

Time Use Data and Macroeconomic Policies: Summary Notes from a Roundtable Discussion¹

Data2X, with the support of the Gates Foundation, hosted this past November 7, 2024, a roundtable to explore the value of having time use data inform macroeconomic policies. This note summarizes some of the themes raised and the rich discussion among panelists. The meeting agenda and short bios of the panelists are attached. The meeting was the second in a series of three meetings on the topic. The first meeting focused on technical issues; this meeting explored different policy uses and macro implications over two sessions; the upcoming third meeting will likely take these policy messages to a regional or country level.

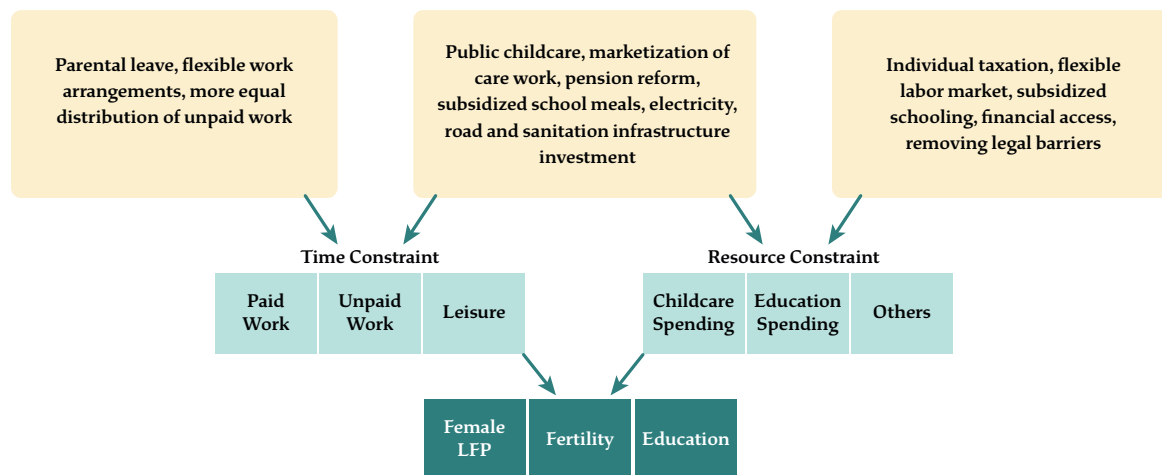
SESSION 1: Time use data, labor markets, and fiscal policies

Unpaid work, measured using time use data, is central to understanding labor market outcomes for women and family decisions, said Vivian Malta (IMF). The amount of unpaid work performed by women and girls in caring and maintaining both the current and future labor force affects their participation in the work force, type of employment and earnings, with ripple effects on the decisions households make on human capital development (education and health), and fertility.

Vivian argued that these gender inequalities impacted macroeconomic outcomes and vice versa and presented a simple framework to help guide IMF’s policy analysis in countries.

This IMF framework (Figure 9) shows how implementation of a host of gender-sensitive labor, social and fiscal policies, relaxing households’ time or resource constraints or relaxing both, can result in positive outcomes on gender equality, unpaid household work, female labor supply, productivity, incomes, and growth in the short as well as longer term.²

Figure 9. Policies and Household Constraints



Source: IMF Staff. Note: LFP = labor force participation.

1. Note prepared by Mayra Buvinic, Maria Floro, and Kelsey Ross. December 2024, Data2X.

2. Gu, Jijia, Lisa Kolovich, Jorge Mondragon, Monique Newiak, and Michael Herrmann (2024). Promoting Gender Equality and Tackling Demographic Challenges, IMF Gender Note 2024/002, Washington DC: International Monetary Fund, page 14. <https://www.imf.org/en/Publications/gender-notes/Issues/2024/06/10/Promoting-Gender-Equality-and-Tackling-Demographic-Challenges-549916>

Vivian gave examples of IMF policy analysis in client countries across the income spectrum, including in Kenya, looking at women's unpaid work burden (time use on water collection) and the impact of infrastructure (piped water) on women's work; and in Italy, examining intrahousehold inequality in unpaid work, which is exacerbated by having children in the household.

The IMF is currently using time use data to inform policy advice, working on macro models that consider time and resource constraints and is willing to collaborate with others to expand this work.

