Measuring Women's Economic Empowerment: Overview

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Introduction

The terminology describing economic programs for women has shifted gradually over the last decade or so – actions to 'empower women economically' have replaced efforts to 'increase women's economic participation and income.' This shift in language makes sense intuitively and has solid conceptual backing in the work of Amartya Sen (1985; 1999), and later developments by feminist and poverty researchers (Kabeer 1999; Narayan 2005; Golla et al. 2011). Have actions and measures changed in tandem with this change in terminology? The short answer is no.

The new terminology enriches but also complicates the task of designing interventions and measuring outcomes. As a result, until recently, most project and measurement work overlooked the 'empowerment' dimension. Programs did not explicitly incorporate actions to 'empower' women or use the term 'empowerment' in their theories of change. Studies measured changes in tangible indicators of income and assets and only occasionally used proxy indicators for empowerment, such as investments in children's health and schooling (indicating that mothers had gained influence or control over decisions on household expenditures) or improvements in other aspects of women's lives (such as health).

The *Roadmap for Promoting Women's Economic Empowerment* followed this approach and restricted a review of evidence on what works to empower women economically to impacts on objective indicators of economic advancement – productivity and earnings – recognizing that subjective 'empowerment' dimensions, such as gains in self-confidence or increased control over income, could be important but would be difficult to quantify and measure (Buvinic, Furst-Nichols, and Pryor 2013).

However, a companion piece to the *Roadmap* challenged this narrow view on measurement (Buvinic and Furst-Nichols 2015). Researchers that came together to debate how to measure women's economic empowerment agreed that empowerment was an important intermediate *as well as* final outcome in the causal chain between program intervention and outcomes (input >direct outcome > intermediate outcome > final outcome). That is, they agreed that empowerment could be instrumental in shaping final outcomes and could be a valued outcome in itself, and suggested a number of proxy indicators that could be measured objectively. Indicators included self-reported changes in the allocation of household tasks between men and women (Bandiera 2014); ownership and control over assets (Quisumbing et al. 2015); life satisfaction and social capital (Valdivia 2015); and emotional states, including subjective wellbeing (Woodruff 2015).

To explore the value and applicability of these and other indicators further, last year Data2X (a gender data initiative hosted at the UN Foundation) asked some of the same researchers who had come together for the earlier measurement work to write short essays focusing on subjective economic empowerment measures for different categories of working women. This brief overview frames and highlights some of the principal ideas in these essays.

The essays analyze measures applicable to women wage workers (Christopher Woodruff), rural women entrepreneurs (Agnes Quisumbing, Deborah Rubin, and Katie Sproule), adolescents and young women (Kelly Hallman), and poor rural women (Susana Martinez-Restrepo, Alma Espino, Johanna Yancari, and Laura Ramos). This overview also benefits from ideas in an overarching review paper (Louise Fox and Carolina Romero).

Economic Empowerment and Economic Advancement

Two examples illustrate how economic empowerment and economic advancement outcomes for women can diverge. The first indicates that economic empowerment can occur without economic advancement; the second shows the reverse. Woodruff cites the case of subsidized child care in the workplace showing no discernible effects on women workers' objective economic outcomes. In this example, the wages of already employed female workers do not change; what changes is workers' stress levels, since they now have a reliable option for childcare. This improves their subjective wellbeing and empowerment, which only a theory of change (and measures) that acknowledge the subjective dimension of empowerment will pick up. Research by Roy et al. (2015) with rural women entrepreneurs in Bangladesh, and by Scott (2016) with women entrepreneurs working in the Walmart supply chain, document the opposite effect. In both cases, men take control over businesswomen's increased revenues, which the objective income measure does not record. Without a measure that captured who controlled the growing income resulting from the intervention, the conclusion would have been that women advanced economically, while in reality they lost out. Quisumbing et al. similarly highlight this problem with objective measures of income and note the importance of having a parallel measure of men's resistance to women's economic empowerment.

The change in terminology is, therefore, consequential, and interventions should strive to measure economic empowerment rather than remain content with tracking economic advancement. While economic advancement might result in greater economic empowerment, this empowerment also fosters economic advancement, so projects need to not only track but also promote economic empowerment through 'smart' project design. This overview briefly reviews empowerment concepts and measures used in the literature, comments on 'smart' project design features, and concludes with suggestions for advancing this measurement work.

