Digital financial services to improve formalized access and inclusion

Last updated: juin 2025

Digital financial services have dramatically improved access to formal accounts, especially for low-income households and rural populations. Increased access to digital services has reduced remittance transaction costs, which has helped households share financial burdens and improve resilience.

Shutterstock.com

Résumé

From 2011 to 2021, the fraction of adults without a formal financial account fell from 48 percent to 24 percent.[1] The expansion of digital financial services has played an important role in this transformation by reducing transaction costs and making formal accounts accessible via mobile phones. Digital financial accounts enable users to store, send, and receive money, potentially removing barriers to savings and remittances. Financial institutions and fintech companies are further leveraging digital platforms to expand access to other financial products, such as credit and investments. Moreover, governments and firms have increasingly used digital systems to deliver social programs and wages directly to beneficiaries and workers. As digital financial services continue to evolve, there is a growing need to understand their broader impacts on financial inclusion and economic well-being, particularly for underserved communities.

A review of twenty-eight randomized evaluations highlights the varied ways that digital financial services impact previously underbanked communities. By reducing transaction costs, mobile money has strengthened financial resilience—making it easier for households to receive remittances during shocks and maintain stable consumption. This lower cost of sending money has also encouraged migration by making it easier for workers to support their families back home. Integrating mobile payments with traditional systems helped individuals save more and manage their finances more effectively. Additionally, digitizing government-

to-person payments minimized the risk of fund misuse, ensuring that assistance reached the intended recipients. Mobile banking has given people alternative ways to accrue savings and pathways to access credit. Table 1 highlights some of the benefits across different types of digital financial services, ranging from increased profits and savings from mobile banking to improved food security and reduced leakages from digitized payments. To fully realize these benefits, it is essential to prioritize consumer protection, ensuring that users are safeguarded against fraud and exploitation in digital financial environments.[2]

Table 1. Observed Benefits of Digital Financial Services by Intervention Type

Intervention	Impact
Access to mobile money and mobile banking	• Increased profit [8] • Increased ability to cope with shock [8,][22,][26,][32] • Increased consumption [9,][26,][29,][30] • Financial security [8] • Increased savings [6,][26] • Increased subjective well-being [6,][8] • Migration [9,][26] • Labor reallocation [1,][9,][31]

Intervention	Impact
Digitized payments	Social protection • Increased financial well-being [23] • Increased food security, resilience [3,][13,][23] • Reduction in leakages [13] • Increased administrative efficiency, transaction costs [2,][3,][13] Financial services and wages • Increased profits [29] • Financial control [23] • Increased resilience [12] • Increased savings [12] • Promotes technological literacy [12]
Digital credit	• Subjective welfare [9] • Reduced sales volatility [14] • Increased resilience [31] • Perceived financial well-being [11]

Résultats

In contexts where mobile money can be rolled out effectively, its introduction enables users to send money, which significantly reduces remittance transaction costs and leads to increased migration, enhanced financial resilience, and poverty reduction [7], [22], [26], [31]. Quasi-experimental research in Kenya revealed that mobile money improved resilience to income shocks; while non-users responded by cutting consumption by 7 percent, users' consumption was unaffected. These benefits are attributed to lower transaction costs, which increases the likelihood of receiving money during a crisis—often in larger amounts and from a broader network of supporters [22], . Further, the accessibility of the mobile money system M-PESA lifted an estimated 194,000 households, equivalent to 2 percent of households in the country, out of poverty. Additionally, women were more likely to switch their main occupation from agriculture to business, and both consumed and saved more. Mobile money also helped people allocate resources more efficiently over time and influenced labor market outcomes like job choice [31].

In a randomized evaluation in Bangladesh, where both remittance senders and receivers received training and support for mobile money, families increased their use of mobile banking accounts, migrants sent 30 percent more in remittances, and households receiving remittances increased their consumption by 7.5 percent. Further, they borrowed less and saved more. These households also saw an increase in migration, and consumption increased during the lean season. However, urban migrants experienced trade-offs, including declines in physical and emotional health due to heightened pressure to work longer hours and increase remittances, which were enabled by the new technology [26], . In a randomized evaluation in Mozambique, money sent via mobile money made migration more attractive, as it increased out-migration by 14.5 percentage points, and households increased their expenditures by 35.2 percent in the first year and 24.3 percent in the second. Remittances increased the sharing of financial burdens and resilience, and households shifted from subsistence agriculture to more productive occupations by 3.9 percentage points in the first year and 4.4 percentage points in the second. This highlights the potential for mobile money to drive significant economic shifts [7]. Investing in mobile money infrastructure therefore presents a promising policy option for policymakers seeking to foster poverty reduction, resilience against shocks, and financial inclusion in underserved regions.

