EQUANOMICS

WHO PAYS THE PRICE?

Gender Inequality & Sovereign Debt

May 2026

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Foreword

Sovereign debt is not a math problem. It is a human one. When a country's debt burden spirals, budgets tighten. Investments in services, infrastructure, and economic opportunity are often cut in order to service debt. It affects everyone. Yet women often pay the heaviest price. Their employment options shrink. Their unpaid care responsibilities multiply. Their well-being suffers. These effects can endure long after a crisis passes.

Today's debt challenges are unfolding in a rapidly shifting global context marked by rising geopolitical tensions and military escalation. Recent analysis shows that conflict-driven shocks to energy and food systems as a result of conflict in the Middle East could push up to 32.5 million people into poverty globally. The greatest impacts fall on countries already facing severe fiscal constraints.

These dynamics matter for debt sustainability. As governments respond to rising insecurity, volatility in energy markets, and inflationary pressures, fiscal space is further compressed, often at the expense of social investments. Debt servicing pressures do not operate in isolation. They interact with global shocks that amplify inequality and deepen development reversals.

This paper therefore speaks not only to long-term structural challenges, but to an urgent policy reality: ensuring that debt management strategies protect human development and gender equality in an increasingly uncertain world.

This study provides new empirical evidence on the gendered impacts of sovereign debt across 85 developing countries. It makes this one thing clear: we must change how we manage debt. National debt management strategies must include gender impact assessments. Fiscal consolidation should also more carefully consider cuts to essential services. For example, when care services are cut, responsibility shifts back to families. This is not shared equally. Too often, women carry most of it, with direct consequences on their ability to access economic opportunities.

The global financial architecture must also serve developing countries better. This includes reducing punitive borrowing costs and supporting the fair and timely restructuring of debt. Ultimately, this is about safeguarding space for social and care investments that underpin resilient economies.

The United Nations Development Programme (UNDP) is putting this thinking into practice. Through our EQUANOMICS initiative, we are currently supporting governments in 29 countries to translate these recommendations into action. That includes promoting gender-responsive public finance, ensuring that state institutions deliver on gender equality, and using data to guide policy choices.

I invite policymakers, international financial institutions, and partners to use this paper to help design debt sustainability strategies that prioritise employment, human development, and gender equality. Simply put, we cannot build sustainable economies by balancing the books in ways that disproportionately impact women.

Alexander De Croo

Administrator, United Nations Development Programme (UNDP)

Summary of Findings and Recommendations

Women Bear the Brunt of Debt Servicing Burdens

Higher debt servicing as a share of exports induces a **6.3% drop in women's employment rates**, equivalent to 55 million lost jobs across 85 developing countries, pushing millions into more precarious employment. In the long-run if we account for feedback effects, employment rates **decline by 10.6%, or 92.5 million jobs.**

For men, moving from a moderate to a high debt servicing burden implies a 1.3% loss in employment rates in the short-run and a 2.5% loss in the long-run. Since men's employment rates are higher, the total number of jobs this represents is 18.5 million jobs in the short run and 35.5 million jobs in the long run.

Gendered Income Inequality Widens Dramatically

When debt servicing increases from middle to top quintile, **women's per capita income plummets by 17%,** while men's does not significantly change, creating a substantial gender income gap.

Maternal Health Crisis Increases Because of High Debt Servicing

Higher debt servicing burdens imply a devastating 32.5% increase in maternal mortality when accounting for the persistence of feedback effects in the long run, **representing 67 additional maternal deaths per 100,000 births.**

Life Expectancy Declines Affect Both Genders

Increased debt servicing (moving from the middle to the top quintile) reduces life expectancy for **women (5.9%) and men (7.7%)** in the long run, indicating rapid and significant deterioration of public health systems under fiscal constraints.

Debt Management Matters More Than Size

The study found that **how debt is managed and serviced has greater impact** on gender equality than absolute debt levels, emphasizing the importance of gender-responsive debt management strategies.

Debt Driven Gaps Constrict Domestic Revenue and Fiscal Capacity

Rising debt servicing pressures push women out of formal, taxable work and widen gender income gaps, shrinking the tax base just as fiscal needs intensify. This loss of revenue fuels a feedback loop of budget cuts and reduced formal employment for women, weakening domestic resource mobilization and limiting fiscal space for essential social investments.

Key Figures: The Story in Data

The study looks at 85 developing countries to understand how debt affects women and men differently. Drawing on data from the World Bank, ILO, and Human Development Report databases, it examines both the short-term pressure of repaying debt and the longer-term effects of high debt levels.[1] It uses the Arellano–Bond GMM method, which tracks changes within countries over time to capture the effect of debt on education, health, and labour outcomes, while controlling by other factors, such as economic growth or major shocks like the pandemic.

EMPLOYMENT

55M

Women's Jobs Lost

6.3% Short-run decline

92.5M Long-run total

INCOME GAP

17%

Women's Income Drop

Men's Income: **No change**

GNI per capita gender gap

MATERNAL DEATHS

32.5%

Mortality Increase

67+ Per 100K births

LIFE EXPECTANCY

WOMEN **5.9%** MEN **7.7%**

Decline Across Genders

Public health system collapse

KEY INSIGHT

Moving from moderate to high debt servicing triggers disproportionate impacts on women compared to men across almost all of measured outcomes, with effects becoming more severe over time as feedback mechanisms compound initial economic shocks.

1 The methodology distinguishes between external debt servicing as a share of exports, which captures the immediate pressures of debt repayment, and external debt as a share of GDP, which reflects the effects of high debt levels over time.

Pathways for Change

In a context of increasing global volatility, including conflict-driven shocks to energy and food systems, debt sustainability strategies must be designed not only for long-term stability but for resilience to repeated external shocks. Our research provides compelling evidence that sovereign debt servicing has significant gendered consequences, with high burdens disproportionately impacting women through multiple pathways. It is the dynamics of debt servicing, its scale relative to exports or revenue, repayment schedules, and associated conditionalities, rather than debt stocks per se, that emerge as a key driver of gender inequality, since they most directly constrain fiscal space available for essential public services and employment. Table 3 summarizes the principal channels through which debt servicing affects gender equality, including fiscal space, labor market outcomes, health and education, the care economy, and macroeconomic adjustment. These mechanisms provide the foundation for the policy recommendations that follow.

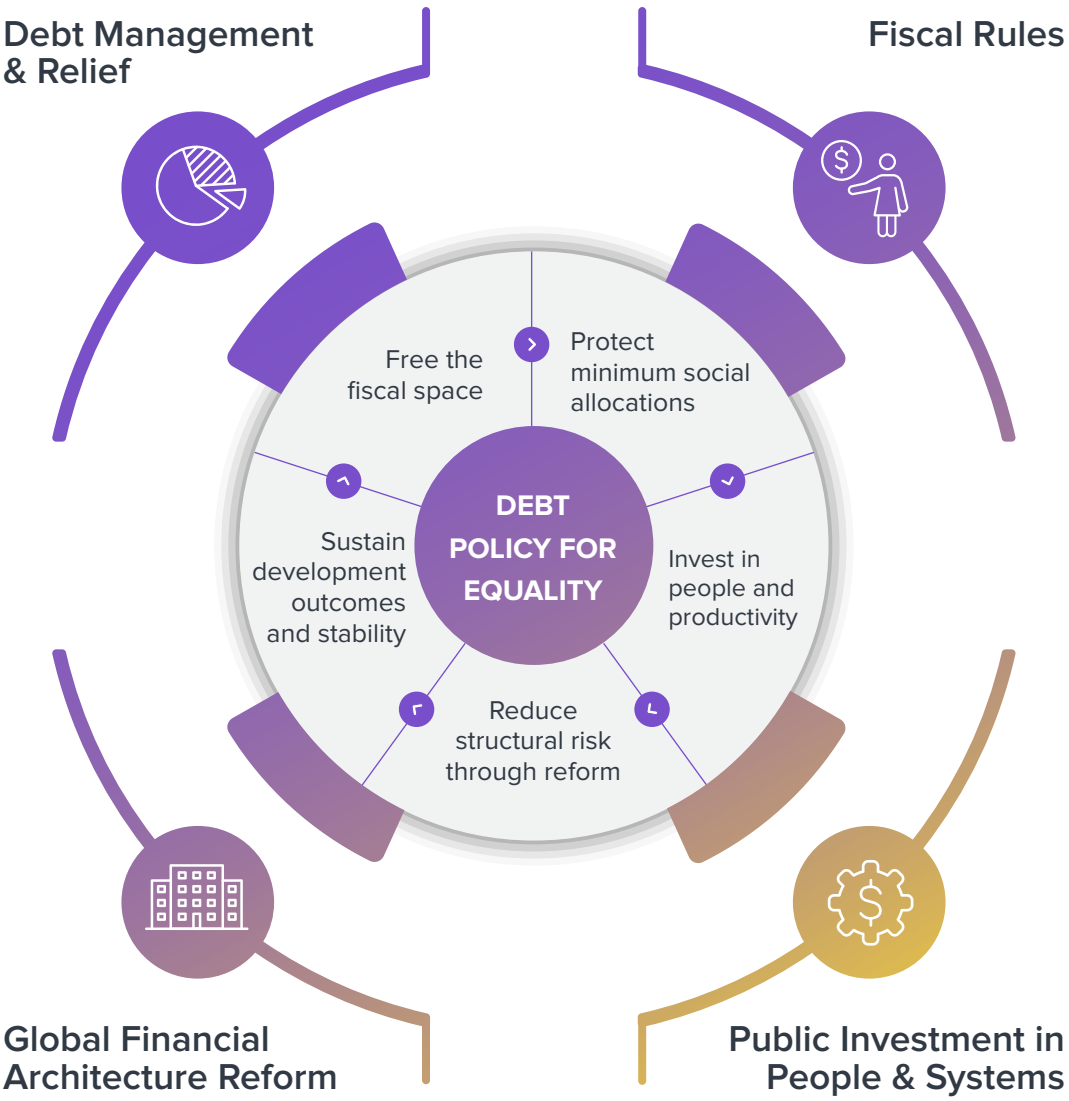


Table 3. Mechanisms Linking Debt Servicing and Gender Equality.

