner assets. Key to this analysis is not only the leverage-capital requirement discussed above, but also the new risk-based capital regulations imposed on all U.S. banks since the financial crisis and mandated in still more stringent form for the largest U.S. banking organizations. Due to these capital requirements, there is essentially a charge to banks for issuing credit or holding other assets that, despite the prudential benefits of capital, cut into profitability by reducing the spread between the cost of liabilities that may already be on the rise due to non-bank competition and the return banks are able to earn on assets after deducting for the cost of capital. Given this

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[27] Financial Stability Oversight Council (FSOC), *2016 Annual Report of the Financial Stability Oversight Council*, 83 (June 21, 2016), available at https://www.treasury.gov/initiatives/fsoc/studies-reports/Documents/FSOC%202016%20Annual%20Report.pdf.

inescapable balance-sheet formula, the possible impact of higher capital requirements is not only the intended public-policy one of better resilience, but also less lending or higher-priced credit.

In this section, we evaluate the income-inequality effect of this result, assessing also whether reductions in the cost of capital in concert with capital increases may to some degree offset these negative wealth-distribution effects. Considerable research has assessed aspects of this question, but many studies pre-date the crisis and are thus subject to reconsideration in its costly wake. A 2012 study from the central bank of Finland[28] provides a useful literature survey as well as a valuable initial contribution to the still-scant literature focused on the income-inequality effect of bank regulation in the wake of the crisis. Although this study is an international one focused on 91 countries, its conclusions for advanced economies such as the U.S. indicate that regulatory liberalization leads to less income inequality, with certain benefits (e.g., those from improved bank supervision) fading over time as the cost of higher capital requirements takes effect and widens income distribution. Fragmentation of financial services – i.e., disaggregation of the intermediation chain discussed in more detail below – is also found to adversely affect poverty because of credit scarcity and heightened profit maximization.

It is sometimes suggested that banks, especially large ones, can raise capital in far higher amounts than is even now required of them without an adverse impact on credit availability. However, post-crisis experience suggests that higher capital does indeed translate into less credit, at least from banks. Although some have suggested that since the crisis big banks have just gotten bigger, this is untrue when one looks at the assets most critical to economic activity and thus to wealth accumulation for lower-income households. These "risk assets" – as opposed to holdings of non-productive assets like Treasury securities – have fallen ten percentage points since the crisis.[29] A new study from the Federal Reserve also addresses the income-inequality impact of capital regulation by examining the link between higher capital requirements and unemployment.[30] Like all such papers, it represents only the authors' views, but it nonetheless raises questions the FRB is clearly considering following its 2015 conference.[31]

The paper finds that higher capital requirements have historically had at least a temporary impact on unemployment, especially for smaller businesses where ready substitutes for bank loans (e.g., access to the capital market through bond issuances) are not feasible. Although capital is only one factor affecting employment, the study seeks to control for this by focusing on manufacturing which is particularly dependent on credit because of the cost of the physical infrastructure required for expansion and thus for new hires. The paper concludes that, "These stricter capital standards [i.e., Basel III in the U.S.] are set with the hope of buttressing the banking sector to withstand any future crises, but likely with real costs to firms and households."[32]

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[28] Manthos Delis, Iftekhar Hasan & Pantelis Kazakis, *Bank Regulations and Income Inequality: Empirical Evidence* (April 20, 2012), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2100335.

[29] Greg Baer, Testimony before the U.S. Senate Committee on Banking, Housing, and Urban Affairs, Washington, DC: Bank Capital and Liquidity Regulation Part II: Industry Perspectives, 10 (June 23, 2016), available at http://www.banking.senate.gov/public/_cache/files/53257b19-de9a-4734-8fde-beead88a2de6/440F70F96DF111ADCEF153AFE8650672.062316-baer-testimony.pdf.

[30] Seung Jung Lee & Viktors Stebunovs, Bank Capital Pressures, Loan Substitutability, and Nonfinancial Employment, (April 2016), available at http://www.federalreserve.gov/econresdata/ifdp/2016/files/ifdp1161.pdf.