Local constraints may limit the effectiveness of mobile money [10], [33]. In Afghanistan, violence and conflict deterred individuals from using mobile money as a tool for financial inclusion, emphasizing the need to address security issues to unlock the potential of such services [10], . Similarly, in remote areas of Northern Uganda, the rollout of mobile money agents did not lead to the expected increase in usage, likely due to low baseline rates of mobile phone ownership, mobile money transactions, and remittance receipts. There is some evidence that rolling out mobile money reduced transportation costs for remittance recipients and increased food security [33].

Mobile banking has given people alternative ways to accrue savings. Studies consistently find that integrating mobile money accounts with traditional banking systems increased savings deposits. These increased savings, when paired with additional support measures, have been linked to improved labor, business, and educational outcomes for families [1], [8], [21], [30], . In Malawi, urban microentrepreneurs received access to mobile money provider savings accounts, support in opening accounts, training on basic transactions, and a waiver on withdrawal fees. These microentrepreneurs were more likely to increase both the quantity and value of mobile money deposits (ranging from 55 to 80 percent and 67 to 83 percent, respectively). Notably, in this context, access to mobile money shifted some labor allocation toward farming away from their main business, potentially suggesting that farm labor had higher expected financial gains, while business earnings were used to meet more immediate daily financial needs. However, because farming often involves delayed financial returns and more uncertainty, many people chose to continue focusing on their main microenterprise for steadier income [1]. In Mozambique, providing access to mobile savings

accounts and enhancing financial management skills helped women running microenterprises nearly double their profits over six years. This effect led to a narrowing of the gender profit gap within this context, where women-led businesses often earn less than half of male-led businesses [8].

In Kenya, parents of primary school leavers were offered access to a mobile-linked bank account in addition to information on the importance of continued education and savings. This combination increased student enrollment in high school by 6 percentage points and increased total savings by three to four times compared to providing information alone—highlighting unique ways to promote educational and financial well-being [21]. These studies demonstrate how integrating mobile banking with traditional systems increases savings deposits and generates broader positive effects—such as helping people better manage their livelihoods and reducing the gender gap in earnings—suggesting that the benefits extend beyond simply lowering transaction costs.

Digitizing government-to-person (G2P) payments through mobile money is a promising way to reduce misappropriation or diversion of payments, reduce administrative costs, and improve the speed and ease of delivery to recipients.[4] Mobile money platforms enhance transparency and accountability, reducing leakages by creating a traceable digital trail that minimizes opportunities for funds to be siphoned off or diverted illicitly [13], [23], . In Ghana, digital payments served as a transparent and rapidly scalable approach to social protection during the Covid-19 pandemic, helping low-income households overcome economic shocks. Households that received the payments spent more money on food, had higher incomes, and were more likely to adopt social distancing behaviors [23], . Similarly, in Niger, electronic delivery via mobile money improved the efficiency of cash transfer programs, reducing per-transfer costs by 20 percent compared to manual cash distribution. Using mobile money agents for "cash outs" instead of requiring participants to travel to a centralized single location reduced recipients' travel time by half, or from an average round-trip distance of four kilometers to two [3], . In Togo, digital cash transfer payments through mobile money platforms, coupled with targeting using machine learning and nontraditional data sources like satellite and mobile phone networks, allowed for more precise and streamlined delivery of relief to economically vulnerable populations during Covid-19. This helped ensure that aid reached those most in need while minimizing errors and administrative burdens [2].