Picking up on the work on macro models, **Martín Cicowiez (Universidad Nacional de la Plata, Argentina) presented a care-focused, gendered Computable General Equilibrium (CGE) model for Colombia to assess different policy scenarios' effects on women's unpaid work, earnings, labor force participation, bargaining power, and GDP growth.** The model captures interactions between production, incomes and expenditures, and external considerations, and shows how policy options have feedback effects and can yield tradeoffs for women and for households.

Martín elaborated on the policy scenario of modeling the impact of subsidizing firms to promote hiring of women. Outcomes include women's increased employment and earnings and decreased unpaid care work and leisure, so longer working days for women; increased household consumption and decreased household production; increased GDP and increased taxes which decreases disposable income; another likely effect is increase in women's bargaining power. The size and timing of effects are influenced by financing mechanisms and key is having a flexible labor market to absorb the increased female labor supply.

Comments on both presentations (here you can find the power point presentations) and questions followed. Comments are summarized in bullet form below.

Juanita Villaveces (Ministry of Finance, Colombia):

- Increasingly sophisticated modeling tools of time use, care, and labor are enabling to make visible the impact of care policies on households and women and men.
- We need to consider the effects of policies seeking to reduce gender inequalities in time use on macroeconomic outcomes, like GDP, but also on social norms. At present, there are persistent gender gaps across all generations, but policy that is designed to help shift social norms can, over time, reduce these gender inequalities.

Glen Kwende (IMF):

- Policymakers in developing countries are very resource constrained, and decisions need to be made on limited possible investments. Investing in care shows clear benefits per the models. What's critical to policymakers is how realistic are the models, and will these benefits be realized in practice?
- We need these models to be granular to capture the heterogeneity of women's engagement in labor force.
- We are just beginning to scratch the surface of what these models can capture and show in terms of the effects of investment in unemployment/labor market. Additional research is needed.

Valeria Esquivel (ILO):

- Given the wide differences between OECD and developing countries, the decision to consider both in the IMF note on which Vivian's presentation is based, is questionable.
- The focus on gender gaps loses sight of the bigger picture in terms of levels of development (e.g., if schooling in Niger is so limited for both boys and girls, the gender gap is perhaps less relevant than the overall education situation).
- We need to consider the overall impact of the IMF conditions on countries' well-being; narrowly focusing on macroeconomic outcomes or gender gaps without that bigger discussion may miss important impacts on women.
- On this last bullet, **Jayati Ghosh** (University of Massachusetts, Amherst) added that it is vital to conduct audits of IMF programs to evaluate how they impact time use patterns. This isn't just about data collection; it's about holding the IMF accountable for these changes.

Martin responded to questions from panelists and participants regarding the model in the chat and after the meeting. Questions (in italics) and his answers give a sense of the potential and limitations of CGE models; they are summarized below:

- *Does your model allow for changing type of jobs available?* Yes, the jobs available will depend on the evolution of the economy. Certainly, a key parameter in the model is how flexible is the labor market to absorb the increase in (female) labor supply.
- *I mean also in the sense of flexible jobs (you can work from home, or flexible or compressed hours):* Currently, we distinguish jobs based on their sector and skill level requirement. To split labor payments by industries across labor categories, we use household surveys that do not have such detailed information on jobs.
- *What is the impact of policies noted in your paper on the informal domestic workers in Colombia, a sizeable group?* We model domestic workers and allow for the substitution of unpaid domestic work with paid domestic work. In one of the policy scenarios in which we increase childcare provision, there is an increase in paid domestic work because there is a decrease in unpaid domestic and care work. They are complementary, not substitutes.
- *Which women benefit from the subsidy?* In the simulations shown, all of them. However, it is possible to select which labor force category benefits from the subsidy.
 - *It would be good to see how these effects vary by age group of women because reduction in the time burden would probably have larger social spillovers for women in child-bearing ages:* Currently, we distinguish labor force categories based on gender and educational attainment. However, it would be interesting to consider the age dimension.
 - *Isn't the problem with typical CGE models that they assume full employment?* We do not assume that the level of employment is fixed; that is, women and men can move from not in labor force or unemployed status to employed (i.e., reallocate time from unpaid work and/or leisure to paid work) and vice versa. On the other hand, we do have a fixed number of hours available in each model period.
 - *Does your model allow for multiplier effects of government spending?* The model does allow for multiplier effects. However, we do not impose that an increase in government spending will have the same positive impact on the overall economy. The result will depend on the type of government spending and its financing source.