Mechanism	Gendered Effect	Illustrative Example
Fiscal space and public spending	Debt servicing crowds out social investment, reducing health, education, and social protection services where women are most reliant and employed.	Cuts to education or reproductive health budgets limit women's empowerment and increase unpaid care work.
Labor market outcomes	Reduced public and private investment lowers job creation, especially in feminized sectors, while rising costs push workers into informal jobs.	Debt-servicing burdens coincide with losses of public sector jobs for women and higher own-account work for both genders.
Care economy dynamics	Women absorb unpaid care tasks when public provision is cut, reinforcing time poverty, the double burden and lowering female labor force participation.	Reduced childcare and transport services increase time women spend on domestic responsibilities, limiting labor force participation.
Health and mortality outcomes	Constraints on health budgets worsen maternal health, life expectancy, and access to reproductive health.	Maternal mortality ratios rise when debt servicing increases and public health spending contracts.
Education	Education budgets shrink and household costs rise, affecting boys and girls differently through labor substitution and care needs.	Debt servicing shocks reduce mean years of schooling, with boys withdrawn for work and girls to take on care duties.
Macroeconomic and monetary channels	Debt servicing raises demand for foreign exchange and can lead to higher interest rates, crowding out private investment and dampening job creation. When financed through reserve depletion, domestic borrowing, or monetary expansion, it may also trigger exchange rate depreciation and inflation. These dynamics erode household purchasing power, increase the cost of essential goods, and heighten economic insecurity—effects that fall disproportionately on women, who are primarily responsible for household provisioning.	When reserves are drawn down to service debt, currency depreciation makes imports such as food and reproductive health supplies more expensive, eroding household purchasing.
Policy responses and conditionalities	Austerity, privatization, and targeting narrow safety nets reduce coverage and raise household costs, affecting women disproportionately.	IFI conditionalities promote wage-bill caps in health and education, shrinking women's employment opportunities.
Long-term structural effects	Prolonged retrenchment entrenches gender gaps in employment, skills, and human capital development.	Reduced education and health investments lead to intergenerational cycles of gender inequality.

Policy Entry Points

1 Debt management strategies must explicitly incorporate gender impact assessments.

When high debt servicing costs constrain fiscal space and lead to cuts in social spending or public sector employment, women bear a disproportionate burden through job losses, increased unpaid care work, and reduced access to essential services. A gender-responsive approach to debt management would preserve fiscal space for investments that support women's economic participation and well-being.

2 Fiscal consolidation programs should avoid spending cuts in areas that are critical for gender equality.

Our results show that the fiscal demands of debt servicing disproportionately constrain women's employment, well-being, and care responsibilities, with long-term scarring effects on their economic opportunities and human capabilities. Where revenue mobilization is necessary, international evidence suggests that progressive taxation offers a fairer alternative to expenditure cuts, provided it avoids over-reliance on regressive consumption taxes. Debt frameworks and fiscal rules can incorporate shock-responsive mechanisms that allow countries to maintain social and care investments during periods of global crisis, including conflict-driven price shocks. This includes contingency financing, countercyclical fiscal space, and automatic stabilizers that prevent procyclical cuts to essential services.

3 Global financial architecture reform is needed to reduce the high borrowing costs and debt burdens for developing countries.

Debt restructuring mechanisms need to recognize the gender-regressive impacts of debt servicing burdens and expand fiscal space for human development investments. This requires updating fiscal rules so that spending on social infrastructure is treated as investment rather than consumption. Global debt relief initiatives can incorporate gender equality conditions and establish accountability mechanisms to monitor their implementation. In addition, new annual or crisis-targeted SDRs could complement debt relief by helping countries avoid additional borrowing, thereby freeing fiscal space for social investment and enabling smoother recovery. Debt frameworks and fiscal rules can incorporate shock-responsive mechanisms that allow countries to maintain social and care investments during periods of global crisis, including conflict-driven price shocks. This includes contingency financing, countercyclical fiscal space, and automatic stabilizers that prevent procyclical cuts to essential services. Gender-responsive SDR allocation frameworks should ensure that SDR channeling is need-based and tied to gender-responsive objectives. At the same time, reforms must also address

the lack of binding international rules to discourage irresponsible or predatory lending, since current frameworks rely largely on voluntary guidelines and borrower-side conditionality.[1]

4 From the outset of the indebtedness process, governments can monitor both the use of borrowed funds to advance gender equality and the distribution of debt servicing costs.

This approach ensures that debt-financed growth supports development without reinforcing existing inequalities. At present, even countries with formal systems of Gender Responsive Budgeting rarely extend these practices to debt management (Brosio & Rulli, 2024). One emerging exception is the use of gender bonds, which raise funds earmarked for gender equality initiatives (IFC, ICMA,& UN Women, 2021; Andrade & Prado, 2020). While gender bonds can mobilize resources for specific projects such as supporting women's entrepreneurship, they fall short of introducing the kind of structural changes in budget planning and debt uptake that would apply across the entire government budget and debt stock (Bohoslavsky & Lavinas, 2024).

5 Gender-responsive budgeting principles should be applied to debt management strategies, with particular attention to feedback effects between debt servicing burdens and gender equality outcomes.

This includes mandating gender impact assessments before fiscal consolidation and establishing minimum thresholds for social and care infrastructure spending. To move from principle to practice, these commitments must be embedded within integrated public finance frameworks that address domestic resource mobilization, expenditure efficiency, fiscal policy coherence, and transparency holistically. In practice, this means linking debt management units with gender equality offices across ministries, deploying digital PFM systems to track debt servicing impacts on gender-responsive spending in real time, building capacity for gender-differentiated fiscal modeling, and ensuring parliamentary oversight of debt management includes gender equality dimensions. By embedding gender analysis throughout public finance systems rather than treating it as a separate concern, countries can ensure debt management advances rather than undermines development goals.

By adopting these recommendations, policymakers can work toward debt sustainability strategies that prioritize employment, human development, and gender equality rather than relying solely on austerity-driven fiscal consolidation that undermines long-term development prospects, equity, and well-being.

1 Existing international mechanisms to prevent reckless lending are fragmented and mostly voluntary. The IMF-World Bank Debt Sustainability Framework guides borrowing limits for program countries, and the World Bank's Sustainable Development Finance Policy links debt transparency and management reforms (World Bank, 2020). On the creditor side, the G20 Operational Guidelines for Sustainable Financing and the UNCTAD Principles on Responsible Sovereign Lending and Borrowing set out non-binding standards (G20, 2017; UNCTAD, 2012). Initiatives such as the OECD Debt Transparency Initiative and the World Bank's recent call for "radical debt transparency" are still voluntary (OECD, 2021; World Bank, 2025). Contractual reforms (e.g. enhanced collective action clauses) and national laws against predatory litigation (e.g. the UK's 2010 Debt Relief Act; Belgium's 2015 statute) reduce enforcement risks but do not constrain risky lending (IMF 2014). Overall, accountability mechanisms remain much stronger for borrowers than lenders, leaving significant gaps in the global financial architecture.

1. Introduction

Global public debt[2] levels have increased by more than 60% in the last 10 years, a trend that began well before the COVID-19 pandemic exacerbated debt burdens (UNCTAD, 2024a). After a period of decline since the 1980s, both public debt levels and debt servicing costs have been increasing steadily since 2010, and a growing number of developing countries now face debt-to-GDP ratios exceeding 40% (UNCTAD, 2017). Especially in developing countries, high debt burdens combined with tight monetary conditions and high borrowing costs can lead to debt-service levels that increasingly constrain fiscal capacity. It is estimated that over 3.3 billion people currently live in countries where debt servicing outstrips spending on education or health (UNCTAD, 2024a; UNDP, 2023).

Economic crises are not gender neutral, and their impacts on gender inequality can leave lasting socioeconomic "scarring" that further delays recovery and development (IMF 2024). As the world is still emerging from the pandemic and near-term growth prospects are relatively weak, slow growth is expected to affect developing countries disproportionately. Many are facing rising debt burdens, higher interest rates, weakening currencies, and declining official development assistance, limiting fiscal space and public investment (UNCTAD 2024b).

Increasingly, these crises are not only economic but geopolitical. Recent military escalation and rising global militarization are generating new and persistent shocks to energy, food, and financial systems. These shocks are transmitted globally through higher prices, reduced growth, and heightened uncertainty, disproportionately affecting countries with limited fiscal space.

For many developing economies, this translates into a tightening constraint: higher borrowing costs, rising debt servicing obligations, and growing pressure to reallocate public resources in response to external shocks. Recent analysis shows that in many countries, the poorest households can spend over 50 per cent of their income on food and energy, making them highly vulnerable to price shocks driven by global instability.[3] As these costs rise, governments often face difficult trade-offs, with limited room to protect social spending on which these households depend. These dynamics reinforce the central question of this paper: who ultimately bears the cost of adjustment when fiscal space contracts.

The rising levels of sovereign debt and debt servicing have gendered implications that are shaped by the different roles that women and men occupy in the financial system, labor markets, and households, and by how the process of social reproduction interacts with the financial system (Elson, 2024). On the one hand, public debt can finance investments that foster growth and enhance gender equality if pursued in a gender-sensitive way (Bohoslavsky & Rulli, 2024). On the other hand, high and rapidly rising debt levels can hinder growth and development, increase exposure to economic crises, and ultimately undermine progress towards gender equality (Hawkins & Zucker-Marques, 2024).

With increasing trade policy volatility and ongoing "geoeconomic fragmentation," merchandise trade is expected to slow (a key generator of foreign exchange for exporters) (UNCTAD 2025b). Partly because of this uncertainty, global capital is increasingly flowing toward more 'stable' assets and markets, largely in advanced economies (Ibid.). In a context of growing debt burdens, this dynamic can increase the costs of debt servicing for developing

2 We use public debt to refer to public and publicly guaranteed debt, while public and publicly guaranteed debt service is the sum of principal repayments and interest actually paid on public and publicly guaranteed debt. See also the detailed definition in Appendix A.

3 https://www.undp.org/publications/military-escalation-middle-east-reversals-global-development-policy-response-options

countries, especially external debt. When high debt servicing or conditional debt relief programs constrain fiscal space that leads to cuts in social spending, unpaid care work compensates for reduced public services. Since women worldwide perform 76.2% of all unpaid care— spending 3.2 times more time than men—such adjustments are shouldered predominantly by women and girls (ILO, 2018a). Furthermore, women-intensive sectors, especially in public services such as health and education, are typically the earliest to be affected by fiscal consolidation, increasing women's economic vulnerability and household debt (Ghosh, 2021).