The Theory

Empowerment can be measured at the individual, household, collective or community levels, although most efforts to measure empowerment are made at the individual level. The domains of empowerment include economic, social, political, and psychological (Fox and Romero). Economic empowerment is the enhanced ability of poor women (and men) to participate in, contribute to, and benefit from growth (Kabeer 2012). Alternatively, economic empowerment is the process by which individuals and communities realize desired economic outcomes through economic behavior (Fox and Romero).

Empowerment is rooted in and closely related to the concept of 'agency.' Sen (1985, 1999), in his seminal work on development and freedom, first drew attention to women's agency (the ability to act and effect change in spheres that are important to the individual) and the importance of women's role as agents, who act and bring about change, shifting the overall focus on women's wellbeing (women as patients) prevailing at the time. Agency has an instrumental role in removing inequities that depress wellbeing, as well as an intrinsic role, that is, is important and valued in itself – although the exercise of agency may not necessarily lead to improved wellbeing, particularly in the short run if it controverts existing norms or social hierarchies.

Agency is a process while empowerment is a broader concept that can be both a process – the expansion of agency – and an outcome, resulting in improvements in wellbeing across education, employment, health, public life, and other domains. Stemming from these notions about agency and empowerment, researchers have elaborated on the conditions for the exercise of agency in general, and economic empowerment in particular. According to Kabeer (1999), empowerment is the expansion in people's ability to make strategic life choices in a context where this ability was previously denied. This ability to exercise choice includes resources, agency and achievements: agency is the process that binds resources, a precondition, to achievements, reflected in outcomes. In the case of economic empowerment, these requirements translate into having the skills and resources to compete in markets, fair and equal access to economic institutions, and the power to make and act on decisions and control resources and profits (Golla et al. 2011).

Agency (and empowerment) is therefore fully anchored in economic development – as a mediator of economic and social change.

Some important features of individual empowerment emerge from a quick review of the conceptual literature:

- Agency, that is, the ability to act – to transform choices (goals) into action;
- Capacity to set goals and act on goals;
- Influence or control over decision-making;
- Autonomy, including financial self-reliance and freedom of movement, and control over one's life;
- Perception or sense of agency;
- Achievements, measured by expressions of agency and proxy outcome variables.

Many would add to this list resources and institutions, since the exercise of agency and empowerment depends on what resources are available, and how the individual is able to access resources and institutions. They are not included here among the features of empowerment because, as pre-conditions, they are independent variables, can be modified by interventions, and should be measured separately. Empowerment is the dependent variable, and both empowered attitudes and empowered behaviors should be measured (Fox and Romero).

The largely normative views on the ideal components or dimensions of empowerment summarized above do not translate easily into empirical measures. This is partly because the empowerment process is mostly unobservable and depends on self-reporting or another indirect measure, partly because there are so many interconnected features of empowerment, and partly because empowerment covers so many different domains. This difficulty has added to the disconnect that exists between theory and measurement – measures lagging significantly behind theory.

The Measures

How have researchers measured women's economic empowerment? Most common have been the construction of indices that integrate a number of the main features of empowerment, self-reported measures of decision-making power within the household (influence on or control over household expenditures) and, increasingly, psychological testing to capture subjective states or feelings, including autonomy and sense of agency. What follows discusses advantages and disadvantages of these measures, incorporating ideas and suggestions from the commissioned essays.

Indices. Indices are intuitively appealing to aggregate the different characteristics linked with economic empowerment. If they are standardized, they could yield measures that are comparable across countries. But they are complex to construct (a perennially sticky issue is how to assign appropriate weights to the different indicators to accurately reflect their relative importance) and populate, and they are often difficult to interpret (for instance, indicators may change in opposite directions, averaging out any change in the value of the index).

One of the most pertinent women's economic empowerment indices is the Women's Empowerment in Agriculture Index (WEAI), that originally measured empowerment in the context of agricultural production in five domains (production, resources, income, leadership, and time), using ten indicators, and also included a gender parity in empowerment measure within the household (Alkire et al 2012). Difficulties in applying the index led to a revised, simpler measure, the abbreviated WEAI (A-WEAI), but there are still comprehension issues with the module measuring decision-making autonomy in agricultural production, and the time use module (a 24-hour recall time diary) is too taxing for respondents (Malapit et al 2016).

