

The Evolution of Male Breadwinner Norm in Brazil

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Abstract:

Despite advances in labor-market access of women's, informal gender norms continue to shape household behavior. This paper investigates the evolution of Brazil's male-breadwinner norm by applying bunching methods to quarterly PNAD-C microdata spanning Q1 2012 to Q1 2025. We first estimate female labor supply elasticities using the Heckman–MaCurdy and Blundell–Duncan–Meghir frameworks, and then use them to translate observed bunching in wives' income shares at the 50 percent threshold into an implicit “tax” on women's earnings. Our results document a marked strengthening of this implicit tax: from 18–25 percent during 2012–2015 to a sustained 30–35 percent after 2016, peaking above 40 percent at the height of the COVID-19 crisis. Counterfactual re-matching of men and women across households—holding age, education, region, and family size constant—yields a positive but flat implicit tax over the same period, indicating that evolving intra-household dynamics and gendered norms, rather than assortative mating alone, drive the rising penalty on women's earnings.

Keywords: female earnings, bunching, breadwinner norm

Resumo:

Apesar dos avanços das mulheres no acesso ao mercado de trabalho, normas de gênero informais continuam a moldar o comportamento das famílias. Neste artigo, é investigada a evolução da norma do “homem provedor” no Brasil, por meio da aplicação de métodos de bunching aos microdados trimestrais da PNAD Contínua, entre o primeiro trimestre de 2012 e o primeiro trimestre de 2025. Inicialmente, são estimadas elasticidades da oferta de trabalho feminina com base nos modelos de Heckman–MaCurdy e Blundell–Duncan–Meghir, e essas estimativas são utilizadas para traduzir a concentração observada da renda das esposas em torno do ponto de 50% da renda familiar em um “imposto” implícito sobre os rendimentos das mulheres. Os resultados indicam um aumento expressivo desse imposto implícito: de 18–25% no período de 2012 a 2015 para níveis sustentados entre 30–35% após 2016, atingindo mais de 40% no auge da crise da COVID-19. Uma simulação contrafactual de reatribuição de casais — mantendo constantes idade, escolaridade, região e tamanho da família — aponta para um imposto implícito positivo, mas estável ao longo do tempo, sugerindo que a penalidade crescente sobre os rendimentos femininos decorre de dinâmicas intrafamiliares e normas de gênero em transformação, e não apenas de casamento assortativo.

Palavras-chave: rendimento feminino, bunching, provedor masculino

Área de submissão: Mercado de trabalho, Demografia e Migração
Classificação JEL: J16, J22, D13

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1 Introduction

Despite notable progress in gender equality across education and labor market access, deep-rooted social expectations continue to shape economic outcomes (Mulligan & Rubinstein, 2008, Rossin-Slater et al., 2013, Rossin-Slater, 2017, Kleven et al., 2019, Bertrand et al., 2015). While formal barriers to female employment have declined, informal norms remain powerful forces that influence individual behavior and household dynamics. Among these, the idea that men should serve as primary breadwinners continues to persist, shaping how couples negotiate earnings, work participation, and even marital stability (Killewald, 2016).

According to the World Values Survey (2020), 35.5% of Brazilians agree that “it is a problem if a woman earns more than her husband”. Moreover, 31% agree with statements such as “men have more right to a job than women” or “men make better business decisions than women”. Such views operate as powerful non-market constraints, affecting behavior in ways comparable to policy or price signals (Fortin, 2015).

These pervasive beliefs can be formalized as an implicit “male breadwinner norm”, which discourages couples from deviating too far from traditional income hierarchies. Such constraints are difficult to observe directly but can be inferred through discontinuities in observed behavior. For instance, if couples systematically avoid scenarios where wives out-earn their husbands, this will generate distortions in the earnings distribution that resemble those produced by formal tax notches (Bertrand et al., 2015).

This paper examines how that norm has evolved in Brazil—a country where gender gaps have narrowed in many domains (Martinez et al., 2025)—by analyzing how couples respond as women approach or exceed their husbands’ earnings. We detect behavioral distortions in the distribution of spousal income shares using bunching methods (Kleven, 2016, Saez, 2010) applied to rich PNAD-C microdata. This approach allows us to quantify the magnitude, and temporal evolution of this norm-based “tax” on women’s relative earnings.

Our results reveal a steady rise in the implicit tax on women’s earnings from 2012 to 2025, underscoring growing disincentives within households. Although education provides some relief—more-educated women face marginally lower penalties—, they still bunch their earnings just below parity. To separate normative pressures from assortative matching (Binder & Lam, 2022), we construct counterfactual couples by re-matching individuals on key attributes. In this artificial sample, the implicit tax remains positive and flat over time, but is markedly smaller than in the real data. This divergence indicates that evolving intra-household dynamics and gender norms—not partner selection alone—have increasingly amplified the penalty on women’s earnings.