The current climate crisis, combined with debt and gender inequalities, creates even greater risks, especially for developing countries. Countries most affected by climate shocks often pay the highest borrowing costs, so they must take on expensive debt to respond to disasters (UNCTAD, 2024b). High debt payments then limit how much these countries can invest in climate adaptation and resilience. Climate disruptions to water, food, and health systems increase the need for unpaid care, which is mostly done by women. This reduces their chances to work for pay and lowers the tax base (ILO, 2018a; Elson, 2024). This leads to a triple crisis: climate risks increase borrowing, debt payments limit adaptation, and women face more job losses, care work, and less access to services. As these problems reinforce each other, government budgets become even more strained. Reducing gender gaps, especially by increasing women's participation in higher productivity jobs, is seen as a way to boost growth and development, even when the outlook is uncertain (IMF 2025). GDP gains from lowering barriers to women's participation range from 58.2% in the Middle East and North Africa, to 22.1% in South Asia, to 7.3% in Sub-Saharan Africa (Ostry et al. 2018). When high debt payments limit government budgets and discourage women's economic involvement, the result is often setbacks for gender equality. Given that over half of low-income countries are at high risk of debt distress under the International Monetary Fund (IMF) framework, it is urgent to examine how sovereign debt affects gender and to identify ways to manage debt that support gender equality.

This paper investigates the gendered consequences of sovereign debt by analyzing how external public and publicly guaranteed (EPPG) debt servicing affects employment, income distribution, health outcomes, and education in developing economies.[4] We examine increases in debt payments from moderate to high levels, moving from the middle quintile of mean EPPG debt servicing (5.3%) to the top quintile (18.1%), across 85 developing countries. Our results show that high debt payments disproportionately harm women: women's employment rates fall by 6.3% (about 55 million jobs lost), women's per capita income drops by 17%, and maternal mortality rises by 32.5% over time. These aggregate effects are reinforced by sectoral patterns: employment in women-intensive sectors, particularly in public services, is among the first to contract under fiscal consolidation, with women experiencing a 13.2% decline in public sector employment when debt servicing increases. Women also shift toward own-account and family work, which rises by 3.6% (21.5 million additional women entering informal or low-wage jobs).

While women are most affected by these changes, men also experience significant losses. Employment falls by 1.3% (18.5 million jobs), and vulnerable work rises by 1.8% (13.4 million men). In the long run, life expectancy declines by 4.1 years for women and 5 years for men, with no statistically significant gender difference. Importantly, debt management approaches seem to matter more than absolute debt levels for gender outcomes. Given the increasing debt distress in low-income countries, our study underscores that gender-responsive debt sustainability strategies that prioritize employment and human development are urgently needed. Expanding fiscal space through gender-responsive debt practices is essential to sustain social investment and inclusive development.

4 Classification of developing countries is based on UNCTADstat. See https://unctadstat.unctad.org/EN/Classifications.html.

2. Debt Distress & the Cost of Shrinking Fiscal Space

Global sovereign debt burdens have followed a concerning trajectory in recent years, with significant gendered implications. After a period of decline beginning in the 1980s, both public debt levels and debt servicing costs have been increasing since 2010 (Figure 1).[5] While aggregate debt-to-GDP ratios remain below historical peaks, this masks a troubling trend: a growing number of individual developing countries now face debt-to-GDP ratios exceeding 40% (UNCTAD, 2017). This holds especially for Africa, where nearly half of the countries reached debt-to-GDP burdens above 60% in 2023 (UNCTAD, 2024a).

Debt relief initiatives such as the Heavily Indebted Poor Countries (HIPC) Initiative - launched in 1996 and later expanded through the Enhanced HIPC Initiative and the Multilateral Debt Relief Initiative - offered significant short-term relief. However, they have proven insufficient in ensuring long-term debt sustainability. The decline in debt levels and debt service obligations following these initiatives was only temporary, with debt burdens rising again in the following decade. More recent efforts, including the Debt Service Suspension Initiative and the Common Framework for Debt Treatments, have faced additional challenges due to the increasingly complex creditor landscape. Unlike in the 1990s, when official creditors accounted for about 90% of EPPG debt in HIPC countries, by 2022 this share had dropped to around 60%, reflecting a growing reliance on private creditors. Additionally, non-traditional creditors such as China and the Gulf that are not part of the Paris Club, are increasingly relevant. This new array of creditors with different interests makes coordinated debt restructuring more difficult to achieve (Jensen, 2022; Passarelli & Justino, 2024; UN, 2023a).

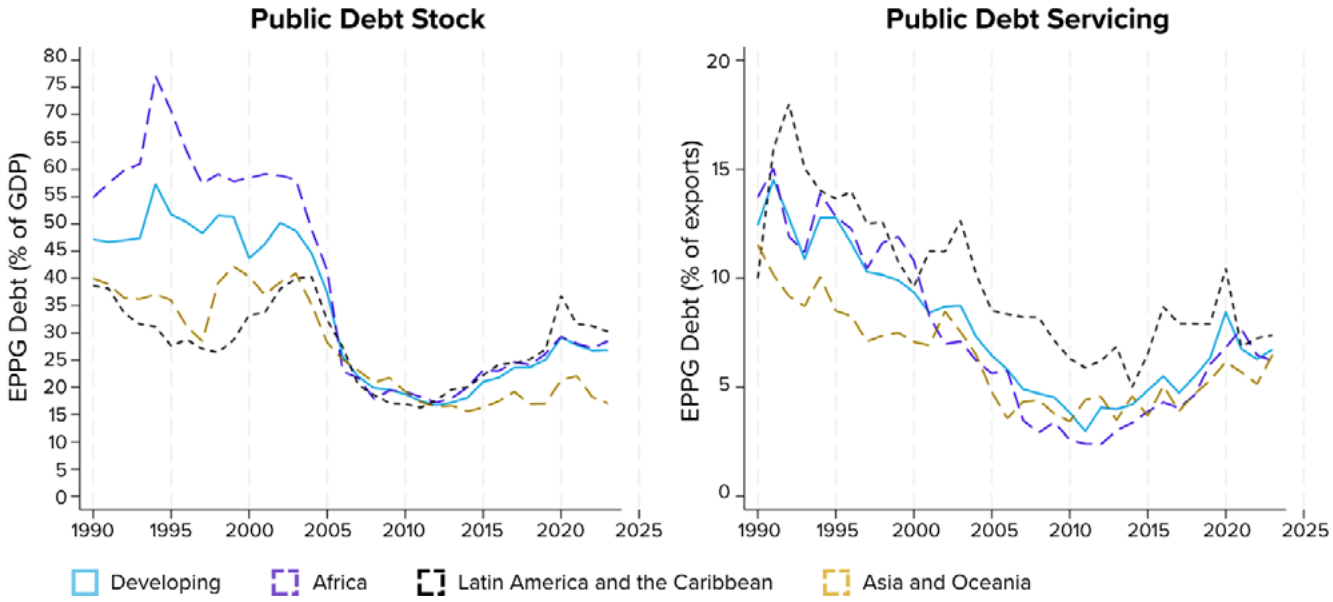
The growing reliance on private creditors has also contributed to the high cost of debt servicing faced by many developing countries and exposes them to the volatility of global financial markets. Sudden shifts in investor risk perception and capital outflows from developing economies can lead to increasing interest rates and currency depreciations that exacerbate borrowing costs precisely when external financing is most needed.

Tight monetary conditions in the Global North can further constrain access to affordable funding by contributing to significantly higher borrowing costs for developing countries (UNDP, 2023). On average, developing countries face bond yields that are two to four times higher than those paid by the United States and six to twelve times higher than Germany (UNCTAD, 2024a). Especially in the wake of the COVID-19 crisis, the unequal recovery and financial pressures faced by developing countries have led to renewed calls for reforming the international financial architecture to create a fairer system that is capable of mobilizing the resources urgently needed and to enhance the resolution of emerging debt crises (Passarelli & Justino, 2024).

These pressures are further compounded by global instability linked to conflict and militarization. Energy price volatility and supply disruptions, driven in part by geopolitical tensions, are increasing import costs and widening external imbalances for many developing economies. As currencies weaken and inflation rises, the cost of servicing external

5 To capture debt stocks and debt service payments we use external public and publicly guaranteed debt stocks (as % of GDP) and external debt service payments on public and publicly guaranteed debt (as % of exports). While a measure of all public and publicly guaranteed debt would be better suited to capture the whole debt burden, it is not as widely available. In line with many other studies on public debt, we therefore rely on the measure of external public and publicly guaranteed debt (Karadam, 2018; Qureshi & Liaqat, 2020).

Figure 1. Public external debt-to-GDP ratios and debt service payments (as % of exports) in developing countries.



Notes. Country group medians. EPPG debt is the external public and publicly guaranteed debt stock (% of GDP). EPPG debt service are all external public and publicly guaranteed debt service payments (% of exports). Source: World Bank WDI.

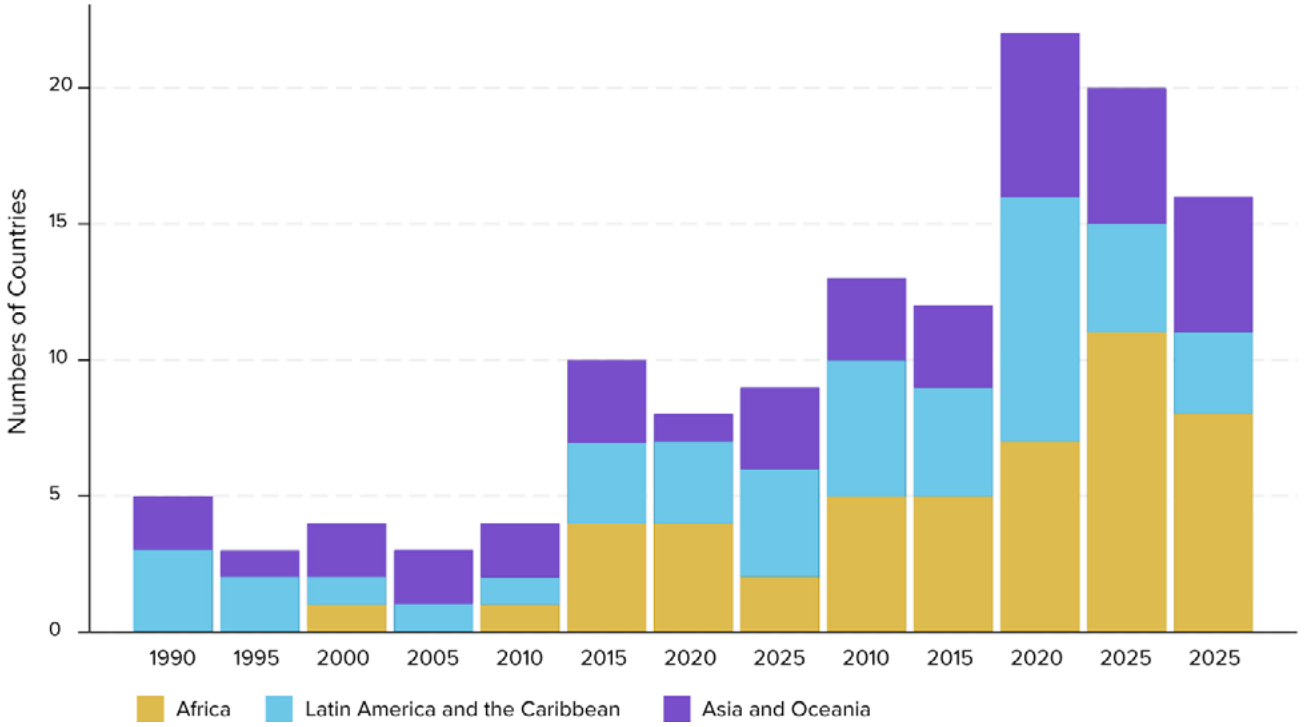
debt increases precisely when governments face growing demands to shield households from rising food and energy prices. This creates a reinforcing cycle in which external shocks deepen debt vulnerabilities, further constraining fiscal space for social investment.