[31] FRB, Monetary Policy Implementation and Transmission in the Post-Crisis Period, Washington, DC (November 12-13, 2015), & Federal Reserve Bank of Boston (FRB Boston), 59th Conference of the Federal Reserve Bank of Boston: "Macroprudential Monetary Policy," Boston, MA (October 2, 2015).

[32] Seung Jung Lee & Viktors Stebunovs, *Bank Capital Pressures, op. cit*. at 3.

Could this be offset by reduced capital cost resulting from reassured investors in banks made safer by larger capital buffers? Market experience since the crisis does not bear this out because the cost of capital – i.e., common equity – has steadily risen since the crisis for virtually all U.S. banks, with large ones now generally market-capitalized at prices well below their book value.[33] This has significantly challenged the ability of banks to meet all their new capital requirements because, simply put, investors appear to prefer other investments and thus deny capital to banks or charge a price for it that banks are unwilling or unable to pay in terms of capital distributions (dividends or share repurchases) or expected long-term return premised on future profitability. As bank holding companies accumulate sufficient capital to satisfy ever-tougher FRB stress tests (the so-called CCAR requirements), it is possible that renewed capital distributions will offset these adverse effects on market capitalization, but this will be challenged by the lower return on investment almost sure to accompany increased amounts of common equity.

Recent BIS research[34] has countered that banks can amass capital without this challenge by retaining earnings instead of seeking new sources of capital from third-party investors. However, this may well create a vicious downward cycle in which banks become increasingly well capitalized at ever lower realized rates of return to investors who then accelerate their holdings in other equity instruments. Regulators may hope that investors recognize that their best interest is in long-term, stable returns buttressed by sound capital and prudent regulation, but investors have a pronounced and demonstrated habit of selecting instruments that have recently performed in ways that seem to beat the market rather than tried-and-true investments.

Without private investors, even the largest banks face a franchise-survival challenge that will pose macroeconomic and income-inequality risk absent the ability of non-banks to replace them across the array of products and services necessary to ensure robust financial intermediation across the business and financial cycle. A recent paper[35] has noted this same concern – i.e., the need for substitutes across an array of financial activities and operations – for effective monetary-policy transmission.

Based on these considerations, we identify the following developments with regard to the impact of new and pending capital regulations on income inequality:

- Leverage ratios, especially those demanded by the SLR, create a penalty capital requirement not only for low-risk, but even for riskless assets such as excess reserves held at central banks. Combined with the HQLA requirements that consume balance-sheet capacity, these requirements create incentives for banks to hold higher-risk assets. To some extent, this may create new credit opportunities for higher-risk individuals and businesses that – whatever their adverse prudential impact – advance income equality. Evidence of this to date is at best mixed, with the significant drop in mortgage credit available to borrowers with higher-risk profiles an important indication of potential credit scarcity in areas of critical importance to low- and

[33] David Reilly, *The Big-Bank Bloodbath: Losses Near Half a Trillion Dollars*, Wall Street Journal, July 6, 2016, at http://www.wsj.com/articles/the-big-bank-bloodbath-losses-near-half-a-trillion-dollars-1467835126.
[34] Leonardo Gambacorta and Hyun Song Shin, *Why bank capital matters for monetary policy* (April 2016), available at https://www.bis.org/publ/work558.pdf.
[35] Charles Goodhart, *Determining the Quantity of Bank Deposits* (2016), available at https://www.theclearinghouse.org/publications/2016/2016-q2-banking-perspective/determining-quantity-bank-deposits.

moderate-income individuals and families.[36] Indeed, recent data show that U.S. home ownership levels have dropped precipitously since the financial crisis, with younger and poorer people increasingly renting, not owning, because of challenges in amassing down payments or meeting stringent credit-risk criteria.[37] In its latest report, FSOC also notes a growing shift in the U.S. housing market from a home-ownership to a rental one.