As Fox and Romero suggest in their essay, a standardized measure of empowerment should include measuring both attitudes (self-perceptions) and behaviors (actions taken) across four empowerment domains (economic, social, political, and psychological), and this 2x4 matrix could be further divided into finer sub-elements depending on the specific research interest; for instance, within the domain of economic empowerment, one could differentiate attitudes and behaviors in the realm of wage employment versus those in the area of entrepreneurship. Fox and Romero stress the importance of a theory of change that includes measuring 'states of mind' (empowered state of mind in economic decisions) as well as behavior, and call for social scientists to come together to agree which dimensions of empowerment to measure and how, to standardize measures of economic empowerment and help build a body of comparable evidence.

Decision-making power. Self-reports on influence on or control over household expenditures is perhaps the most commonly used economic empowerment measure (Fox and Romero). Is decision-making power an appropriate women's economic empowerment measure? In their essay, Martinez-Restrepo et al. present evidence that question using this measure as an indicator of economic empowerment. Qualitative probing with poor women in Peru and very poor women in Colombia upended survey results, indicating that women had difficulty understanding abstract questions on decision-making over household expenditures, and instead needed locally relevant questions with concrete alternatives. The essay concludes that subjective measures of empowerment do not work for poor Latin American women and calls for the need to contextualize instruments, something that is supported by most researchers (Quisumbing et al.; Woodruff; Donald et al. 2016).

Context specific and more culturally appropriate measures of decision-making may help overcome some of the problems Martinez-Restrepo et al. encountered. But it may also be that decision-making control or influence over household expenditures is not a good indicator of economic empowerment, especially when women's empowerment goals are not related, at least directly, to decisions over household expenditures. Donald et al. (2016) make the important observation that one needs to establish whether women care about making the decisions that are being measured, that is, whether involvement in decision-making is actually based on the individual's own goals or preferences and thus exhibits agency.

If empowerment is domain-specific (that is, an individual may become economically but not socially empowered), this may also be the case within domains and, for instance, in the economic domain a businesswoman's empowered state over decisions in her enterprise may not transfer to decisions she and her spouse make over family expenditures.

Additionally, growing evidence from behavioral economics that decision-making is often subject to discounting and selection of information raise concerns about using reported decision-making over household expenditures as one of the most popular indicators of economic empowerment. The process of agency and empowerment may often deviate from the rational frameworks (setting and acting on goals) that have been theorized to guide them, without necessarily losing their inherent qualities, and measures need to capture agency and economic empowerment at these different levels – from fully rational goal-setting to less goal-directed, more opportunistic behavior.

Autonomy. Researchers agree that autonomy, self-reliance and, more generally, control over one's life, are a defining feature of agency and empowerment (Fox and Romero; Kelly; Quisumbing et al; Woodruff; Donald et al. 2016). In the literature, the most common measure of whether individuals feel they are in control over their own lives is the Relative Autonomy Index (RAI), developed in psychological studies (Ryan and Deci 2000). The RAI attempts to assess the degree to which actions are driven by an individual's own goals ("intrinsic motivation"), or externally regulated through internalized social pressure or coercion. The RAI has also been incorporated in the WEAI module, using vignettes to understand how women identify themselves in different agricultural decisions (whether their decisions are externally regulated, whether they feel the need for approval from others, or if they feel free to make their own decisions).

Autonomy can also span different domains and economic empowerment may entail increasing autonomy in some spheres but lowering control in others. Woodruff, for example, suggests expanding the view of economic empowerment to capture issues of control over how people spend their time, especially important since paid work may increase women's decision-making over resources but decrease their control over time. He suggests measuring levels of stress as an indicator of control over time, although recognizing problems in measuring stress (and other affective states) through self-reports; he also acknowledges that changes in levels of stress may happen with a lag which measures that are not repeated over time will miss. He points to two psychological tests to measure stress, calls for validating these measures across cultures, and suggests reducing biases that can result from people self-reporting initial levels of stress in systematically different ways by using anchoring vignettes to help 'get everyone on the same page (level),' and calibrate initial responses.

Perception or 'sense' of agency. The belief or 'sense' that individuals can effect and attribute change to one's actions is an important dimension of agency and empowerment. Donald et al (2016) distinguish perceptions of self-efficacy (beliefs on one's competency) and of attribution to self or others or locus of control (beliefs that outcomes can be attributed to one's efforts versus to chance or events beyond one's control), and review psychological tests that have been adapted to measure these two dimensions of agency in Africa.