One of the tools that has repeatedly emerged in such debates is the use of Special Drawing Rights (SDRs). As an international reserve asset, SDRs can supplement member countries' official reserves without adding to public debt (IMF, 2021). In 2021, for example, a SDR release provided crucial debt-free emergency finance to respond to the economic effects of the Covid-19 pandemic. However, since SDRs are allocated in proportion to IMF quota shares, their allocation depends heavily on the GDP of a country, implying that more than two-thirds of the 2021 emergency release went to the Global North. This could only partly be offset by initiatives to rechannel unneeded SDRs to low-income countries. But even though their current structure poses limitations, SDRs are considered a potentially very impactful tool to provide the liquidity support needed to address the unfolding debt crisis and enhance the fiscal space necessary for social investments (Grabel, 2025; Muchhala & Hope, 2021; Daar & McCarthy, 2023; UN 2023b).

And tools like these are urgently needed given the rise in debt servicing burdens for countries in the Global South (Figure 1). The number of developing countries with EPPG debt service payments above 15% of exports - a key threshold in debt sustainability assessments for low-income countries - has increased dramatically over the past decade (Figure 2). This upward trajectory began well before the COVID-19 pandemic and has accelerated during the crisis (Figure 3). According to the Debt Service Watch Database, debt servicing as a percentage of revenues has now even reached higher levels than the levels faced just before HIPC and MDRI debt relief in low-income countries (DFI 2023a).[6]

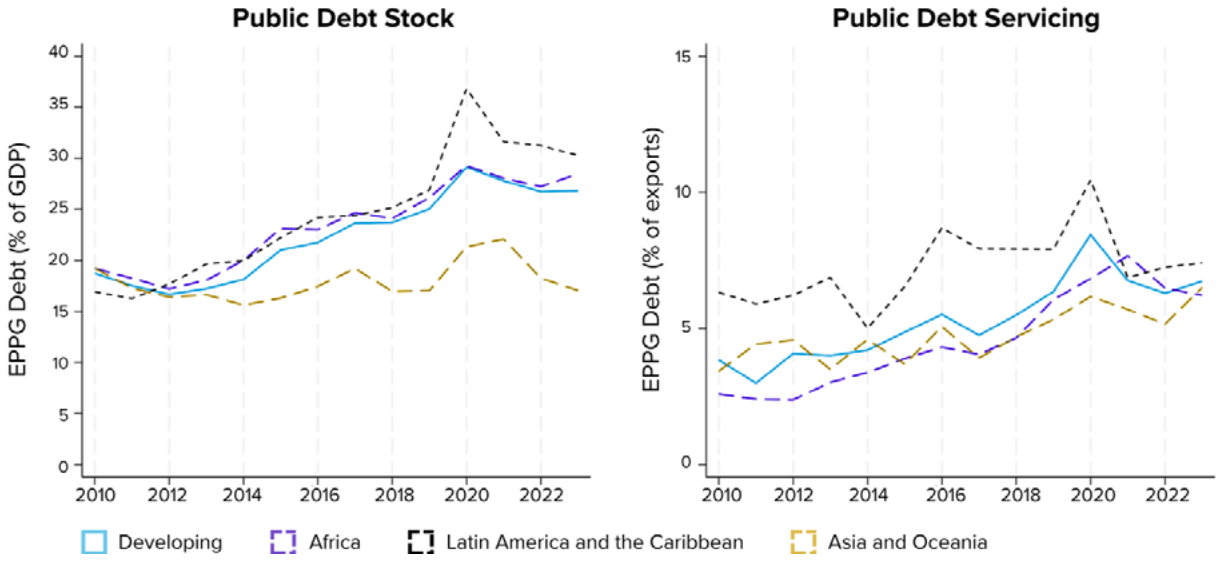
6 The Debt Service Watch Database is compiled by Development Finance International. It combines national budget and debt management documents, IMF program documents. and global spending databases and covers 139 of 155 countries that borrow from the World Bank (DFI 2023a, DFI 2023b).

Figure 2. Number of developing countries with PPG debt service payments exceeding 15% of exports.



Notes: EPPG debt service includes external public and publicly guaranteed debt service payments (% of exports). EPPG debt servicing above 15% of exports is used as one indicator in debt sustainability assessment for countries with a medium debt carrying capacity. Source: World Bank WDI.

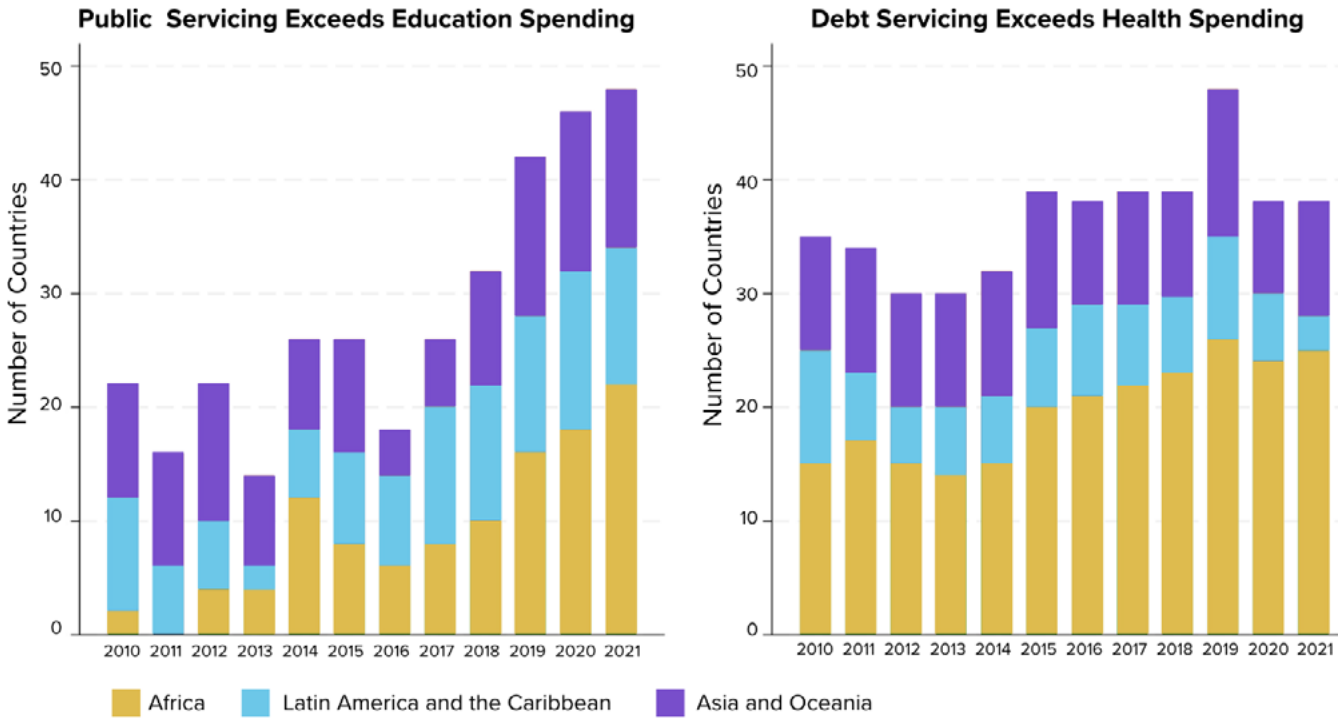
Figure 3. Public external debt-to-GDP ratios and debt service payments (as % of exports) in developing countries 2010-2022.



Notes: Country group medians. EPPG debt is the external public and publicly guaranteed debt stock (% of GDP). EPPG debt service are all external public and publicly guaranteed debt service payments (% of exports). Source: World Bank WDI

The fiscal implications of these rising debt burdens are stark. An increasing number of developing countries now allocate more general government revenue to debt servicing than to education or health spending (Figure 4), (UNDP, 2023). Indeed, the average low-income country spends 1.4 times more on debt servicing than on domestic health expenditures, and 2.3 times more than on social assistance (UNDP, 2023). This means that low-income countries allocate between two to three times more of their government expenditure to debt service payments than high-income countries. This currently affects more than 3.3 billion people who live in countries that spend more on net interest payments than on either education or health (UNCTAD, 2024a).

Figure 4. Number of developing countries with EPPG debt service payments exceeding education or health spending as % of general government revenue.



Notes: EPPG debt service are external public and publicly guaranteed debt service payments (% of revenue). Constructed using WDI health data that covers 'domestic general government health expenditure', World Bank WDI education data on 'current operating expenditures in education', WDI data on PPG debt servicing and IMF WEO revenue data.

3. Mobilizing Public Finance for Equality

Achieving gender equality by 2030 - as outlined in Sustainable Development Goal (SDG) 5 – requires substantial investments. Estimates indicate that developing countries will need an average of $7.6 trillion annually to achieve gender equality, leaving a current funding gap of $420 billion per year (UN Women, 2023).[7] But despite global commitments to advance gender equality and mobilize the necessary resources, official development assistance (ODA) to developing countries has been declining since 2020; a trend that has worsened in 2025. Current projections estimate an 18% drop in ODA from major donors between 2023 and 2025. Moreover, concessional loans, rather than unconditional aid, have become a more common form of support in the last decade (UNCTAD, 2025a). Disruptions to aid flows are particularly concerning given that already in 2020 and 2021 only 4% of total bilateral aid - amounting to $5.7 billion - was specifically targeted toward gender equality (UN Women, 2023). Without renewed commitments to gender-responsive financing, shrinking aid flows risk pushing women's organizations in crisis settings to a breaking point, undermining decades of progress toward equality and jeopardizing the lives, protection, and rights of women and girls worldwide (UN Women, 2025b).