- Even if there is remaining credit capacity, the higher cost of capital and lower investor returns are likely to combine to reprice credit, especially for small businesses and others for which regulatory-capital requirements are punitive in terms of actual risk and there are limited sustainable substitutes willing to offer credit at affordable rates. Recent surveys have found that small businesses overwhelmingly rely on banks for credit, with 80 percent of a sample turning to regulated financial institutions for loans and 20 percent using credit-card facilities to fund small-business activity (some small businesses turned to multiple sources of funding).[38]
- It remains very much unclear the extent to which new online-marketplace lenders, currently using regulatory exemptions to offer pricing well above that likely in competitive markets, creating income-equality concerns (see below), will be able to provide continuing and stable credit during economic downturns to higher-risk borrowers. A recent U.S. Treasury study examines this issue in more depth,[39] although it does not address regulatory-capital and related policy drivers.
- Due to the profitability pressures cited above, banks are redesigning their business activities.[40] Because of the financial-intermediation profit vise described above, many banks are focusing instead on fee-based businesses that do not require allocations of HQLAs or capital because they do not place risk on the balance sheet. An activity of particular interest to many large banks in the wake of the crisis is private wealth management, where banks advise individuals, households, sovereign wealth funds, and others on how best to acquire and preserve wealth. These services may at some point become more generally available to moderate-income individuals and households through so-called "robo-advisers" or other wealth-management providers, but even then their ability to reverse the income-inequality impact of current incentives is most uncertain.

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[36] Craig Torres and Heather Perlberg, *Don't Have Pristine Credit? You're Probably Not Getting a Mortgage These Days*, Bloomberg, June 14, 2016, at http://www.bloomberg.com/news/articles/2016-06-14/don-t-have-pristine-credit-you-re-probably-not-getting-a-mortgage-these-days.

[37] Laura Kusisto, *Homeownership rate continues to decline as credit issues, student loans and high prices lead more to rent*, Wall Street Journal, August 10, 2016, at http://www.wsj.com/articles/lopsided-housing-rebound-leaves-millions-of-people-out-in-the-cold-1470852996.

[38] Babson College, *THE STATE OF SMALL BUSINESS IN AMERICA 2016* (June 7, 2016), available at http://www.babson.edu/executive-education/custom-programs/entrepreneurship/10k-small-business/Documents/goldman-10ksb-report-2016.pdf.

[39] Department of Treasury, *Opportunities and Challenges in Online Marketplace Lending* (May 10, 2016), available at https://www.treasury.gov/connect/blog/Documents/Opportunities_and_Challenges_in_Online_Marketplace_Lending_white_paper.pdf.

[40] McKinsey & Company, *Global Payments 2015: A Healthy Industry Confronts Disruption*, 10 (October, 2015), available at http://www.mckinsey.com/~/media/McKinsey/dotcom/client_service/Financial%20Services/Latest%20thinking/Payments/Global_payments_2015_A_healthy_industry_confronts_disruption.ashx.

Looking ahead, a set of proposals from the Basel Committee to standardize risk-based capital weightings[41] also poses an array of challenges. Fundamental to these is the fact that this standardized approach establishes one model as the arbiter of U.S. credit allocation even though it is selected by global regulators as a compromise to an array of political and local-market considerations. Unique characteristics such as the ability of small U.S. banks to deliver credit to small businesses and local under-served communities could be washed away if the U.S. adopts this approach with adverse wealth-accumulation effect. For example, the proposed 75 percent floor for retail weightings is well above that for low-risk exposures to consumers now required by the internal-models based approaches, as recently determined in an industry comment letter that looked at international practices. Thus, it likely does not reflect the add-on benefits of the unique ability of U.S. small and regional banks to prudently assess the specific characteristics of borrowers in this sector.[42] U.S. credit-card exposures are also likely to be less risky than anticipated by the standardized proposal given all the U.S.-specific restrictions on credit-card lending unrecognized by the Basel proposal, which treats credit-card loans the same as large corporate loans despite the sharply-different nature of each of these credit risks. The standardized weightings proposed for off-balance sheet assets are also so large that a U.S. banking association has estimated they would reduce total lending by fifteen percent.[43] Even more surprisingly, the new approach does not reduce standardized weightings for collateral such as a small business' durable goods, thus likely sharply hiking the cost of bank credit in this critical sector.