Our study contributes to the literature on male breadwinner norms in two main ways. First, we engage with the elasticity estimation literature by testing alternative bunching specifications, addressing concerns about the sensitivity of norm measurements to modeling choices. Second, we leverage an extensive and up-to-date panel—from the first quarter of 2012 through the first quarter of 2025—using quarterly PNAD-C microdata. This long span and recent coverage allow us to trace the norm’s evolution across diverse economic conditions and capture its response to the latest labor-market shocks.

The article is organized as follows. Section 2 reviews the related literature. Section 3 develops the theoretical framework and empirical strategy. Section 4 presents and discusses the main results. Finally, Section 5 concludes by highlighting the key contributions.

2 Related Literature

Gender norms play a crucial role in shaping economic behavior and outcomes, influencing both individual choices and broader patterns in labor markets and household dynamics (Akerlof &

Kranton, 2000). Traditional gender role attitudes are strongly associated with lower female labor force participation and wider gender wage gaps (Fortin, 2015, 2005). Peer environments also matter: mothers surrounded by individuals with gender-egalitarian views are more likely to engage in paid work and to share household labor more equitably with their partners (Cavapozzi et al., 2021). Additionally, gender norms are transmitted across generations. Fernández et al. (2004) demonstrate that women are more likely to participate in the labor force if their mother-in-law was employed, suggesting that male partners' attitudes—shaped by early family experiences—significantly influence household labor decisions.

The male-breadwinner model refers to a family arrangement in which the husband serves as the primary or sole income earner, while the wife assumes responsibility for domestic labor and childcare. Within this framework, heterosexual relationships are often shaped by normative gender role expectations within marriage. Bittman et al. (2003) demonstrate that women may engage in compensatory behaviors to conform to traditional marital norms. Although women generally reduce their time spent on housework as their income increases, this pattern often reverses when they earn more than their husbands, suggesting an effort to offset norm violations. Similarly, Cooke (2006) finds that higher-earning wives face an increased risk of divorce unless they maintain conventional domestic roles, such as assuming a greater share of household responsibilities.

Despite significant progress in women's educational attainment and labor force participation, earnings parity within marriage remains expressive. Even highly qualified women are less likely to out-earn their husbands, and when they do, they often face social sanctions (Bertrand et al., 2015, Killewald, 2016). This paradox remains central to understanding contemporary gender disparities. Cross-national studies show that in societies with strong male breadwinner norms, the social meaning of male unemployment significantly increase the risk of separation (Gonalons-Pons & Gangl, 2021).

Building on this literature, recent studies explore how individuals adjust their behavior in response to the social norms. The bunching methodology, originally developed to analyze behavioral responses to tax schedule discontinuities in public finance, has been increasingly adopted to examine social norms' influence on economic decisions (Saez, 2010, Kleven & Waseem, 2013, Kleven, 2016). This approach offers a powerful empirical strategy to identify norm-driven behavioral adjustments.

A seminal application of this method is provided by Bertrand et al. (2015), who investigate the male breadwinner norm in the United States. Using bunching techniques, they identify a sharp drop in the distribution of spousal income shares at the 50% threshold, consistent with couples avoiding situations in which the wife earns more than the husband. By interpreting this pattern as evidence of an implicit tax imposed by social norms, their study offers a novel framework for modeling non-market constraints within household decision-making.

Following Bertrand et al. (2015), subsequent studies have applied the bunching framework to diverse contexts. Using the natural experiment of German reunification, Sprengholz et al. (2022) shows that traditional male breadwinner norms suppressed wives' labor market outcomes in West Germany, but have weakened over time, converging toward the more gender-egalitarian norms of East Germany. Han et al. (2021) shows that married women in China who out-earn their husbands tend to reduce their future incomes and working hours.

In Brazil, Codazzi et al. (2018) use a demographic proxy—the probability of wives out-earning husbands—to show that women in regions with higher probabilities exhibit lower labor force participation, higher informal employment, and reduced earnings, suggesting preemptive adjustments to avoid norm violations. Similarly, Gupta (2022) document for India that women reduce labor force attachment when likely to outearn their husbands, particularly in conservative regions and male-dominated households.

However, the causal link between income discontinuities and gender norms has been con-

tested. Binder & Lam (2022) demonstrate that spousal income bunching may reflect assortative mating rather than normative constraints, while Zinovyeva & Tverdostup (2021) attribute Finland’s discontinuity to income equalization among dual-earner couples. ? further show that survey-based bunching may overstate norms’ role due to reporting biases. These findings complicate causal inferences but do not negate norm-driven behaviors, which emerge even pre-marriage. Bursztyrn et al. (2017) find that single women downplay career ambitions when interacting with potential partners, signaling anticipatory conformity.