The decline in international support underscores the critical role of Public Financial Management (PFM), which refers to how governments manage public resources – i.e. revenues and expenditures - and the impact of such resources. Good PFM is essential for ensuring prudent fiscal decisions, credible budgets, reliable and efficient resource flows and transactions, and institutionalized accountability (Andrews et al., 2014). And when combined with gender-responsive government objectives and policies, PFM can be a cornerstone for improving gender inequality (DFID and UN Women, 2016).

First, good PFM is essential because targeted public spending can advance gender equality. Investments in physical infrastructure such as sanitation, transportation, and clean fuels reduce unpaid care burdens and support women's labor force participation (Seguino, 2016; Small & Van Der Meulen Rodgers, 2023). Social infrastructure investments – including spending on childcare, education and health – are even more powerful. They expand employment in women-intensive sectors, generate more jobs than investments in physical infrastructure, and help redistribute unpaid care (Ilkkaracan et al., 2021; Himmelweit, 2016). Cross-country estimates suggest that universal childcare and long-term care services in 82 countries could increase employment-to-population-ratios by an average of 6.3 percentage points, and by up to 10 percentage points for women (De Henau, 2022). Case studies in South Africa, Uruguay, and Turkey further show that 35—88% of the initial investment can be recouped through higher tax revenue and social security contributions through increased employment, especially among mothers (De Henau et al., 2019). Public spending on education, domestic violence prevention, and sexual and reproductive health services are additional investment areas that directly support women's empowerment (Seth, 2025; UN Women, 2023; Towers & Walby, 2012).

However, increased public spending does not automatically yield more gender-equal outcomes. Poor PFM can lead to significant inefficiencies – on average, one-third of public infrastructure spending is lost (Baum et al., 2020; Schwartz et al. 2020; Izquierdo 2018). Even when public resources are

7 The gap was estimated to amount to $6.4 trillion annual spending or a $360 billion funding gap per year for the 48 developing economies studied. When extrapolated to all developing countries, it amounts to $7.6 trillion annual required spending or a funding gap of $420 billion (UNCTAD, 2023a).

used efficiently and investments successfully spur growth, growth does not automatically produce gender-equal outcomes, especially if care dynamics and gender impacts are overlooked (Hawkins & Zucker-Marques, 2024). Local context is also critical: where unpaid care burdens are the main barrier, priority investments may be in electricity, clean water, and roads; where gendered employment gaps are larger, policies may need to focus more directly on the generation of decent jobs (Seguino, 2016).

Recognizing these challenges, frameworks such as the Public Expenditure and Financial Accountability (PEFA) assessment explicitly examine whether PFM systems address gender equality. They evaluate, for example, whether public investment appraisals methods include gender impact analyses and if sex-disaggregated performance information for service delivery is collected (DFID and UN Women, 2016; PEFA, n.d.). Embedding such standards in PFM ensures that public resources are not only spent efficiently but also aligned with governments' gender-equality goals.

Secondly, public financing structures and revenue generation can influence gendered outcomes. Because women generally earn less than men, the overall progressivity of the tax system is crucial; regressive taxes fall disproportionately on low-income households. The design of direct taxes can also influence women's labor force participation, either encouraging or discouraging their engagement in paid work, with implications for both labor market outcomes and the care economy. More broadly, gender tax incidence analyses help identify implicit biases within tax systems and assess whether current arrangements align with gender equality goals (Abramovsky & Selwaness, 2023; Seth, 2025). Beyond the design of tax systems, countries also face substantial revenue losses from tax evasion, profit shifting by multinational corporations, and other illicit financial flows (IFFs). Conservative estimates suggest IFFs from developing countries exceed $1

trillion annually—representing a massive drain on domestic resources that could fund investments towards human development and reduce reliance on external borrowing. When combined with gender analysis of both revenue collection and allocation decisions, strengthened tax administration and IFF prevention offer pathways to expand fiscal space without the regressive impacts in populations or increased debt burdens documented in this analysis.

> **Because women generally earn less than men, the overall progressivity of the tax system is crucial; regressive taxes fall disproportionately on low-income households. The design of direct taxes can also influence women's labor force participation, either encouraging or discouraging their engagement in paid work**

Thirdly, public debt can be a vital instrument for mobilizing resources to finance development-critical investments that support economic growth and gender equality. This potential depends on integration into sound PFM systems that safeguard fiscal sustainability, align resource use with government priorities, and maintain trust in the state's creditworthiness. Without such safeguards, debt-financed investments can quickly push debt levels higher, raise borrowing costs, and divert funds away from gender-equality objectives (Pretorius & Pretorius, 2008; Prakash & Cabezon, 2008; Fritz et al., 2014; Gui-Diby, 2022).

A gender-responsive approach requires assessing both the gender impact of new borrowing and the implications of debt servicing for government budgets and potential conditionalities (Brosio & Rulli, 2024; Marco Navarro & Pautassi, 2024). Otherwise, repayment burdens may fall disproportionately on sectors that benefited least from the initial investments (Geoghegan & Fois, 2021). This risk is especially acute when high debt servicing costs or conditional debt relief programs restrict fiscal space and lead to cuts in crucial investments and social services. High and rapidly rising debt levels can heighten vulnerability to economic crises, ultimately undermining sustainable growth and progress toward gender equality (Ghosh, 2010; Kregel, 2004).

External debt servicing also increases the need for foreign exchange, which can push up domestic interest rates, crowd out private investment, and amplify contractionary effects. In contexts where governments finance debt service through monetary expansion, domestic borrowing, or reserve depletion, this can also trigger inflationary pressures. Exchange rate depreciation from reserve drawdowns often results in imported inflation, while monetary financing erodes purchasing power more directly. Since women are typically responsible for household provisioning, rising food, fuel, and medicine prices may impose especially regressive gendered impacts.

All in all, sovereign debt and PFM must be understood as gendered systems, shaped by the different roles that women and men occupy in the financial system, labor markets, and households, and by how the process of social reproduction underpins the financial system (Bohoslavsky & Rulli, 2024; Elson, 2024). With more than half of low-income countries under the IMF debt sustainability framework currently facing or approaching debt distress, there is an urgent need to empirically assess the gendered consequences of sovereign debt and to identify strategies for gender-responsive debt management. The pathways through which external public debt and debt servicing affect gendered outcomes are summarized in Box 1/Table 3 and serve as foundation for the more detailed discussion in Section 5.

4. Data & Methodology

To explore the effect of debt burdens and debt servicing on gendered economic outcomes, we apply the Arellano-Bond Generalized Method of Moments (GMM) estimator and regress economic outcomes of women, men and the ratio of women to men on different debt burden measures. We predominantly focus on the effect of EPPG debt servicing as a share of exports to account for the fiscal and balance-of-payments challenges associated with servicing debt in the near term. Additionally, we examine the effect of EPPG debt as share of GDP to capture the longer-term effects of maintaining high levels of debt. While a measure of all public and publicly guaranteed debt would be better suited to capture the whole debt burden, it is not as widely available. In line with other studies on public debt, we therefore rely on the measure of EPPG debt stocks and service payments (Karadam, 2018; Qureshi & Liaqat, 2020).

Our baseline model regresses gendered economic outcomes on the country's debt burden, per capita GDP and its square, per capita GDP growth and trade as a share of GDP (equation 1). The inclusion of per capita GDP and its square is grounded in the feminization-U literature, which identifies a non-linear, U-shaped relationship between women's employment participation and economic development. More precisely, women's labor force participation tends to decline during initial phases of industrialization at middle income levels before rising again at higher income levels (Çağatay and Özler, 1995; Gaddis and Klasen, 2014; Goldin, 1994). This pattern reflects structural economic shifts during industrialization, although recent studies have questioned the strength and universality of this relationship (Gaddis and Klasen 2014). Given the strong persistence of women's labor force participation over time, our baseline model also incorporates lagged participation values to account for temporal dependencies. Additionally, we control for economic growth and trade as a share of GDP, since their effects on gendered employment outcomes have been examined in several studies (Meyer, 2006; Wamboye & Seguino; 2015; Seguino, 2007; Braunstein, 2012). Only the model for own account and contributing family worker employment includes government spending rather than trade as a control variable to capture the essential role of the government sector in supporting access to decent employment (OECD, 2024; Braunstein & Seguino, 2018).

GENDERED ECONOMICS OUTCOMES MODEL

$$Y_{git} = \propto_i + \phi Y_{git-1} + \sum_{0}^{2} \alpha_j \, debt_{it-j} + \beta_1 lngdp_{it} + \beta_2 (lngdp_{it})^2 + + \gamma X_{it-1} + T_t + \varepsilon_{it}$$

We estimate equation for women, men and the ratio of women to men's outcomes respectively and consider several outcome variables besides women's labor force participation. The outcome variable by gender g (women, men, or women-to-men ratio) in country i and time t is determined by its lagged value (y), the log of per capita GDP and its square, and a vector of control variables (X) for country i lagged one year (t-1). Country fixed effects allow for varying intercepts. To reduce the risks of overfitting and multicollinearity in a relatively long panel, we use a linear time trend (T) rather than year fixed effects and only control for the year 2020 to capture the effects of the Covid-19 pandemic. Dependent variables are logged in order to interpret the effects as elasticities, except for contributing family and own-account workers and public employment, where some observations are zero or close to zero.

The variable debt in equation (1) is alternately measured by EPPG debt servicing as a share of exports and EPPG debt stocks as a share of GDP. We estimate both short-run and long-run effects, where the latter accounts for both the effect of debt and the persistence of feedback effects. The long-run estimates incorporate that recent changes in gendered outcomes, regardless of the source of those changes, will impact current outcomes. Long-run estimates thus give some sense of "scarring" and illustrate how impacts can last much longer than the events that brought them about.

To better capture the magnitude of the estimated effects, we consider, first, the impact of a one standard deviation change in debt burdens in our full sample from 1990 to 2022. Secondly, we consider the effects of moving from a moderate to a high debt servicing burden. More precisely, these estimates consider the effects of moving from the middle quintile of mean EPPG debt servicing (5.3 %) to the top quintile mean (18.1%) in our sample of 85 developing countries (see the list of countries in Appendix B).[8] These comparisons focus on the years after 2010, when debt servicing began to increase again.