Digital financial services are uniquely positioned to support women's financial inclusion and control over money, though gender gaps and barriers persist [8], [18], [20], [28], [29]. In Uganda, the transition from cash to digital disbursement for microfinance loans among female entrepreneurs increased their business profits and business capital by 15 percent and 11 percent, respectively, and increased total household income and consumption. This change helped women overcome family-sharing pressures and provided a secure way to manage loans through mobile money, leading to improved business outcomes and greater household welfare [29], . In Tanzania, women increased their use of digital financial services when their weekly loan repayments were switched from cash to mobile money. This shift not only enhanced their familiarity and comfort with mobile money but also empowered them by providing a private and secure platform to manage their funds, thereby enabling greater financial control and decision-making within their households [20], . The promotion of savings among vulnerable women in Kenya through mobile banking increased individual financial security but reduced the informal practice of sharing financial support within communities, potentially leaving vulnerable populations more exposed to shocks [18], . For policymakers, ensuring women have access to digital financial services through phone distribution and proper training is crucial for empowerment. They should prioritize interventions that address barriers and unintended consequences to fully support financial inclusion.[5]

Mobile instant credit can improve resilience, subjective well-being, and investments in education, though not in all cases. Additionally, it is important to acknowledge the potential risks to borrowers. While some studies suggested positive impacts—such as increased resilience—the absence of detected harmful effects does not imply that such risks do not exist, underscoring the need for additional research.[6], For example, a non-experimental study in Kenya found that borrowers offered

small short-term digital loans were 6.3 percentage points (from a base of 68 percent) less likely to forego any expenses in response to a negative shock, but found no impacts on other measures like assets, wealth, or consumption [32].

In Malawi, researchers identified high demand for small loans but also found that providers misled borrowers by advertising late repayment fees that were lower than what customers were charged. Providing borrowers with this incorrect information had no impact on repayment: 62 percent failed to repay their loans on time, including those who paid late, partially, or not at all. This raises questions about whether people are fully informed and if financial education can change demand or loan repayment behaviors, particularly in contexts where there is scope for misleading information. Notably, loans were primarily used for mobile airtime, food, and business or agriculture, helping individuals meet their immediate needs while also supporting their livelihoods [11], . Similarly, in Nigeria, auto-approval for digital credit increased formal credit use and improved subjective well-being, but it had neither positive nor negative impacts on measures of welfare, such as income and expenditures, resilience, or women's economic empowerment [9], . Innovations in credit contract design, such as digital collateral and pay-as-you-go financing, enable people to acquire assets with minimal down payments and involve making frequent small payments via mobile systems. These systems use lockout technology to deactivate asset services if payments are missed, thereby broadening access to credit while reducing the cost of providing it, though policymakers should consider the costs of lockout [19]. Understanding the implications of limited borrower awareness, high interest rates and fees, and high default rates requires further research. Policymakers and stakeholders should promote responsible lending practices to increase the benefits, mitigate risks, and protect borrowers in the long run.

The rapid expansion of digital financial services has given rise to a concerning prevalence of vendor overcharging and misconduct. Robust consumer protection measures are needed to uphold market integrity and trust [5], .[7] Mobile money agents play a pivotal role in facilitating the dissemination and adoption of new financial services. In Indonesia, some mobile agents received financial incentives for each customer they signed up to an interest-bearing savings account that supplements a digital wallet. When agents received these incentives privately, clients' uptake of the new financial services nearly tripled, leading to an 18 to 20 percent increase in total deposits and withdrawals, balances, and savings. When the incentives were public information, there was no impact on take-up, as clients questioned agents' motives and decreased their trust in the product, agent, and bank. This shows how important it is to consider transparency when promoting new technologies, especially in areas where people have limited information and trust [17], . In Ghana, low-cost anti-misconduct information programming targeted at consumers led to a 72 percent reduction in vendor fraud and an 86 percent reduction in severity. As consumers gained trust and vendors became more concerned about their reputations, more people began using financial services, boosting vendor revenues through increased transaction volumes. These findings show that curbing vendor misconduct can lead to more trust and transparency, increasing market activity and sales, which ultimately benefits both consumers and businesses by making the financial sector function more smoothly [4], [5].