Kelly, in her essay, highlights increasing self-efficacy as a key dimension in the asset-building framework that the Population Council uses to empower adolescent girls. She argues that a cascade of disinvestments in low-income girls that occur in puberty (disinvestments which, she notes, are grossly underestimated) require building social, health, and economic assets simultaneously, through a 'whole girl' centered integrated approach. In the economic realm, this disinvestment is reflected in girls' difficulties in controlling earnings and disproportionate pressure to share earnings, and this loss of control needs to be measured, alongside earnings measures – echoing the point made earlier by Quisumbing et al., Roy et al (2015), and Scott (2016). Locus of control scales may be one option for measuring the psychological dimension of disinvestment in girls.

Kelly brings out the point of measuring disempowerment as well as empowerment, a topic largely unexplored in research to date – with some notable exceptions, for instance, the work of Ahmad and Khan (2016) that measures women's disempowerment in Pakistan using the abbreviated WEAI.

Achievements. Achievements reflect final outcomes of the empowerment process and can be measured by objective outcomes indicators and subjective measures of empowerment and wellbeing. Woodruff, in particular, highlights the importance of measuring wellbeing, which goes back to Sen's (1999) interrelated notions of agency and wellbeing, and agency's instrumental role in expanding freedoms and wellbeing. Changes in wellbeing can be assessed the traditional way, using (objective) indicators such as increases in women's education, health, and labor force participation, or using self-reports of subjective states, such as happiness scales, or assessing self-confidence and reduction in stress. It is worth noting that Martinez-Restrepo et al. found that happiness scales were too abstract and did not work for the poor women they interviewed in Colombia and Peru. Visual aids – such as happy and sad faces or counting beans –are increasingly being used to elicit respondents' feelings about their situations, and may assist in measuring subjective wellbeing in these poorer or less literate populations (Delavande and Kohler, 2015; GIne and McKenzie, 2011).

Subjective Empowerment and 'Smart Design'

The empirical evidence reviewed in the *Roadmap* and a recent update underscore the role of subjective ('in the mind') elements in shaping economic advancement, and highlight the role that 'smart design' can play in fostering subjective empowerment. Private, secure savings and reminders to save encourage economic self-reliance and especially benefit less empowered women who are more subject to external influences or pressures from relatives to share cash. Transfers of in-kind rather than cash resources seem to have a similar protective feature, simply because in-kind transfers are more difficult to give away or share easily. Practice with micro-lending over time (if successful) can increase women's confidence in financial decisions and financial risk-taking. Informal support from a peer increases self-confidence in economic decision-making.

Most of these project design features were not intentionally built to empower women but studies have increasingly documented their positive income effect by encouraging women to be independent economic agents. Supporting this, the evidence also shows that female autonomy, studied by examining sole income earners and female-headed households, is associated with positive economic outcomes among women entrepreneurs and farmers (Buvinic and Furst-Nichols 2013; Buvinic and O'Donnell 2016).

There is significant potential in using this and other knowledge from behavioral economics to better understand and measure the attitudinal and behavioral dimensions of empowerment, use a theory of change that includes empowerment as an intermediate and final outcome, and incorporate design features to promote both economic empowerment and advancement (Fox and Romero).

The Way Forward

The essays and studies reviewed suggest that some indicators of subjective empowerment, such as financial autonomy and self-reliance, may work well, while other commonly used indicators, such as decision-making over household expenditures, may not work as well and fail to capture empowerment across situations. A consistent message in all articles is that culture and context matter, and that especially 'measures of the mind' need to be validated and adapted before they are used. These measures need to be culturally appropriate and context specific, and should correspond or be mapped to the particular research question.

Different features of subjective empowerment, such as ability to decide on family planning, autonomy over how to use individual savings, or freedom to vote, mediate different empowerment outcomes, and research should measure the appropriate feature. Features or dimensions of empowerment will vary across the different domains – i.e. social, economic, and political, as the examples above indicate – and there is no reason to assume that empowerment in one domain will necessarily carry over to others. Researchers need to be much more discriminating in their choice of empowerment indicators, and not assume that, for instance, decision-making over household expenditures is the valid indicator to use, regardless of the context and the domain.

Even within a particular domain, such as economic empowerment, features may vary with the type or sub-set of economic activity; for instance, while financial autonomy may be the critical feature to measure for women entrepreneurs and for young women, stress may be the appropriate measure for women wage and salary workers. Measures should also be able to capture the empowerment effects of 'smart' designs — for instance, interventions that encourage privacy, such as using mobile phones for financial transactions, should be tracked using indicators of autonomy and self-reliance over financial decisions.