Turning to our statistical approach, the Arellano-Bond GMM estimator helps solve a common challenge in panel data models: the issue of endogeneity, where explanatory variables may be correlated with unobserved factors, leading to biased estimates. This statistical approach tackles the problem by first-differencing the data, which removes country-specific fixed effects while still capturing how relationships evolve over time.

Additionally, many explanatory variables are shaped by past economic conditions, making them potentially endogenous. The Arellano-Bond method addresses this by instrumenting endogenous variables like the growth rate or the lagged dependent variables with their own lagged values, ensuring that estimates remain consistent and reliable. A key identification assumption for inference is that past values of macroeconomic indicators serve as valid instruments for their current values, which is reasonable given their persistence. To validate this, the Hansen test for overidentification confirms that the instruments are not overfitting, while the AR(1) and AR(2) tests ensure no residual serial correlation in the differenced errors, further strengthening causal inference.

Another advantage of this approach is that it allows for the inclusion of past values of the dependent variable, capturing dynamic effects such as how past employment levels influence current employment trends. Traditional models struggle with the strong persistence of labor market outcomes because including lagged values creates statistical bias due to the correlation between the lagged dependent variable and the error term. The Arellano-Bond estimator solves this by using earlier values of employment and other lagged dependent variables as instruments, ensuring an accurate estimate of persistence and feedback effects.

While an alternative, System GMM (Blundell-Bond), estimates both the differenced and level equations, it requires stronger assumptions—such as the premise that countries start in a steady economic state—which is unrealistic for developing economies undergoing sometimes rapid economic change (Gaddis & Klasen, 2014). For this reason, Difference GMM is preferred, as it avoids these strong assumptions while effectively handling endogeneity, dynamic relationships, and policy shifts. This makes it particularly useful for analyzing how debt burdens influence employment and human capabilities in economies that face significant financial and fiscal constraints.

8 Since the IMF Debt Sustainability Framework defines different debt servicing levels (as a percent of exports) as indicative thresholds for assessing debt sustainability risks – dependent on the assessed debt-carrying capacity of countries – we do not rely on specific thresholds to define high or low debt servicing levels. Instead, we compare the impact of moving from the middle to the top quintile of debt servicing in our country sample to assess the effects of moving from a moderate to a high debt servicing burden. This implies that we compare countries with debt servicing levels below the indicative debt servicing threshold for countries with weak debt carrying capacity (10%) to countries that have exceeded the indicative threshold for medium capacity countries (15%) and have far exceeded the threshold for weak capacity countries (10%) (IMF, 2018).

5. Impact of Debt Service on Gender Equality

5.1 Labor market effects of debt servicing

Feminist economic research shows that women's access to paid employment – especially good jobs – serves as a key driver of empowerment by improving their economic position, well-being, and bargaining power within households (Seguino, 2016). Additionally, reduced gender disparities in labor market opportunities and women's participation in paid work can increase productivity and economic growth (IMF, 2022; Klasen & Lamanna, 2009). We therefore start by assessing the effect of debt servicing on gendered outcomes in the labor market.

As noted above, while public debt can be an important tool for financing development-critical investments and growth, it also ties up resources in debt servicing rather than growth-inducing investments (Hawkins & Zucker-Marques, 2024; Kregel, 2004). When debt servicing constrains fiscal space, cuts often fall on social services, health and education, or infrastructure critical to care provisioning and livelihoods such as sanitation, energy, or transport. Such retrenchment reduces employment in sectors that employ a high proportion of women and shifts service provision to unpaid care, shouldered largely by women, with implications for time use and labor force participation (Ghosh, 2021; OIT, 2019). However, effects are not one-directional: while increased care burdens may limit women's labor force participation, debt-induced financial pressures can also push women into paid work to supplement household income (Seguino, 2021).

Higher external debt servicing also heightens the need for foreign exchange, raising domestic interest rates, crowding out private investment, and amplifying the contractionary effects of austerity policies. These dynamics dampen job creation and can accelerate informalization, as firms pass cost pressures onto labor markets (Alberola, Erce, and Urrutia, 2020; Colombo, Menna, and Tirelli, 2018; Horvath, 2018).

Tables 1 and 2 present the estimated effects of EPPG debt servicing (as a share of exports) on women's and men's employment, controlling for the dynamic persistence of labor force participation and the endogeneity of key macroeconomic variables. Table 1 reports descriptive statistics for the outcomes of interest and shows the effect of a one-standard deviation increase in debt servicing in our full sample from 1990 to 2022. To better illustrate the magnitude of these effects, Table 2 compares the change in women's and men's employment when moving from a moderate to a high debt-servicing burden. Our discussion of results focuses primarily on Table 2.

Table 2 indicates that EPPG debt servicing induces an economically large and statistically significant loss in women's employment in both the short- and longer-runs. Moving from the middle quintile of mean EPPG debt servicing (5.3 %) to the top quintile mean (18.1%) entails a 6.3% loss in women's employment-to-population rates.[9] This equals a loss of 55 million jobs for women in developing countries and thus amounts to more than the job losses associated with the pandemic (ILO 2021).

9 Significance levels are indicated in table 1 and 2.

Table 1. Employment, health and education outcomes of EPPG debt servicing as a share of exports.

Outcome Variable	Sample mean (standard deviation)		Percent impact of a one standard deviation change in debt servicing, 1990-2022			
	Women	Men	Women		Men	
			Short-run	Long-run	Short-run	Long-run
Economic opportunity						
Employment (% of population 15+)	44.83 (18.44)	69.91 (10.1)	-2.4**	-4.0***	0.5	-1.0
Own account and contributing family workers (% of population 15+)	28.42 (20.09)	34.83 (15.95)	1.4**	13.3	0.7*	3.4*w
Public employment (% of total employment)	3.21 (3.39)	5.21 (3.88)	-5.1		1.0	
Gross national income per capita (2017 PPP$)	4,692.1 (3631.43)	9,652.9 (7327.7)	-5.9	-6.6	1.1	1.1
Health						
Maternal mortality ratio (death per 100,000)	244.37 (227.59)		3.5***	19.3**		
Life expectancy (years)	68.81 (7.91)	64.16 (6.95)	-0.9**	-2.3***	-1.1***	-2.9***
Education						
Mean years of schooling (years)	5.72 (2.70)	6.78 (2.17)	-1.0		-1.1**	

Notes. Estimates included if either gender estimate or their difference is statistically significant at standard levels. Asterisks indicate statistical significance at the following levels: *** p<0.01, ** p<0.05, * p<0.1. Coefficient estimates control for per capita GDP, its square, GDP growth, trade, the pandemic, time trends, and the lagged value of the dependent variable. Difference GMM is used to handle endogeneity (see the appendix for more detail). Short-run refers to the additive effect at time t, (t-1), and (t-2) in years of EPPG debt servicing as share of exports. Long-run includes feedback effects from lagged dependent variable.

When considering all 85 developing countries included in our sample, the burden of debt servicing nearly doubled between the early 2010s and 2022. This rise caused a 2.5% decline in women's employment rates in the short run, and a 4.0% decline in the longer run. Translated into absolute terms, these percentages correspond to the loss of 21.8 million jobs in the short-run and 38.4 million jobs once longer-run feedback effects are taken into account.

Men's employment is also affected when governments devote more resources to debt servicing. Moving from a moderate to a high debt servicing burden induces a 1.3% loss in men's employment rates in the short run and a 2.5% loss in the long run. Because men's employment rates are higher, these percentages translate into sizeable absolute losses – about 18.5 million jobs in the short run and 35.5 million in the long run. However, these estimates are not statistically significant.

Table 2. Employment, health and education outcomes of moving from a moderate to a high debt service burden.

Outcome Variable	Effect of going from the middle to the top quintile of debt servicing as a share of exports post-2010 (percent)			
	Women		Men	
	Short-run	Long-run	Short-run	Long-run
Economic opportunity				
Employment (% of population 15+)	-6.3**	-10.6***	-1.3	-2.5
Own account and contributing family workers (% of population 15+)	3.6**	34.7	1.8*	8.8*
Public employment (% of total employment)	-13.2		2.7	
Gross national income per capita (2017 PPP$)	-15.4	-17.0	2.8	2.9
Health				
Maternal mortality ratio w(death per 100,000)	9.2***	32.5**		
Life expectancy (years)	-2.3**	-5.9***	-3.0***	-7.7***
Education				
Mean years of schooling (years)	-2.7		-2.9***	

Notes. Estimates included if either gender estimate or their difference is statistically significant at standard levels. Asterisks indicate statistical significance at the following levels: *** p<0.01, ** p<0.05, * p<0.1. Coefficient estimates control for per capita GDP, its square, GDP growth, trade, the pandemic, time trends, and the lagged value of the dependent variable. Difference GMM is used to handle endogeneity. Short-run refers to the additive effect at time t, (t-1), and (t-2) in years of EPPG debt servicing. Long-run includes feedback effects from lagged dependent variable.

The substantial employment losses, particularly for women, underscore concerns that high debt servicing costs crowd out social spending and public employment, sectors where women are disproportionately represented. When debt service rises from moderate to high levels, the share of public employment in women's total employment falls by an economically significant 13.2%. By contrast, men experience small, statistically insignificant gains in public employment. Although these estimates carry larger standard errors and are less precise than our other results, the magnitude and direction of the effects align with other studies showing that fiscal consolidation disproportionately constrains women's employment in the public sector.

Debt servicing burdens widen gender gaps in economic opportunity by increasing the share of own-account and contributing family workers in the population, an indicator of economic distress and lack of quality employment.[10] While both women and men experience overall employment losses, higher debt servicing causes a rise in precarious work. For women, moving from the middle to the top debt-servicing quintile increases this ra-

10 Own-account and contributing family workers are self-employed. Own-account workers work on their own account, with business partners or contributing family workers, but without employees. Contributing family workers are own-account workers in an establishment operated by a related person living in the same household. They do not hold the main business responsibility and do not receive regular payments such as wages or salaries (ILO, 2018b).

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tio by 3.6% in the short term (affecting 17.1 million jobs) and by an economically large 34.7% in the long term (though this long-run estimate is imprecise and not statistically significant). For men, the increases are smaller: 1.8% in the short-term (13.3 million jobs) and 8.8% in the long-term (64.9 million jobs). These findings underscore the disproportionate impact of debt servicing on women's economic security, since own-account and contributing family workers are less likely to have formal work arrangements and social protection. They also suggest that financial pressures linked to debt distress may push women into more precarious work arrangements to supplement household income.