Building on these findings, researchers have explored various approaches to reduce fraud, boost consumer confidence, and encourage the uptake of digital financial services. In Kenya, researchers studied the effectiveness of common fraud prevention tips shared by banks and telecommunications companies in an online evaluation. While there was no clear evidence that the tips enhanced the detection of scams, they did find an increase in correctly identified scams and a decrease in correctly identified genuine messages, indicating that the tips may have made users overly cautious. This highlights that such interventions may lead to unintended consequences like increased consumer mistrust of legitimate communications [25], . In Ghana, researchers explored how interactions between peers and collaborative learning can help women better understand fraud prevention, boost their confidence in securely managing financial accounts, and encourage the use of new financial services. They looked at how a one-time incentive and peer recommendations for a mobile money account linked to a formal bank account impacted usage. When microfinance group leaders encouraged their peers to adopt, usage tripled, leading to a 27 percentage point increase in

mobile banking use, compared to a 15 percentage point increase from the incentive alone. Peer recommendations also helped people save more, with an average increase of 50 percent (US$7) in savings after six months [27], . Among factory workers in Bangladesh, directly depositing wage payments into mobile money accounts facilitated consumer learning and decreased susceptibility to illicit fees. Recipient workers were more likely to make unassisted transactions outside the factory, increase transaction volumes, and decrease their reliance on costly intermediated send-money transactions [12]. Policymakers should implement robust consumer protection measures, including misconduct awareness campaigns and training programs, and transparent incentives for mobile agents. These efforts can curb vendor overcharging and misconduct, promote trust in digital financial services, and enhance market efficiency and consumer welfare.

The landscape of digital financial services is evolving rapidly, presenting additional questions that require further exploration. Research is needed to better understand the risks of overborrowing and ensure adequate consumer protection. In addition, examining women's uptake and use of digital financial services is crucial for advancing inclusivity and equity. It is also important to assess how different models of payment systems shape financial ecosystems at the country level. Key considerations include the choice between government and private infrastructure, access to identification, and the interoperability of systems. Finally, strengthening regulatory frameworks and ensuring technological compatibility are essential steps to unlock the full potential of digital finance.[8]

Sector chair(s) or Academic lead(s)

Emma Riley Emily Breza

Insight author(s)

Tyler Spencer

Abdul Latif Jameel Poverty Action Lab (J-PAL). 2024. "Digital financial services to improve formalized access and inclusion." J-PAL Policy Insights.

---

1. Demirgüç-Kunt, Asli, Leora Klapper, Dorothe Singer, and Saniya Ansar. 2022. "The Global Findex Database 2021: Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19." Washington, DC: World Bank. Research Paper

2. Garz, Seth, Xavier Giné, Dean Karlan, Rafe Mazer, Caitlin Sanford, and Jonathan Zinman, . 2021. "Consumer Protection for Financial Inclusion in Low- and Middle-Income Countries: Bridging Regulator and Academic Perspectives." *Annual Review of Financial Economics* 13: 219-246. Research Paper

3. See Russell Toth, Phillip Roessler, Hsin-Tien Tsai, Hussam Razi. 2022. "Inclusive Instant Payment Systems: An Evidence Based Approach from Design to Impact," Innovations for Poverty Action.

4. G2P payments are direct transfers of funds or benefits from a government entity to individuals or households, typically aimed at supporting social welfare programs or providing financial assistance.

5. Moore, Charity Troyer, Giorgia Barboni, Erica Field, Rohini Pande, Natalia Rigol, Simone Schaner, Erik Jorgensen, and Hemawathy Balarama. *What Works to Close Digital Gender Gaps? Assessing Two Policy Levers*. G²LM|LIC Policy Brief No. 68. Bonn, Germany: Institute of Labor Economics (IZA), February 2024. https://g2lm-lic.iza.org/publications/policy-briefs/what-works-to-close-digital-gender-gaps/.

6. Cassara, Dan, Arianna Zapanta, and Seth Garz. 2024. "Mobile Instant Credit: Impacts Challenges, and Lessons for Consumer Protection." Center for Effective Global Action, Innovations for Poverty Action. Research Paper

7. Annan, Francis, , William Blackmon, Xavier Giné, Brian Mwesigwa, Arianna Zapanta. 2023. “Transaction Cost Index: Year 1 Comparative Report.” Innovations for Poverty Action. Research Paper

8. See J-PAL’s Inclusive Financial Innovation Initiative, and Digital Identification and Finance Initiative.

---

1. Aggarwal, Shilpa, , Valentina Brailovskaya, and Jonathan Robinson, . 2020. "Cashing in (and Out): Experimental Evidence on the Effects of Mobile Money in Malawi." AEA Papers and Proceedings 110: 599-604. Research Paper, | J-PAL Evaluation Summary