III. Income-Inequality Impact of Non-Bank Substitution

It might be argued that both the deposit-taking and lending constraints on banks described above will make the financial system safer without an adverse impact on or perhaps even to the good of income equality. Non-bank providers of deposit-like products such as prepaid cards and cash-equivalent MMFs could well be deposit substitutes without the risk to taxpayers occasioned by federal deposit insurance, access to the Federal Reserve's liquidity facilities, and any other backstops that some believe make the largest banks too big to fail (TBTF). Similarly, alternative asset vehicles such as online-marketplace lenders, bond funds comprised of corporate debt, loans offered by non-bank finance companies, and securitization of loans through non-bank and public entities including government-sponsored enterprises (GSEs) such as Fannie Mae and Freddie Mac are already formidable providers of credit across the U.S. economy. FRB Vice Chairman Fischer recently estimated them as providing one-third of

[41] BCBS, *Second Consultative Document: Revisions to the Standardised Approach for credit risk* (December, 2015), http://www.bis.org/bcbs/publ/d347.pdf; and BCBS, *Consultative Document: Standardised Measurement Approach for operational risk* (March, 2016), available at http://www.bis.org/bcbs/publ/d355.pdf.

[42] Letter from the Institute of International Finance, the Global Financial Markets Association, the International Swaps and Derivatives Association, and the International Association of Credit Portfolio Managers, to Frank Pierschel and Ong Chong Tee, Co-Chairs, BCBS Task Force on the Standardized Approach, (March 11, 2016), available at http://gfma.org/correspondence/item.aspx?id=801.

[43] Letter from Brett Waxman, Managing Director & Associate General Counsel, The Clearing House Association, Carter McDowell, Managing Director and Associate General Counsel, Securities Industry & Financial Markets Association, & Rich Foster, Senior Vice President & Senior Counsel for Regulatory and Legal Affairs, the Financial Services Roundtable, to the Secretariat, Basel Committee on Banking Supervision, (March 11, 2016), available at https://www.theclearinghouse.org/issues/articles/2016/03/20160316-tch-comments-to-basel-committee-on-standardized-approach-to-credit-risk.

U.S. credit.[44] Arguably, these non-bank providers and structures could substitute for bank-originated lending to individuals, households, small businesses, and large companies.

To assess whether the migration of deposit-taking and lending to non-banks poses risks to income inequality, two key questions must be addressed:

- Will the transition of financial intermediation from banks to non-banks provide substitute services at risk to financial stability, laying the groundwork for a future financial crisis that reverses any equality improvements obtained in the interim?
- Do non-bank financial-intermediation products and services pose inherent income-inequality risks all their own even if they are no threat to financial stability?

A. Income Inequality and Financial Stability

First, we address the financial-stability risk posed by the migration of services from banks to non-banks. To be sure, competition is beneficial to product innovation. Thus, the development of lower-cost retail-financial alternatives to bank products could offset the income-inequality impact of both accommodative monetary policy and the new bank-regulatory framework. Further, the ways in which non-banks offer products similar to those provided by banks do not always involve like-kind risks when the same service comes from a bank. Finally, non-bank products may also reach customers, including lower income customers, whom banks cannot or do not serve due to risk constraints, strategic objectives, and/or local economic conditions. Indeed, the market improvements resulting from non-bank entry could even reduce systemic risk, especially if non-bank providers do not possess the size, inter-connectedness, or other systemic criteria used to identify global systemically important banks (GSIBs).

However, the director of the U.S. Office of Financial Research (OFR) has concluded that functions such as credit allocation, leverage, maturity and liquidity transformation (those that essentially comprise the financial-intermediation chain), risk transfer (e.g., securitization), and payment services are key to financial stability.[45] To understand which institutions perform these high-risk functions, OFR believes it critical to look beyond banks, with its director noting that, “Although policy changes since the crisis have made the banking system stronger, vulnerabilities remain outside the banking perimeter.”[46]

Risk considerations related to product migration include:

- The U.S. has bet twice and each time disastrously on the systemic risk associated with non-banks performing essential financial-intermediation functions to a significant extent. In both cases – the S&L crisis of the 1980s and the latest crash – dangerous build-ups of mortgage risk