These findings underscore the disproportionate impact of debt servicing on women's economic security, since own-account and contributing family workers are less likely to have formal work arrangements and social protection.

Lastly, the gender-disaggregated per capita gross national income confirms the consequences of the employment patterns identified above. When accounting for feedback effects and moving from the middle to the top quintile of debt servicing, our model predicts a substantial 17% decline in women's per capita income. In contrast, men's income shows a slight increase of 2.9%. Although the separate estimates for women and men are not statistically significant, the gender ratio reveals a significant disparity. This contrast highlights how rising debt servicing burdens disproportionately erode women's economic well-being.

5.2 Education, health, and the care economy

While employment outcomes are central to women's economic conditions, it is equally important to examine how other dimensions of women's empowerment and human capabilities are affected. Access to healthcare, reproductive health services, and education are fundamental to women's agency, and their erosion not only undermines empowerment but also weakens the development of human capabilities, reducing productivity and economic growth in the long run (IMF, 2024; Klasen, 2002). Debt relief has therefore played a vital role in restoring fiscal space; evidence shows that debt relief initiatives have boosted public investment and improved school outcomes (Ferry et al., 2022; Cassimon et al., 2015). Our focus here, however, is on the other side of the equation: the burden of debt servicing itself, and the terms and constraints countries face in "paying back" that relief. High debt service payments often tie up public resources, crowding out investments in education, sexual and reproductive health services, and domestic violence prevention (Cantamutto & Costantino, 2024). Moreover, the foreign exchange requirements of external debt servicing can restrict the import of critical goods such as nutritional and family planning supplies (Hawkins & Zucker-Marques, 2024, UNCTAD, 2024c, UNCTAD, 2023b).

Our focus is on the burden of debt servicing itself, and the terms and constraints countries face in "paying back" that relief. High debt service payments often tie up public resources, crowding out investments in education, sexual and reproductive health services, and domestic violence prevention

Table 2 indicates that moving from the middle to the top debt-servicing quintile leads to a dramatic 32.5% increase in the maternal mortality ratio in the long run, an increase of 67 additional maternal deaths per 100,000 live births – compared to a 9.2% increase in the short term. This represents one of the most severe gendered impacts of debt servicing, reflecting how constraints on public spending directly undermine the availability and quality of reproductive health services. Consistent with our findings, recent empirical research shows that external debt hampers the effectiveness of government health expenditure in reducing maternal mortality (Dinga et al., 2024), while constrained fiscal revenue is associated with elevated maternal and child mortality (Hall et al., 2021). Furthermore, systematic reviews of structural adjustment programs highlight how fiscal constraints linked to debt servicing undermine maternal and child health more broadly (Thomson et al., 2017).

Higher debt servicing burdens lead to declining life expectancy for both women and men. Women face a 2.3% reduction in the short term and 5.9% in the long term, while men experience even steeper declines of 3.0% in the short term and 7.7% in the long term. Although changes in life expectancy typically unfold gradually, the size and speed of these effects – together with our maternal mortality results – indicate that debt servicing can have rapid and substantial consequences for public health. The prompt deterioration in these indicators suggests that fiscal constraints can quickly erode healthcare capacity and access, with lasting implications for population well-being.

Educational attainment also declines under higher debt servicing burdens, though the effects differ by gender. Because gender-disaggregated enrollment data are limited, we focus on mean years

of schooling. This offers broader coverage but may understate effects as a population average. Women show a small, statistically insignificant decline of about 1% in both the short and long term. By contrast, men experience more pronounced and statistically significant declines of 2.7-2.9%. This finding suggests that men's educational participation may be especially vulnerable to the economic constraints imposed by debt servicing, a result that warrants further investigation.

To capture the effects of debt servicing outside the labor market, it is important to also account for changes in time use patterns and unpaid care work (Elson, 2024). Although panel data on time use is not available for our sample, case studies consistently show that fiscal constraints and cuts in government spending increase unpaid care burdens, particularly in households with high care needs and, more broadly, for women (Partenio & Wilkis, 2024; ENEGE, 2013; Rubery, 2015; De Oliveira & Alloatti, 2022).

5.3 Debt management and austerity

When analyzing EPPG debt stocks as a percentage of GDP, we find fewer significant effects than in the debt servicing results. This pattern holds across employment, health, and education, suggesting that gender equality outcomes are influenced less by the absolute level of debt than by how it is managed and serviced. This highlights the importance of debt management strategies in promoting gender equity.

Fiscal space is constrained not only by debt servicing itself but also by the policy responses it triggers. To manage high debt levels and servicing costs, governments frequently resort to austerity measures, whether to reassure international creditors or to comply with the conditions of debt relief programs. And while the impact of austerity on growth and debt sustainability remains contested, its gendered consequences are more clear-cut: spending-based austerity measures usually constrain the type of public investments in social infrastructure that are essential for fostering gender equality (Bargawi & Cozzi, 2017; Perrons, 2024; Breuer, 2019; Heimberger, 2023, 2024). In this way, austerity can reinforce and amplify the constraints that debt servicing already places on fiscal space, compounding the adverse effects outlined above.

Reviews of austerity measures implemented in developing countries indicate that many of the most common approaches carry strong risks for gender equality (Ortiz et al., 2015; Ortiz & Cummins, 2019; 2021).[11] Cuts or caps to public sector wage bills, for example, directly affect highly feminized sectors and reinforce the labor market patterns outlined in section 5.1. Reductions in public health and care provisioning shift care responsibilities into unpaid work, predominantly provided by women (Ghosh, 2021). Similarly, subsidy removals in fuel, electricity, and food increase the cost of basic goods, disproportionately burdening women as household providers (Ortiz & Cummins, 2013; Ortiz, Cummins, Capaldo, & Karunanethy, 2015). Pension reforms, stricter targeting of safety nets, and higher health co-payments further narrow coverage, often forcing women and girls to drop out of paid work or education to meet household care needs. These patterns can even increase household debt burdens if families must borrow to cover food, health, or education expenses (Marco Navarro & Pautassi, 2024; Partenio & Wilkis, 2024). Lastly, spending cuts can also affect programs that are immediately important for women's empowerment, such as services to prevent violence against women (Towers & Walby, 2012).

While the impact of austerity on growth and debt sustainability remains contested, its gendered consequences are more clear-cut: spending-based austerity measures usually constrain the type of public investments in social infrastructure that are essential for fostering gender equality

Where austerity is pursued through taxation, the distributive picture looks somewhat different. Evidence from advanced economies finds that tax-based consolidations have higher short-run output costs compared to spending-based ones, but those studies focus on growth multipliers in OECD/EU contexts with broad tax bases and responsive private investment—not on gender or distributional effects in developing countries (Alesina, Favero, & Giavazzi, 2019). In low- and middle-income countries, consolidation through taxation tends to

11 The number of countries considering respective interventions has changed slightly in different periods and can be reviewed in Ortiz, Cummins, Capaldo, & Karunanethy, 2015; Ortiz & Cummins, 2019, 2021

be less regressive if progressive tax instruments are used, but in practice governments often rely on indirect taxes such as VAT or sales taxes (Bohoslavsky & Rulli, 2024). These are typically more regressive and can erode women's incomes disproportionately unless offset by targeted transfers and subsidies (Coelho et al., 2022; Ortiz & Cummins, 2013). Privatization of public assets and services, another frequent revenue measure, may provide short-term fiscal relief but can reduce future revenues and shrink access to essential services (Ortiz et al., 2015). Evidence from fiscal incidence studies further shows that the composition of taxes and transfers strongly shapes gendered income inequality outcomes, highlighting the need for deliberate design of progressive, gender-responsive revenue systems (Abramovsky & Selwaness, 2023; Coelho et al., 2022).

The conditionalities attached to International Financial Institution (IFI) debt relief programs can intensify reliance on austerity. On the one hand, IMF lending provides countries with critical breathing space, acting as a lender of last resort to avert abrupt defaults, devaluations, or reliance on high-cost non-concessional borrowing (Furceri & Zdzienicka, 2011; Bohoslavsky, 2019; Hagan, 2020). On the other hand, IFI conditionalities often center on fiscal consolidation, sometimes without adequate consideration of developmental or gender goals (Bretton Woods Project, 2017). While reforms such as the IMF's Poverty Reduction and Growth Facility (PRGF), explicit social spending floors, and the more recent inclusion of gender-related conditions in some lending programs have tried to soften these effects, evaluations suggest that expenditure cuts and consolidation remain central policy prescriptions, with social safeguards often weakly implemented (Ortiz & Cummins, 2021; Razavi et al., 2021; Kentikelenis et al., 2016).

It must also be emphasized that austerity is not the only way to improve fiscal space. Country experiences show that governments have expanded social protection and care investments by reallocating or diversifying revenues rather than cutting

essential services. For example, Costa Rica and Thailand redirected military expenditures to finance universal health care; Indonesia and Ghana used reductions in fuel subsidies to build social protection systems; and Bolivia, Mongolia, and Zambia financed universal pensions and child benefits with resource taxes on mining and gas. Brazil expanded social protection through a financial transaction tax, while Ghana, Liberia, and the Maldives introduced taxes on tourism, and Algeria, Mauritius, and Panama relied on tobacco taxes to complement social security revenues (Ortiz et al., 2017). These cases demonstrate that broadening the fiscal toolkit—whether through expenditure reprioritization or progressive taxation—can enhance fiscal space in ways that support rather than undermine gender equality and developmental goals.

In summary, austerity can exacerbate the adverse effects of debt servicing on gender equality, which underscores the relevance of debt management strategies in promoting gender equity.

5.4 Limitations

It is important to note the scope and limitations of this work. Our analysis focuses on the effects of debt servicing on women and men, but does not address intersectionalities such as the impacts on girls, older women or persons with disabilities. Nor do the available data permit an assessment of the effects of debt servicing on other groups such as LGBTQ+. More broadly, our results concentrate on labor market effects, education, and health outcomes and cannot capture wage dynamics or the dimension of unpaid care work. Similarly, the separate effects of spending versus tax-based austerity measures, or indirect versus direct taxation, could not be identified in our sample. While our approach reveals key macroeconomic dynamics linking gender equity and debt servicing, it must therefore be complemented with country or region-specific studies that can more precisely capture differences in debt management strategies and austerity measures in developing country contexts.

Our analysis focuses on the effects of debt servicing on women and men, but does not address intersectionalities such as the impacts on girls, older women or persons with disabilities. Nor do the available data permit an assessment of the effects of debt servicing on other groups such as LGBTQ+.