2. Aiken, Emily, Suzanne Bellue, Dean Karlan, Chris Udry, , and Joshua E. Blumenstock, . 2022. "Machine Learning and Phone Data Can Improve Targeting of Humanitarian Aid." *Nature* 603, no. 7903: 864-870. Research Paper, | J-PAL Evaluation Summary

3. Aker, Jenny C, ., Rachid Boumnijel, Amanda McClelland, and Niall Tierney. 2016. "Payment mechanisms and antipoverty programs: Evidence from a mobile money cash transfer experiment in Niger." *Economic Development and Cultural Change* 65, no. 1: 1-37. Research Paper, | J-PAL Evaluation Summary

4. Annan, Francis, . "Gender and Financial Misconduct: A Field Experiment on Mobile Money." SSRN Working Paper #3534762, January 2022. Research Paper

5. Annan, Francis, . "Misconduct and Reputation under Imperfect Information." SSRN Working Paper 3691376, January 2021. Research Paper, | J-PAL Evaluation Summary

6. Bastian, Gautam, Iacopo Bianchi, Markus Goldstein, and Joao Montalvao. "Short-term Impacts of Improved Access to Mobile Savings, with and without Business Training: Experimental Evidence from Tanzania." CGD Working Paper #478, March 2018. Research Paper

7. Batista, Catia, , and Pedro C. Vicente, . 2023. "Is Mobile Money Changing Rural Africa? Evidence from a Field Experiment." Review of Economics and Statistics: 1-29. doi: https://doi.org/10.1162/rest_a_01333. Research Paper

8. Batista, Catia, , Sandra Sequeira, and Pedro C. Vicente, . 2022. "Closing the Gender Profit Gap?, ." *Management Science* 68, no. 12: 8553-8567. Research Paper

9. Björkegren, Daniel, , Joshua Blumenstock, , Omowunmi Folajimi-Senjobi, Jacqueline Mauro, and Suraj R. Nair. "Instant loans can lift subjective well-being: A randomized evaluation of digital credit in Nigeria." SSRN Working Paper #4385266, February 2023. Research Paper, | J-PAL Evaluation Summary

10. Blumenstock, Joshua, , Michael Callen, , Tarek Ghani, and Robert Gonzalez. 2024. "Violence and Financial Decisions: Evidence from Mobile Money in Afghanistan." *Review of Economics and Statistics* 106, no. 2: 352-369. Research Paper

11. Brailovskaya, Valentina, Pascaline Dupas, , and Jonathan Robinson, . “Is Digital Credit Filling a Hole or Digging a Hole? Evidence from Malawi.” NBER Working Paper w29573, December 2021. Research Paper

12. Breza, Emily, , Martin Kanz, and Leora F. Klapper. “Learning to Navigate a New Financial Technology: Evidence from Payroll Accounts.” NBER Working Paper w28249, December 2020. Research Paper, | J-PAL Evaluation Summary

13. Callen, Michael, , Miguel Fajardo-Steinhäuser, Michael G. Findley, and Tarek Ghani. "Can Digital Aid Deliver During Humanitarian Crises?" arXiv Working Paper, December 2023. Doi: https://doi.org/10.48550/arXiv.2312.13432. Research Paper

14. Dalton, Patricio S., Haki Pamuk, Ravindra Ramrattan, Burak Uras, and Daan van Soest. 2023. “E-payment Technology and Business Finance: A Randomized Controlled Trial with Mobile Money." *Management Science*. 70, no. 4: 2590–2625. https://doi.org/10.1287/mnsc.2023.4821, . Research Paper

15. De Mel, Suresh, Craig McIntosh, , Ketki Sheth, and Christopher Woodruff, . 2022. "Can Mobile-Linked Bank Accounts Bolster Savings? Evidence from a Randomized Controlled Trial in Sri Lanka." *Review of Economics and Statistics* 104, no. 2: 306-320. Research Paper, | J-PAL Evaluation Summary

16. Demirgüç-Kunt, Asli, Leora Klapper, Dorothe Singer, and Saniya Ansar. 2022. “The Global Findex Database 2021: Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19.” Washington, DC: World Bank. Research Paper