SESSION 2: Time use data and “beyond GDP” measures

The movement to find common measures that go beyond GDP has picked up steam once again. It was a topic of agreement by member states at the UN Summit of the Future in September 2024 and is a topic in the ongoing preparatory discussions for the UN Financing for Development world conference in 2025.³ The significance of finding a measure that will add to or complement GDP should not be lost on anybody. GDP is widely used as measure of a country’s output and standard of living in a given period and as indicator of health of the economy. Its shortcomings, including exclusion of unpaid work, are well recognized.

Panelists in this second session were asked a general and a specific question. The general question most panelists answered was: In your opinion, how would a new aggregate economic measure that includes the value of unpaid work likely impact policymaking (e.g., government spending, taxation, labor, agricultural, social policies, etc.)? Below is a summary of the rich roundtable conversation grouped by main themes that emerged.

1. There is a pressing need to improve the quality and comparability of time use data to inform economic policies.

Nancy Folbre (University of Massachusetts, Amherst) stressed the importance of methodological advancements to ensure that time use data can more accurately reflect the diversity of unpaid work and caregiving responsibilities, making it a more reliable resource for informing policies on labor, welfare, and economic output. She noted that time use data requires substantial methodological improvements, especially as current survey methods vary significantly across countries, leading to inconsistencies that hinder meaningful comparisons.

Nancy elaborated on the limitations of both the Mexican and UK time use surveys: The Mexican approach, which relies on a stylized activity list, often overstates time use by allowing respondents to report overlapping activities, resulting in cases where people seemingly report more than 24 hours of activity in a single day. This method, while capturing a broad range of activities, can distort the true picture of time allocation.

In contrast, the UK employs a diary-based system, which is generally viewed as more accurate because it requires respondents to log activities within specific time blocks, reducing the risk of over-reporting. However, the UK system also has limitations; it tends to overlook indirect responsibilities, such as supervisory care, which the Mexican survey does capture. Both survey methods have substantial flaws that need to be addressed in future policy discussions.

Jayati Ghosh (University of Massachusetts, Amherst) agreed with Nancy and said that the UN statistical system must develop a broad template for all countries to follow in order to incorporate this “beyond GDP” approach. It is crucial to establish a proper methodological framework at this stage, and there are some real challenges. Countries currently use varied methods; some rely on recall methods, which are often unreliable as people may not remember accurately, even within a 24-hour period. The diary method also has limitations, as micro-studies that compare diaries to real-time observation often reveal discrepancies, especially with people holding multiple jobs. Therefore, we need to carefully consider the methodology to ensure it’s feasible, viable, and implementable by all countries, enabling a solid and comparable foundation.

3. Action item 53 in the Pact for the Future report agreed to at the UN Summit of the Future commits to creating a framework for these “beyond GDP” measures. The secretary-general of the UN (UNSG) is forming an independent high-level expert group to provide recommendations on beyond GDP measures, with an expected report in the next UN General Assembly (UNGA).

2. When unpaid work is substituted by paid work there are difficult tradeoffs that arise from the economic significance of this unpaid labor which need careful assessment.

Thomas Masterson (Levy Economics Institute) mentioned an aggregate consumption model they developed with Nancy Folbre aimed at integrating non-market consumption produced by unpaid work in households. The findings revealed that, when comparing unpaid household work to conventional consumption expenditures in the U.S., unpaid work accounts for around 65% of total consumption, underscoring the economic significance of unpaid labor. This insight has important implications for policymaking, especially regarding initiatives designed to boost women's participation in the labor force. While policies encouraging women's entry into the workforce increase market-based production, they may inadvertently reduce household production. Therefore, a key policy question is identifying the tradeoffs involved: how much market work is gained at the expense of household production, and what is the net impact of this shift? Evaluating this balance is critical, as it affects not only the broader economy but also the well-being of individual households.