We also rely on measures of external debt servicing and debt stocks, since these are most widely available. While they capture crucial aspects of the debt burden, particularly the risks associated with foreign-currency obligations and the influence of creditor countries and IFIs, in some debtor countries the total debt burden might be considerably higher.

A final set of limitations relates to our empirical strategy. We rely primarily on the Arellano–Bond difference GMM estimator, which is well suited to addressing endogeneity and capturing dynamic persistence in gendered outcomes. However, difference GMM is known to be sensitive to model specification, particularly regarding the choice of instruments, lag depth, and assumptions about exogeneity. To mitigate these concerns, we conducted robustness checks using alternative specifications, including system GMM, fixed-effects models, and regional sub-samples. These alternative approaches generally yielded results consistent with our baseline but were estimated with much less precision, either because smaller samples in the regional estimations reduced statistical power, or because fixed-effects models failed to adequately address endogeneity. We also report Hansen and Sargan tests of over-identifying restrictions as well as Arellano–Bond AR(1) and AR(2) tests for serial correlation to assess the validity of our instruments and moment conditions. Taken together, these exercises increase confidence in our main findings, but they also underscore the importance of interpreting the estimates with due caution and in conjunction with complementary case studies and qualitative research.

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Appendix

A. List of Countries

Africa	Latin America & the Caribbean	Asia & Oceania
Algeria	Argentina	Bangladesh
Angola	Belize	Bhutan
Benin	Bolivia	Cambodia
Botswana	Brazil	China
Burkina Faso	Colombia	Fiji
Burundi	Costa Rica	India
Cameroon	Dominican Republic	Indonesia
Central African Republic	Ecuador	Iran, Islamic Rep.
Chad	El Salvador	Iraq
Comoros	Guatemala	Jordan
Congo, Dem. Rep.	Guyana	Lao PDR
Congo, Rep.	Haiti	Lebanon
Cote d'Ivoire	Honduras	Maldives
Djibouti	Jamaica	Mongolia
Egypt, Arab Rep.	Mexico	Nepal
Ethiopia	Nicaragua	Pakistan
Gabon	Paraguay	Papua New Guinea
Gambia, The	Peru	Philippines
Ghana		Samoa
Guinea		Solomon Islands
Guinea-Bissau		Sri Lanka
Kenya		Thailand
Lesotho		Timor-Leste
Madagascar		Tonga
Mali		Türkiye
Mauritania		Vanuatu
Mauritius		Viet Nam
Morocco		
Niger		
Rwanda		
Senegal		
Sierra Leone		
South Africa		
Sudan		
Tanzania		
Togo		
Tunisia		
Uganda		
Zambia		
Zimbabwe		
40	18	27

B. List of Variables

Name	Notes	Source
External public and publicly guaranteed debt stocks (% of GDP) (EPPG)	Comprises long-term external obligations of public debtors and external obligations of private debtors that are guaranteed for repayment by a public entity. Constructed using external debt stocks and gross domestic product in current US$.	World Bank WDI
External public and publicly guaranteed debt service (% of exports) (EPPG)	The sum of principal repayments and interest actually paid on long-term external obligations of public debtors and long-term private obligations guaranteed by a public entity. Exports refer to exports of goods, services, and income.	World Bank WDI
External public and publicly guaranteed debt service (% of exports)	The sum of principal repayments and interest actually paid on long-term obligations of external public debtors and long-term private obligations guaranteed by a public entity. Constructed using external debt servicing and exports in current US$.	World Bank WDI
GDP growth (annual %)		World Bank WDI
GDP per capita, PPP (constant 2021 international $)		World Bank WDI
Gross capital formation (% of GDP)	Outlays on additions to the fixed assets of the economy plus net changes in the level of inventories.	World Bank WDI
Trade (% of GDP)		World Bank WDI
Participation (% of population 15+)	Constructed using employment and population aged 15+ (ILO modelled estimates).	ILO
Life expectancy at birth (years)		HDR composite indices
Gross national income per capita by gender (2017 PPP$)		HDR composite indices
Maternal mortality ratio (deaths per 100,000 live births)		HDR composite indices
Contributing family workers and own-account workers (% of population 15+)		ILO
Mean years of schooling of adults (years)		World Bank WDI
Public employment (% of total employment)	Constructed using employment in public administration and defense; compulsory social security and total employment (ILO modelled estimates).	ILO
Public and publicly guaranteed debt service (% of revenue)	Constructed using EPPG, general government revenue (% of GDP), and gross domestic product in current US$.	World Bank WDI and WEO
Public education expenditure (% of revenue)	Current operating expenditures in education, including wages and salaries and excluding capital investments in buildings and equipment. Constructed using education expenditure (current US$), general government revenue (% of GDP), and gross domestic product in current US$.	World Bank WDI and WEO
Public health expenditure (% of revenue)	Public expenditure on health from domestic sources. Constructed using domestic general government health expenditure (% of GDP), general government revenue (% of GDP), and gross domestic product in current US$.	World Bank WDI and WEO

C. Full Regression Results

VARIABLES	lEmp_f	lEmp_f	lGNI_pc_f	lGNI_pc_m	lMMR	lLE_f
lppg_X	-0.008***	-0.006***	0.004	0.002	0.002	-0.003
	(0.002)	(0.002)	(0.014)	(0.005)	(0.006)	(0.003)
L.lppg_X	-0.024***	-0.011***	0.001	-0.001	0.003	0.007
	(0.007)	(0.004)	(0.042)	(0.013)	(0.012)	(0.007)
L2.lppg_X	0.006	0.011**	-0.069**	0.011	0.033**	-0.014***
	(0.009)	(0.005)	(0.027)	(0.010)	(0.013)	(0.005)
L.Y	0.406***	0.474***	0.101	0.040	0.882***	0.614***
	(0.105)	(0.079)	(0.091)	(0.059)	(0.063)	(0.100)
lpcgdp	-0.605**	-0.438***	0.699	1.238***	0.080	0.230*
	(0.256)	(0.167)	(0.831)	(0.389)	(0.383)	(0.128)
lpcgdp_sq	0.037**	0.027***	0.014	-0.019	-0.006	-0.012*
	(0.016)	(0.010)	(0.048)	(0.022)	(0.022)	(0.007)
L.pcgdpgrowth	0.000	0.000	0.001	0.000	0.000	0.000**
	(0.000)	(0.000)	(0.001)	(0.000)	(0.001)	(0.000)
L.ltrade_gdp	0.004	-0.002	-0.006	0.038	0.006	-0.007
	(0.015)	(0.012)	(0.130)	(0.059)	(0.041)	(0.012)
time_trend	-0.001	-0.002***	0.001	-0.001	-0.002	0.002***
	(0.001)	(0.000)	(0.002)	(0.001)	(0.002)	(0.000)
year20	-0.032***	-0.026***	0.008	-0.013	0.007	-0.009***
	(0.005)	(0.004)	(0.014)	(0.009)	(0.015)	(0.002)
Observations	2,028	2,028	1,687	1,687	1,971	1,971
Countries	85	85	82	82	85	85
AR(1) p-value	0.0204	0.000295	0.0464	0.0263	0.000515	0.0715
AR(2) p-value	0.935	0.934	0.745	0.908	0.470	0.0599
Hansen p-value	0.551	0.150	0.226	0.659	0.299	0.0964

Statistical details: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. AR(1) test for first-order serial correlation should be significant (p<0.1); AR(2) test for second-order serial correlation should be insignificant (p>0.1), ensuring no autocorrelation in the differenced errors. Hansen test p-value should be above 0.1, indicating that instruments are valid and not overfitting. "L." indicates the lag of the variable is used (and LY the lagged dependent variable), and smaller-case l indicates log. All dependent variables taken in logs except for public and own-account employment to account for zero values.

	ILE_m	ISchool_f	ISchool_m	Public_f	Public_m	Ownacc_f	Ownacc_m
	-0.003	0.001	-0.000	-0.020	0.035	-0.156	-0.045
	(0.002)	(0.002)	(0.002)	(0.034)	(0.036)	(0.106)	(0.093)
	0.001	0.001	-0.003	0.066	-0.022	-0.283	-0.042
	(0.004)	(0.004)	(0.004)	(0.118)	(0.068)	(0.243)	(0.201)
	-0.010**	-0.014*	-0.009	-0.206*	0.043	0.903***	0.362
	(0.005)	(0.008)	(0.006)	(0.125)	(0.121)	(0.248)	(0.224)
	0.614***	0.939***	0.979***	0.648***	0.895***	0.895***	0.793***
	(0.098)	(0.036)	(0.054)	(0.080)	(0.064)	(0.092)	(0.087)
	0.148	0.188	0.139	2.339	1.790	-5.269	-11.561***
	(0.127)	(0.161)	(0.126)	(2.370)	(1.996)	(4.199)	(3.891)
	-0.008	-0.009	-0.007	-0.137	-0.061	0.300	0.597***
	(0.007)	(0.009)	(0.007)	(0.142)	(0.124)	(0.243)	(0.223)
	0.000**	0.000	-0.000	0.002	0.004	-0.013	-0.002
	(0.000)	(0.000)	(0.000)	(0.005)	(0.004)	(0.008)	(0.006)
	-0.011	-0.026	-0.023*	0.135	0.058	-0.718	-0.094
	(0.009)	(0.017)	(0.013)	(0.270)	(0.346)	(0.449)	(0.433)
	0.001***	-0.001	-0.001	0.013	-0.021**	-0.022	-0.042*
	(0.001)	(0.001)	(0.001)	(0.010)	(0.010)	(0.031)	(0.024)
	-0.015***	0.010**	0.002	0.087	0.263***	-0.526***	-0.273*
	(0.002)	(0.005)	(0.003)	(0.094)	(0.082)	(0.202)	(0.153)
	1,971	1,928	1,928	2,028	2,028	2,000	2,000
	85	84	84	85	85	85	85
	0.0178	0.0532	0.00537	0.000561	0.00774	0.000123	9.57e-05
	0.0718	0.636	0.152	0.508	0.347	0.670	0.325
	0.504	0.321	0.306	0.582	0.617	0.729	0.490

Model: Two-step difference GMM (Arellano-Bond) for a country-year panel between 1992 and 2022. Country fixed effects removed through first-differencing and linear time trend included in all models and a fixed year effect for 2020. Endogenous variables include lagged dependent variable to capture persistence, and per capita GDP growth. Instruments include gross fixed capital formation as a share of GDP and lags 2-30 for endogenous variables to accommodate persistence; collapse option applied to avoid instrument proliferation. The trade control variable is replaced with government spending in the two models for Own account and contributing family workers (Ownacc_f and Ownacc_m)

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