17. Deserranno, Erika, , Gianmarco León-Ciliotta, , and Firman Witoelar, . 2023. "When Transparency Fails: Financial Incentives for Local Banking Agents in Indonesia." *Review of Economics and Statistics*: 1-45. Research Paper, | J-PAL Evaluation Summary

18. Dizon, Felipe, Erick Gong, and Kelly Jones. 2020. "The Effect of Promoting Savings on Informal Risk Sharing: Experimental Evidence from Vulnerable Women in Kenya." Journal of Human Resources 55, no. 3: 963-998. Research Paper

19. Gertler, Paul, , Brett Green, and Catherine Wolfram. "Digital Collateral." NBER Working Paper w28724, 2022. Research Paper

20. Heath, Rachel, , and Emma Riley. "Digital Financial Services and Women's Empowerment: Experimental Evidence from Tanzania." Working Paper, April 2024.

21. Habyarimana, James, , and William Jack, . 2024. "High Hopes: Experimental Evidence on Financial Inclusion and the Transition to High School in Kenya." *Economic Development and Cultural Change* 72, no. 3: 1189–1212. Research Paper, | J-PAL Evaluation Summary

22. Jack, William, , and Tavneet Suri, . 2014. "Risk Sharing and Transactions Costs: Evidence from Kenya's Mobile Money Revolution." *American Economic Review* 104, no. 1: 183-223. Research Paper

23. Karlan, Dean, Matt Lowe, , Robert Darko Osei, , Isaac Osei-Akoto, Benjamin N. Roth, , and Christopher R. Udry, . "Social Protection and Social Distancing during the Pandemic: Mobile Money Transfers in Ghana." NBER Working Paper w30309, July 2022. Research Paper, | J-PAL Evaluation Summary

24. Karra, Mahesh, Mindy Hernandez, Catherine Brennan, and Margaret McConnell, . "Supply-Side Innovations to Increase Equitable Access to Digital Financial Services: Experimental Evidence from Mozambique." Boston University, April 2022. Research Paper

25. Kubilay, Elif, Eva Raiber, Lisa Spantig, Jana Cahlíková, and Lucy Kaaria. 2023. "Can You Spot a Scam? Measuring and Improving Scam Identification Ability." *Journal of Development Economics* 165: 103147. Research Paper

26. Lee, Jean N., Jonathan Morduch, Saravana Ravindran, Abu Shonchoy, , and Hassan Zaman. 2021. "Poverty and Migration in the Digital Age: Experimental Evidence on Mobile Banking in Bangladesh." *American Economic Journal: Applied Economics* 13, no. 1: 38-71. Research Paper

27. Riley, Emma, , Abu Shonchoy, , Robert Darko Osei, . "Incentives and Endorsement for Technology Adoption Evidence from Mobile Banking in Ghana." Center for Effective Global Action (CEGA) WPS Working Paper 240, 2024. Research Paper

28. Riley, Emma, , and Abu Shonchoy, . Forthcoming. "Encouraging Digital Financial Technology Adoption during a Crisis: Experimental Evidence from Ghana." *Economic Development and Cultural Change,* Research Paper, | J-PAL Evaluation Summary

29. Riley, Emma, . 2024. "Resisting Social Pressure in the Household Using Mobile Money: Experimental Evidence on Microenterprise Investment in Uganda. *American Economic Review*, 114, no.5: 1415-1447. Research Paper

30. Roessler, Philip, Peter Carroll, Flora Myamba, Cornel Jahari, Blandina Kilama, and Daniel Nielson. "The Economic Impact of Mobile Phone Ownership: Results from a Randomized Controlled Trial in Tanzania." Center for the Study of African Economists (CSAE) Working Paper, April 2021. Research Paper

31. Suri, Tavneet, , and William Jack, . 2016. "The long-run poverty and gender impacts of mobile money." Science 354, no. 6317: 1288-1292. Research Paper

32. Suri, Tavneet, , Prashant Bharadwaj, and William Jack, . 2021. "Fintech and household resilience to shocks: Evidence from digital loans in Kenya." *Journal of Development Economics*, 153. Research Paper

33. Wieser, Christina, Miriam Bruhn, Johannes Philipp Kinzinger, Christian Simon Ruckteschler, and Soren Heitmann. "The Impact of Mobile Money on Poor Rural Households: Experimental Evidence from Uganda." World Bank Policy Research Working Paper 8913, June 2019. , Research Paper