3. While there are benefits, there also are shortcomings from incorporating unpaid work into GDP calculations.

Benjamin Muchiri (Kenya National Bureau of Statistics) reflected on the effects of a "beyond GDP" measure based on his interactions with government users of national accounts. While an extended GDP measure would account for both monetary and non-monetary contributions, revenue authorities can only tax the monetary aspects, not non-monetary contributions. For example, goods and services produced by households for their own consumption, such as domestic work or care, do not contribute to taxable income. If we start including these household services in GDP calculations, the GDP figure might increase but there would not be a corresponding rise in tax revenue. Additionally, this shift could impact poverty measures. By recalculating GDP to include these household contributions, we might see poverty levels decrease, as these services would be considered part of household consumption.

Nancy doesn't believe we should be referring to these as "beyond GDP" measures. These measures still rely on a market wage, as they typically calculate unpaid work by multiplying the hours worked—often poorly measured—by a market wage for a substitute. This approach is very market driven and doesn't consider the limited substitutability between paid and unpaid work, treating them as equivalent one-for-one replacements. This method also ignores declining marginal productivity in household production. For example, much of the time people spend on unpaid work under conditions of extreme poverty may have very low marginal value, yet we overestimate this value by applying a market wage. Importantly, these measures only capture an input—labor—rather than the outcome. The most significant outcome of unpaid household work is the development of human capabilities, such as health, education, and the wellbeing of family members, which are not reflected in GDP. Jayati shared Nancy's skepticism about using household production satellite accounts and assigning monetary values to time, listing several reasons. She agreed with points made by Nancy and Benjamin, noting concerns about potentially misleading poverty estimates. While she emphasized the value of conducting time use surveys—especially with gender and age-disaggregated data—she argued that monetizing this data in satellite accounts could be counterproductive for many countries.

Instead, Jayati advocated for focusing on the "five R's" framework: recognize, reduce, redistribute, reward, and represent unpaid work. Collecting time use data serves critical policy needs, as shown by Kenya's experience, and these benefits could extend to other countries without the necessity of satellite accounts. She concluded by reiterating that incorporating such accounts may not be essential for meaningful gender policy outcomes.

4. Traditional poverty assessments are incomplete as they do not consider time constraints within households.

Thomas mentioned the LIMTIP (Low Income Measure Threshold with Time and Income Poverty), a measure that the Levy Economics Institute is developing which overcomes the issues Benjamin addressed on poverty thresholds. LIMTIP considers both income and time poverty and addresses a limitation of traditional poverty thresholds, which often assume there is a full-time household worker available to maintain a minimum standard of living. LIMTIP shows that traditional poverty measurements are incomplete, as they don't account for time constraints within households. By including time poverty, LIMTIP reveals that poverty is more widespread and severe than the officially measured income poverty.

Thomas highlighted that poverty reduction policies often fall short, as they overlook households facing time deficits, even if these policies address the income gap. Additionally, while policies to increase employment can reduce income poverty, they don't necessarily address time poverty, especially for women, who experience higher rates of time poverty across all levels of work. Universal pre-K and other care policies can help reduce some burdens, but they don't significantly decrease the overall time women spend on household production.

5. Moving "beyond GDP" entails a more holistic measurement framework that incorporates dimensions of sustainability and societal wellbeing.

Papa Seck (UN Women) argued that it is important to recognize that economic indicators, while valuable, are not sufficient by themselves to capture the full spectrum of the SDGs, and that a shift in mindset is necessary to avoid repeating past oversights where economic indicators overshadowed other important factors. When considering the question of impact, measuring non-economic factors has had a tangible impact on policy. It is equally important to think about the interconnections with environmental and social factors. Rather than viewing these as isolated policy areas, we need to adopt a holistic approach that considers the complex links between economic, environmental, and social objectives. This broader view will help ensure that policies are not only effective in their immediate goals but also sustainable and beneficial in a wider context. Kenya offers a concrete example of how measurement can drive policy. After conducting a time use survey in Kenya, the findings contributed directly to the country's development of its first national care policy. This illustrates how data can inform targeted, impactful policies that address real needs within societies.

Nancy agreed and said that if we aim to move beyond GDP, we should consider establishing social accounting for the market as well as the household economy to complement GDP. She thinks that this is the direction we're moving toward, and it's the most valuable aspect of time use data. Time use data provides a more comprehensive view of the key inputs into outcomes like reducing infant mortality, enhancing women's autonomy, and increasing healthy life expectancy.