A task ahead is to identify suitable attitudinal and behavioral measures of economic empowerment, perhaps differentiating by sub-sets of economic activity (farming, entrepreneurship, wage and salary work) and by age. Adolescent girls and young women may need different measures or measures calibrated differently. Building a standardized, cross culturally comparable measure of economic empowerment, a worthy objective, can begin only after suitable measures for sub-categories of activities and both young and adult women have been identified and tested in different contexts.

Two other challenges are to construct and test measures of disempowerment and of empowerment at the community or collective level. The process of disempowerment may involve a different set of subjective states, rather than just negative values in the subjective states identified with empowerment. And one is hard pressed to figure out ways to measure the process of empowerment at the community or collective level. Perhaps indicators can only measure resulting final outcomes. The tasks ahead are challenging but important, especially if the final objective is to promote and, therefore, track and measure women's economic empowerment as well as advancement.

References

Ahmad, Nuzhat and Huma Khan. 2016. "Measuring women's disempowerment in agriculture in Pakistan." IFPRI Discussion Paper 1512. Washington, D.C.: International Food Policy Research Institute, 2016. Available at: http://ebrary.ifpri.org/cdm/ref/collection/p15738coll2/id/130193

Alkire, Sabina, Ruth S. Meinzen-Dick, Amber Peterman, Agnes R. Quisumbing, Greg Seymour and Ana Vaz. 2012. "The Women's Empowerment in Agriculture Index." IFPRI Discussion Paper No. 01240. Washington, D.C.: International Food Policy Research Institute, 2012. Available at: http://dx.doi.org/10.2139/ssrn.2197300

Bandiera, Oriana. 2014. "Evaluating skills and capital transfers programs targeted to women not in stable employment (young and/or ultrapoor)." Available at: http://www.womeneconroadmap.org/sites/default/files/Bandiera_Skills%20and%20Capital%20Transfers_Young%20and%20Ultra%20Poor.pdf

Buvinic, Mayra, Rebecca Furst-Nichols, Emily Courey Pryor. 2013. "A Roadmap for Promoting Women's Economic Empowerment." Washington, D.C.: United Nations Foundation, 2013. Available at: http://www.womeneconroadmap.org/sites/default/files/WEE_Roadmap_Report_Final.pdf

Buvinic, Mayra and Rebecca Furst-Nichols. 2015. "Measuring Women's Economic Empowerment." Washington, D.C.: United Nations Foundation, 2015. Available at: http://www.womeneconroadmap.org/sites/default/files/Measuring%20Womens%20Econ%20Emp_FINAL_06_09_15.pdf

Buvinic, Mayra and Megan O'Donnell. 2016. "Revisiting What Works: Women, Economic Empowerment, and Smart Design." Washington, D.C.: Center for Global Development, 2016. Available at: http://www.womeneconroadmap.org/sites/default/files/CGD-Roadmap-Update_v4.pdf

Delavande, Adeline and Hans-Peter Kohler. 2015. "HIV/AIDS-related Expectations and Risky Sexual Behavior in Malawi," *Review of Economic Studies*. Available at: http://iserwww.essex.ac.uk/home/aldela/wp-content/uploads/2015/05/MortalityrestudMay082015.pdf

Donald, Aletheia, Gayatri Koolwal, Jeannie Annan, Kathryn Falb, and Markus Goldstein. 2016. "Measuring Women's Agency." Washington, D.C.: World Bank, 2016. Available at: http://pubdocs.worldbank.org/pubdocs/publicdoc/2016/6/487641466185525738/2016-05-31-Measuring-Womens-Agency.pdf

Fox, Louise and Carolina Romero. 2016. "In the Mind, the Household or the Market? Concepts and Measurement of Women's Economic Empowerment." Available at: http://womeneconroadmap.org/sites/default/files/Measuring%20subjective%20empowerment%20v2.pdf

Gine, Xavier, and David McKenzie. 2011. "Eliciting Probabilistic Expectations with Visual Aids in Developing Countries: How sensitive are answers to variations in elicitation design?" *Journal of Applied Econometrics* 26(3): 479–497. Available at: http://iserwww.essex.ac.uk/home/aldela/wp-content/uploads/2013/10/JAE_DelavandeGineMcKenzie.pdf

