## SUPPLY-SIDE CONSIDERATIONS

ICRW's systematic review of the gender and financial inclusion and digital financial inclusion literature reveals that relatively few studies explore the supply-side aspects of access to and use of financial products and services, and even fewer do so with a gender lens. While some of the supply-side studies use administrative data or institution-based surveys, what remains common to all analyses is a reliance on household surveys, such as the Findex, which provide a limited picture of the supply side. Several experimental household studies have generated insights into the types of savings products that can incentivize their uptake and use among men and women and have provided evidence on clients' price sensitivity to transaction costs and risk behavior (Dupas and Robinson, 2013; Dupas et al., 2012).

## Supply-Side Barriers to Women's Financial Inclusion

"On the supply side, an important barrier is inappropriate sets of product offerings. Many providers just put pink in the marketing campaign to 'incorporate gender' into their products. Product design that takes into account the specific needs and preferences of women can address specific gender barriers to economic empowerment."

(K. Holloway, key informant interview with ICRW, February 8, 2017)

Another area that shapes the supply side is the role of laws and policy as they relate to digital financial inclusion. While this topic is more extensively discussed within the context of financial inclusion (World Bank, 2015; Demirgüç-Kunt et al., 2013), the ways in which laws that pertain to account registration, property ownership, or accessing identity documents affect mobile access—and as a result, digital financial inclusion—is under-explored in the literature. Similarly under-studied are the potential impacts of competition policy on mobile providers or policy about data protection and privacy on women's digital financial inclusion. Where we find most of the research about laws and policy as they relate to digital financial inclusion is in the social transfers literature. Policies that ensure that social transfers are made digitally and that they include or are targeted at women have the potential to increase digital financial inclusion. The creation of a payments ecosystem and opportunities to cash out, however, are critical to ensuring that access transforms into use. In their study of the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), a major public workfare program in India, Field et al. (2016) observe that other parallel investments may be needed to support women's bargaining and capabilities to use and control the transfers and wages they earn through MGNREGS even when they are deposited in a personal bank account.

Asymmetric information is at the core of the analysis of supply-side decisions regarding credit. A large body of literature, including seminal work by Stiglitz and Weiss (1981), studies the impact of imperfect information in credit markets and the lenders' inability to assess borrower riskiness and to observe how credit is used. This literature finds that these informational asymmetries affect the pricing (interest rates) and the quantity of loans supplied, resulting in credit rationing. These studies also frame the role of collateral as a mechanism for mediating the risk of lending.

Historically, women's lack of documented and secure ownership of assets which they can use as collateral has been one of the more emphasized constraints to their financial inclusion (Fletschner and Kenney, 2011; Deere et al., 2013). While a majority of these studies focus on rural areas and land as the main form of collateral, evidence elsewhere clearly points to collateral as a universal constraint for women. Klapper and Dutt (2015) highlight some of the emerging arguments on how digital platforms can offer alternative forms of collateral for women who do not have access to traditional collateral assets. These include opportunities for women to build their credit history through digital transactions, such as utility payments, in order to seek credit from formal financial institutions. While the emerging models of digital platformbased solutions to supply-side asymmetric information are promising, the evidence on whether and how they work has been limited. Furthermore, few of these studies make a deliberate attempt to explore the gendered dimensions of these potential new lending practices.

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