However, Nancy also remarked that modeling GDP (recognizing its limitations) is relevant because it remains an important input into human capabilities. GDP can be and should be defined to include ecological costs as well as non-market contributions, she argued. This is not about "welfare" in the neoclassical welfare state sense. These are material resources flows and transfers, though not all of them can be assigned a dollar value, some of them can at least be measured as a lower bound. So, she concluded, eliciting agreement from many participants in the chat, let's look at GDP but not see it as the end all and be all.

MEETING AGENDA: Time Use Data and Macroeconomic Policies, Meeting 2

8:30-8:40: Introductory remarks

- Mayra Buvinic, Data2X
- Susanna Gable, Gates Foundation

8:40-9:15: Session 1: Time use data, labor markets, and fiscal policies

- Moderator: Maria Floro, American University
- Presentation 1: Vivian Malta, International Monetary Fund
- Presentation 2: Martín Cicowiez, Universidad Nacional de la Plata, Argentina
- Comments and discussion
 - Marta Juanita Villaveces, Vice-Minister, Ministry of Finance, Colombia
 - Glen Kwende, International Monetary Fund
 - Valeria Esquivel, International Labour Organization

9:15-9:55 (40 Minutes): Session 2: Time use data and “beyond GDP” measures

- Moderator: Mayra Buvinic
- Panelists:
 - Nancy Folbre, University of Massachusetts, Amherst
 - Jayati Ghosh, University of Massachusetts, Amherst
 - Thomas Masterson, The Levy Economics Institute
 - Benjamin Muchiri, National Statistics Office, Kenya
 - Papa Seck, UN Women

9:55-10:00: Concluding remarks from Mayra Buvinic

SPEAKER BIOS

Susanna Gable, PhD, is the Deputy Director of Development Policy and Finance at the Gates Foundation, where she oversees international development finance and inclusive, sustainable economic development. Previously, she served as Chief Economist at Sida, co-chaired the OECD-DAC Community of Practice on Poverty and Inequality, co-founded both the OECD-DAC Chief Economist Network and the CoP on Country Diagnostics, and was a member of the Global Council on SDG1 and the Development Committee of the Global Innovation Fund. Susanna also held various roles at the World Bank. She holds a PhD in Economics from Gothenburg University, specializing in reforms, economic growth, and the environment.

Vivian Malta is a senior economist in the Gender and Inclusion Unit at the IMF's Strategy, Policy, and Review Department (SPR), where she focuses on mainstreaming gender issues across the institution. She has previously worked in the Debt Policy Division and the Development Issues Unit in SPR and has held positions at the World Bank and in the private financial sector. She holds a Ph.D. in economics from FGV-EPGE and a bachelor's degree in industrial engineering from PUC-Rio. During her doctoral studies, she was a visiting scholar at Columbia University and the Federal Reserve Bank of New York.

Martín Cicowiez is a professor at Universidad Nacional de La Plata, Argentina, and a researcher at the University's Center for Distributional, Labor, and Social Studies (CEDLAS). He holds a PhD in Economics from the same institution and specializes in using Computable General Equilibrium models and microsimulations to evaluate policies and external shocks. He has published extensively in academic journals, edited volumes, and coauthored five books. Cicowiez has collaborated with international organizations, including UN-DESA, UNDP, FAO, ILO, the World Bank, IDB, AfDB, UN-ECLAC, UN-ESCWA, ALADI, and PEP.

Marta Juanita Villaveces Niño is the Vice-Minister of Finance and Dean of the Faculty of Economic Sciences at Universidad Nacional de Colombia, where she has been a Professor since 2017 and previously served as an Associate Professor at Universidad del Rosario for 17 years. A graduate of the London School of Economics, she is an influential voice in public discourse, regularly contributing to *Razón Pública* on economic and social issues. Villaveces Niño advocates for equitable policies and a pluralistic, non-violent academic environment, with a professional network exceeding 500 connections, reflecting her strong engagement in Colombia's economic and academic communities.

Glen Kwende is an Economist in the Balance of Payments Division of the IMF's Statistics Department. Previously he was an Economist on the Gambian desk of the IMF's African Department. He received his PhD in Economics from American University in Washington DC. His research interests include labor, development, gender macroeconomics, and monetary policy.