Golla, Anne Marie, Anju Malhotra, Rekha Mehra, and Priya Nanda. 2016. "Understanding and Measuring Women's Economic Empowerment: Definition, Frameworks, and Indicators." Available at: https://www.icrw.org/wp-content/uploads/2016/10/Understanding-measuring-womens-economic-empowerment.pdf

Hallman, Kelly. 2016. "Population Council Lessons on Increasing and Measuring Girls' Economic Empowerment." Available at: http://www.womeneconroadmap.org/sites/default/files/Hallman_girl%20economic%20empowerment_vOct2016.pdf

Kabeer, Naila. 1999. "Resources, Agency, Achievements: Reflections on the Measurement of Women's Empowerment." *Development and Change* 30: 435-464.

Kabeer, Naila. 2012. "Women's economic empowerment and inclusive growth: labour markets and enterprise development." Available at: https://www.idrc.ca/sites/default/files/sp/Documents%20EN/NK-WEE-Concept-Paper.pdf

Malapit, Hazel J., Chiara Kovarik, and Kathryn Spoule. 2016. "Using cognitive interviewing to improve the Women's Empowerment in Agriculture Index survey instruments: Evidence from Bangladesh and Uganda." IFPRI Discussion Paper 1564. Washington, D.C.: International Food Policy Research Institute, 2016.

Martinez-Restrepo, Susana, Laura Ramos Jaimes and Johanna Yancari. 2016. "Measuring Subjective Dimensions of Empowerment Among Extremely and Moderately Poor Women in Colombia and Peru."

Available at: http://www.womeneconroadmap.org/sites/default/files/Susana%20Martinez-Restrepo%20-%20IDRC%20UNF%20Think%20Piece.pdf

Narayan, Deepa. 2005. "Measuring Empowerment: Cross Disciplinary Perspectives." Washington, D.C.: World Bank, 2005. Available at: https://openknowledge.worldbank.org/handle/10986/7441

Quisumbing, Agnes, Nancy Johnson, Ruth Meinzen-Dick, and Cheryl Doss. 2015. "Measuring Empowerment of Rural Women Farmers and Producers: What can we learn from a gender and assets perspective?" Available at: http://www.womeneconroadmap.org/sites/default/files/Quisumbing_Gender%20and%20Assets_Rural%20Women%20Farmers%20and%20Producers.pdf

Quisumbing, Agnes, Deborah Rubin and Katie Sproule. 2016. "Subjective Measures of Women's Economic Empowerment." Available at: http://www.womeneconroadmap.org/sites/default/files/Wms%20Entrepreneurship_rev_clean.pdf

Roy, Shalini, Jinnat Ara, Narayan Das, and Agnes R. Quisumbing. 2015. "'Flypaper effects' in transfers targeted to women: Evidence from BRAC's 'targeting the ultra poor' program in Bangladesh." *Journal of Development Economics* 117: 1-19.

Ryan, Richard M., and Edward L. Deci. 2000. "Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being." *American Psychologist*, 55(1): 68-78.

Scott, Linda M., Anna Custers, Catherine Dolan, Daria Luchinskaya, Ama Marston, Kelly Northridge, Lina Rothman and Lauren Steinfield. 2016. "Advisory Note on Measures: Women's Economic Empowerment." Available at: http://www.sbs.ox.ac.uk/sites/default/files/Research_Areas/Strategy_And_Innovation/Docs/advisory-note-on-measures-final2016.pdf

Sen, Amartya. 1999. Development as Freedom. New York: Oxford University Press.

Sen, Amartya. 1985. "Well-Being, Agency and Freedom: The Dewey Lectures 1984." The Journal of Philosophy 82, no. 4: 169-221.

Valdivia, Martín. 2015. "Business Development Services for Female Entrepreneurship: A Think Note on Measurement Outcomes." Available at: http://www.womeneconroadmap.org/sites/default/files/Valdivia_Business%20Development%20Services_Women%20Entrepreneurs.pdf

Woodruff, Christopher. 2015. "Measuring Well-being of Female Entrepreneurs: Thoughts on Measuring Outcomes." Available at: http://www.womeneconroadmap.org/sites/default/files/Valdivia_Business%20Development%20Services_Women%20Entrepreneurs.pdf

Woodruff, Christopher. 2016. "Measuring Subjective Economic Empowerment." Available at: http://www.womeneconroadmap.org/sites/default/files/Woodruff%20MWEE_NRB.pdf