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[44] FRB Vice Chairman Stanley Fischer, *Speech at the 59th Economic Conference of the Federal Reserve Bank of Boston: “Macroprudential Monetary Policy,” Boston, MA: Macroprudential Policy in the U.S. Economy,* (October 2, 2015), available at http://www.federalreserve.gov/newsevents/speech/fischer20151002a.htm.
[45] OFR Director Richard Berner, *Speech at the Journal of Financial Services Research Conference: "The Interplay Between Financial Regulations, Resilience, and Growth," Philadelphia, PA*, (June 16, 2016), available at https://financialresearch.gov/public-appearances/2016/06/16/conference-on-the-interplay-between-financial-regulations-resilliance-and-growth/.
[46] *Id.*

were allowed to continue because it was asserted that the "American dream" of home ownership required credit origination by non-bank mortgage brokers, securitization in high-risk structures, large portfolios of subprime securitizations at the GSEs, and gigantic holdings of mortgage obligations and credit enhancements at large broker-dealers, insurance companies, and others outside the ambit of regulatory-capital and related constraints. Banks, to be sure, played their role in each of these crises, but they are now under many new regulations that should significantly reduce the odds of a repeat performance. These prudential rules generally do not apply to other financial institutions or investors with large mortgage-related holdings who are often at increased risk relative to banks due to yield-chasing, illiquidity, leverage, and other factors. To the extent banks pull out of mortgages, origination will either drop dramatically (adversely affecting income equality as described above) or dangerous risk concentrations are likely to migrate outside regulated institutions.

- Non-bank migration in mortgage finance also poses direct taxpayer risk because of the "effective guarantee" now backing the GSEs and the direct one behind the mortgages guaranteed by the Federal Housing Administration (FHA) and Veterans Administration (VA) and securitized by Ginnie Mae (all of which together total $5.93 trillion as of July, 2016).[47] Other sectors critical to income equality – including student lending, small-business finance, and agriculture – also rely on federal and sometimes state guarantees. Most of these government credit-enhancement facilities do not limit eligibility to bank-originated credit, creating pipelines that increase credit availability for social-welfare purposes at potentially higher risk when originators issue riskier credit due to regulatory-arbitrage incentives or cannot honor "put-back" risk designed to protect the taxpayer.

The Federal Reserve's critical safeguard of financial-market liquidity – the discount window – is open only to regulated banks. Recognizing the shift of key activities to non-banks, some have proposed that the Federal Reserve assume a "market-maker-of-last-resort" function that backstops liquidity or even solvency risk as asset managers and broker-dealers unaffiliated with banks take on greater market-making and similar financial-market roles.[48] However, establishing such a backstop for firms outside the prudential-regulatory sphere could accelerate migration because unregulated providers will offer better prices than possible by regulated ones due to the cost of bank regulation and counterparties will assume that their service provider has a federal safety net – in essence, a re-run of pre-crisis TBTF moral hazard.

Reflecting the potential for such risk migration, post-crisis reforms now promise a "macroprudential" regulatory framework that will curtail systemic threats wherever they arise across the U.S. financial system. However, as detailed in our prior study of macroprudential regulation,[49] many observers – including the Federal Reserve, the OFR, and the BIS – have grave doubts that macroprudential regulation will counter boom-bust cycles and otherwise ensure financial stability.

This is in large part because many non-banks offering like-kind deposit and credit products are exempt from prudential rules akin to those governing banks and, where rules do pertain, regulatory authority is

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[47] Urban Institute, *Housing Finance at a Glance: A Monthly Chartbook, August 2016*, 7 (August 24, 2016), available at http://www.urban.org/research/publication/housing-finance-glance-monthly-chartbook-august-2016/view/full_report.

[48] Federal Reserve Bank of New York President and CEO William Dudley, *Remarks at the New York Bankers Association 2013 Annual Meeting and Economic Forum: Fixing wholesale funding to build a more stable financial system* (February 1, 2013), available at http://www.bis.org/review/r130204a.pdf.

[49] Federal Financial Analytics, *Square Pegs and Round Holes, op. cit*. at 23-31.

often split among federal and/or state agencies in ways that delay and even prevent imposition of macroprudential regulation. Not everything done in a non-bank is banking, but where on- or off-balance sheet risks are taken, then the lack of like-kind rules creates market distortions that can quickly prove systemic if these like-kind risks are of a magnitude to threaten financial stability.