Valeria Esquivel is a feminist economist from Argentina, with an extensive track-record of publications and policy practice on gender-responsive macroeconomic, employment and labour market policies. Her work about the care economy and transformative care policies have been particularly influential. She started her professional career in academia and moved to work at the United Nations in Geneva in 2014. She has been with the International Labour Organization since 2016. She co-authored the report *Care work and care jobs for the future of decent work* (ILO, 2018) and has coordinated from the ILO side the UN Women-ILO Joint Program Promoting decent employment for women through inclusive growth policies and investments in care. She is currently working to strategically position gender-responsive policies in various domains within the ILO, including through investments in care services. Valeria is elected member of the Board and the Executive Board of IAFFE (International Association for Feminist Economics), is Associate Editor for *Feminist Economics* and is member of the Editorial Advisory Group of *Gender & Development*.

Nancy Folbre is Professor Emerita of Economics and Director of the Program on Gender and Care Work at the Political Economy Research Institute at the University of Massachusetts, Amherst. She is also a Senior Fellow at the Levy Economics Institute at Bard College. Her research focuses on the intersection of political economy and feminist theory, particularly emphasizing the value of unpaid care work. Folbre has published numerous articles in academic journals and authored several influential books, including *The Rise and Decline of Patriarchal Systems* (Verso, 2021); *Greed, Lust, and Gender: A History of Economic Ideas* (Oxford, 2009); and *The Invisible Heart: Economics and Family Values* (New Press, 2001). She contributes to popular media, including the New York Times Economic blog and *The Nation*, and co-curates the Care Talk blog at revaluingcare.org.

Jayati Ghosh is a Professor of Economics at the University of Massachusetts, Amherst, having taught for nearly 35 years at Jawaharlal Nehru University in New Delhi. She has authored and edited 21 books and over 225 scholarly articles, with recent works including *The Making of a Catastrophe: Covid-19 and the Indian Economy* (2022) and *Earth For All: A Survival Guide for Humanity*, a report to the Club of Rome. Ghosh has received several awards, including the John Kenneth Galbraith Award 2023, the International Economics Association's Fellow Award, and the International Labour Organisation's Decent Work Research Prize. She has advised various governments and served on prominent commissions, including the WHO Council on the Economics of Health for All, and the UN Secretary General's High-Level Advisory Board on Effective Multilateralism and the UN High-Level Advisory Board on Economics and Social Affairs. Additionally, she frequently writes for popular media, sharing her insights on economic issues.

Thomas Masterson is the Director of Graduate Programs and Applied Micromodeling, as well as a Senior Scholar in the Distribution of Income and Wealth program at the Levy Economics Institute. He has worked extensively on the Levy Institute Measure of Well-being (LIMEW), which assesses household resources for consumption and asset acquisition, and has contributed to the development of the Levy Institute Measure of Time and Income Poverty (LIMTIP) for various countries in Latin America, Asia, and Africa. Masterson's research focuses on the distribution of land, income, and wealth, particularly regarding gender and racial disparities. He has published articles in *The Review of Black Political Economy* and *The Journal of Economic Issues*, serving on the editorial board of the former. He holds a Ph.D. in economics from the University of Massachusetts, Amherst.

Benjamin Muchiri is a Senior Manager at the Kenya National Bureau of Statistics (KNBS) with over 28 years of experience in data compilation and analysis. He has extensive expertise in national accounting, including the compilation of the Sequence of Accounts and Supply and Use Tables. Muchiri has also contributed to the development of Input-Output Matrices, Social Accounting Matrices, and various Satellite Accounts for Kenya. He holds a Master of Science in International Economics.

Papa Seck is the Chief Statistician at UN Women, where he has been since 2009. He has led the organization's statistics and data initiatives and contributed to various research projects, including co-authoring two editions of *Progress of the World's Women*. Seck oversees UN Women's efforts to monitor the Sustainable Development Goals (SDGs) and has coordinated the UN System's inclusion of robust gender indicators within the SDGs. He currently leads the flagship initiative *Making Every Woman and Girl Count*, aimed at improving the production and use of gender-relevant statistics for systematic monitoring of the SDGs from a gender perspective. In 2012, he also developed the Evidence and Data for Gender Equality (EDGE) program, in collaboration with the UN Statistics Division, to create innovative measures for assessing asset ownership and entrepreneurship through a gender lens.