Financial crises of course have many adverse effects. Their relevance to a discussion of income inequality is that the inability of financial institutions soundly to intermediate liabilities into assets short-circuits the transformation of wealth into jobs. Non-banks can substitute for banks and generate productive asset growth and resulting employment improvement, but at the risk of sharp declines if the market becomes dependent on non-bank credit and non-bank providers cannot sustain credit under conditions of macroeconomic stress. The Federal Reserve's stress tests for large bank holding companies are structured to create capital capacity for lending even under acute stress.[50] Further, financial crises have "fat tails" when it comes to suppressing economic growth for extended periods of time.[51] We have surely seen this in the wake of the 2008 crisis, and the difficulties confronted even by unprecedented accommodative monetary policy attempting to offset these long-term, growth-suppressing effects would be repeated with even greater destructive force in a non-bank generated crisis because of the obstacles to effective monetary transmission through non-banks. This issue is also discussed at greater length in our prior study.[52]

B. Direct Income-Inequality Implications of Product Migration

Because the discussion above focuses on financial stability, attention is paid principally to the capital and liquidity rules that are generally the most important drivers of financial-institution return on equity and thus of their ability to operate as going concerns. To the extent these rules force banks out of certain activities that customers demand, migration to non-bank providers is not only likely, but also already demonstrated in many financial activities of particular importance to U.S. low- and moderate-income individuals and households. However, there are other factors that differentiate regulated banks from direct competitors offering products and services that are particularly critical to low- and moderate-income American households. Some of these factors derive from the culture of non-banking organizations – for example, technology firms are generally better innovation "incubators" than banks, with banks further handicapped as innovators by risk-management and governance rules such as those imposed by the Office of the Comptroller of the Currency governing new-product offerings.[53] It is also possible that certain technologies – e.g., digital ledgers – will prove wholly satisfactory substitutes to bank deposit and payment services and thus be suitable even for lower-income retail customers with the higher-risk profile offset now for banks by complex operational-risk and system-resilience requirements.

However, asymmetries in the consumer-protection and credit-distribution rules applicable to U.S. banks pose significant income-equality challenges as products migrate. These include:

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[50] FRB Amendments to the Capital Plan and Stress Test Rules, 12 C.F.R. §§ 225 & 252 (2015), available at https://www.gpo.gov/fdsys/pkg/FR-2015-12-02/pdf/2015-30471.pdf.
[51] Carmen M. Reinhart, and Kenneth S. Rogoff, *This Time Is Different: Eight Centuries of Financial Folly* (October 1, 2009).
[52] Federal Financial Analytics, *Square Pegs and Round Holes, op. cit.* at 15-20.
[53] OCC Guidelines Establishing Heightened Standards for Certain Large Insured National Banks, Insured Federal Savings Associations, and Insured Federal Branches; Integration of Regulations, 12 C.F.R. pts. 30 & 170 (2014).

- Red-Lining: “Red-lining” is the practice of identifying certain areas or, less literally, demographics that are then denied financial services or charged higher prices for them. An array of law and rule now bars active discrimination across the full spectrum of financial-services providers, but specific standards applicable only to banks have shown significant impact on the volume of offerings of credit in under-served communities. Important here is the decades-old Community Reinvestment Act (CRA) which limits the ability of banks to expand if they cannot demonstrate a robust record of lending and investment in low- and moderate-income communities. No comparable requirement applies to non-banks.
- Borrower Protection: The recent study of online-marketplace lending by the U.S. Treasury Department[54] highlights growing concern about the higher interest rates and other costly terms associated with some online mortgage, small-business, and consumer-finance offerings. A proposed new regulatory regime for “payday” lenders by the Consumer Financial Protection Bureau (CFPB)[55] which also covers deposit-advance products could ironically have similar adverse effects on credit cost, with the Bureau noting in its proposal that it actually prefers use of pawnshops to payday lenders. There is considerable differentiation between the problematic payday practices cited by the CFPB, let alone those in the deposit-advance products authorized by federal bank and credit-union regulators, but the Bureau’s regime would nonetheless have the effect of constraining their ability to serve low- and moderate-income borrowers seeking short-term credit.
- Activities-separation: The U.S. has historically separated banking from commerce to limit the conflicts of interest that arise when a single entity both offers goods for sale and finances them. Barriers to integrated operations do not pertain outside regulated banks, creating additional product-purchasing power, but also conflicts in cases where financing costs mask the price of goods and induce purchasers to use credit when funds are not available or to purchase high-priced goods that could be less expensively obtained with third-party financing. Recent advances in technology also may create new conflicts when communications providers and/or technology companies integrate lending into financing in ways that limit product selection to choices that favor the credit provider or come from selected vendors that compensate the service provider. The growing dependence on data about retail purchases and product selection may also create conflicts of interest when the entity holding the data simultaneously offers both products for sale and financial services. Any of these conflicts would adversely affect the cost of goods and/or financing available to low- and moderate-income individuals and thus harm wealth accumulation. This is a particular concern to the Basel Committee in its effort to expand financial inclusion.[56] It recommends ring-fencing commercial from financial services, but this is generally not possible in the U.S.
- Mobile banking: Transfer of traditional deposit and payment services to mobile devices may also create significant risk of temporary or permanent funds loss, a particularly severe challenge for

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[54] Department of Treasury, *Opportunities and Challenges in Online Marketplace Lending, op. cit.*

[55] Bureau of Consumer Financial Protection (CFPB), Payday, Vehicle Title, and Certain High-Cost Installment Loans, 12 C.F.R. §§ 1041 (2016), available at http://www.consumerfinance.gov/documents/429/Rulemaking_Payday_Vehicle_Title_Certain_High-Cost_Installment_Loans.pdf.

[56] BCBS, *Consultative Document: Guidance on the application of the Core principles for effective banking supervision to the regulation and supervision of institutions relevant to financial inclusion, op. cit*.

low- and moderate-income individuals. As a recent CFPB study has noted,[57] the lack of operational infrastructure in sometimes experimental mobile-banking products can lead to transaction interruption (a particularly acute challenge for rent and similar obligations) or even fund loss. The growing challenge of cyber-security only exacerbates these risks without the clear (and costly to banks) consumer protection afforded when funds are lost or stolen through credit or debit cards. Although the mobility benefits of innovative financial services may well address income inequality over time, their real benefit can only be considered in light also of possible risks, especially to unsophisticated users who do not have the cushion of additional funds to tide them over and meet pressing obligations.

- Prepaid cards: A similar challenge arises here. Increasingly used by low- and moderate-income individuals to house government benefits and compensation payments in lieu of traditional bank transaction accounts, prepaid cards offer convenience and mobility benefits, often at lower cost than might be possible with a traditional bank account. However, risk of loss is also a growing problem with prepaid cards.[58] Adding to these consumer-protection concerns, the CFPB has proposed new standards in this area[59] but it has very uncertain authority to do so for card providers outside the scope of bank rules on matters such as operational-risk reduction and systems resilience.

IV. Conclusion

Regulators, including the FRB, often challenge the putative benefits of cost-benefit analysis, noting that some benefits – e.g., the reduced risk of financial crises – can be hard to quantify even when it is possible clearly to quantify regulatory costs. In this paper, we have tried to describe a critical policy cost – increased income inequality – that is at least as hard to calculate on a forward-looking basis as financial stability. Even if actions within the scope of the FRB's authority pale in contrast to other causes of income inequality – an uncertain premise – the costs of income inequality to public happiness, economic well-being, and political consensus are all too clear.

The FRB may thus wish quickly to consider the extent to which it can intervene quickly to rebalance policies with the most acute and immediate impact on wealth distribution. Without monetary and regulatory policy that counters inequality, desired improvements in financial stability may well prove short-lived and erode the U.S. commonweal and the political stability dependent upon it.

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[57] CFPB, *Mobile financial services* (November, 2015), available at http://files.consumerfinance.gov/f/201511_cfpb_mobile-financial-services.pdf.

[58] Stacy Cowley, *Senators Press For Answers After Prepaid Debit Cards Fail*, New York Times, June 28, 2016, at http://www.nytimes.com/2016/06/29/business/dealbook/senators-press-for-answers-after-prepaid-debit-cards-fail.html.

[59] CFPB, Prepaid Accounts Under the Electronic Fund Transfer Act (Regulation E) and the Truth in Lending Act (Regulation Z), 79 Fed. Reg. 77,102 (proposed December 23, 2014) (to be codified at 12 C.F.R. pts. 1005 & 1026).