Souza et al. (2023) advances the literature by employing an improved methodological approach to Brazilian microdata from the 1991, 2000, and 2010 decennial censuses. The analysis reveals a significant excess mass just below the spousal income threshold, with particularly pronounced effects among older and religious couples. The paper contributes to the understanding of behavioral responses to income inequalities within couples. Our paper dialogue with this paper and explore literature critiques of bunching estimates’ reliability by testing alternative specifications to ensure robustness. Moreover, we leverage the rich, longitudinal PNAD-C data (2012 Q1–2025 Q1) to trace how the male-breadwinner norm has evolved over time.

3 Empirical Strategy

To quantify the male-breadwinner norm, we first estimate labor supply elasticities and then use these estimates to compute the implicit tax within a bunching framework. The following subsections detail these methods along with data construction procedures.

3.1 Data and Sample Construction

We use quarterly microdata from PNAD-C, conducted by the Instituto Brasileiro de Geografia e Estatística (IBGE, 2025a), covering the period from the first quarter of 2012 (Q1 2012) to Q1 2025. To ensure comparability and relevance for our research question, we restrict the sample to private-sector women aged 16–65 in heterosexual marriages where both spouses report positive labor earnings (dual-earner couples). Following IBGE’s (2025b) guidelines, we construct household identifiers using UPA (Primary Sampling Unit), V1008 (Household ID), and V1014 (Panel).¹

The wife’s relative hourly income serves as our key variable, measured as her individual labor earnings divided by the couple’s total labor income. We calculate hourly wages by dividing monthly earnings from her primary job by usual weekly hours worked, then multiplying by 4.33 (approximate weeks per month). This wage-based approach, rather than relying on raw monthly income, allows us to better capture actual work effort and productivity—key dimensions for detecting bunching behavior around policy-relevant thresholds.

3.2 Estimating Labor Supply Elasticities

We estimate female labor supply elasticities using intertemporal labor supply theory, with the labor supply function derived from Heckman & Macurdy (1980):

$$\ln(L - \text{hours}(t)) = \frac{1}{\alpha} [\ln \lambda(0) - \ln \alpha + (\rho - r)t - \ln A(t) + \ln \text{wage}(t)], \quad (1)$$

where L is the time endowment, $\text{hours}(t)$ are hours worked, $\text{wage}(t)$ is the wage rate, $\lambda(0)$ the initial marginal utility of wealth, α the utility curvature parameter, ρ the time preference rate, r the interest rate, and $A(t)$ reflects productivity or non-wage factors at time t .

¹All estimations incorporate sampling weights, and monetary values are inflation-adjusted to 2025 BRL (Brazilian Reais).

We estimate the model using a two-step Heckman selection procedure to account for non-random labor market participation among women (Heckman, 1979). First, we estimate a probit model for labor force participation probability using data from unemployed and employed women in the private sector, following the specification:

$$\begin{aligned}
P(\text{LFP}_i = 1) = & \Phi\left(\gamma_0 + \gamma_1 \text{age}_i + \gamma_2 \text{age}_i^2 + \sum_e \gamma_{3e} \mathbf{1}\{\text{education} = e\}_i \right. \\
& + \sum_r \gamma_{4r} \mathbf{1}\{\text{region} = r\}_i + \gamma_5 \text{race}_i + \gamma_6 \text{responsible}_i \\
& \left. + \gamma_7 \text{num_children}_i + \gamma_8 \text{urban}_i\right), \tag{2}
\end{aligned}$$

where LFP_i is a dummy equal to 1 if individual i participates in the labor force, and $\Phi(\cdot)$ is the standard normal CDF. Controls include education dummies (reference: no education or incomplete primary), regional dummies (reference: North), a race indicator for Black, Brown (*Pardo*), or Indigenous individuals, a dummy for household head status (responsible_i), number of children under ten (num_children_i), and an urban area indicator (urban_i). From this regression, we compute the inverse Mills ratio $\hat{\lambda}_i = \frac{\phi(\mathbf{Z}_i\hat{\beta})}{\Phi(\mathbf{Z}_i\hat{\beta})}$, where $\phi(\cdot)$ is the standard normal PDF.

Then, we estimate the labor supply equation conditional on participation (i.e., using only employed women) using three alternative specifications, all based on a two-stage procedure to address wage endogeneity.

The first specification follows the structural approach of Heckman & Macurdy (1980), regressing the log of hourly wages on individual characteristics:

$$\begin{aligned}
\ln(\text{wage}_i) = & \gamma_0 + \gamma_1 \text{age}_i + \gamma_2 \text{age}_i^2 + \sum_e \gamma_{3e} \mathbf{1}\{\text{education} = e\} + \sum_r \gamma_{4r} \mathbf{1}\{\text{region} = r\} \\
& + \gamma_5 \text{race}_{i,t-1} + \gamma_6 \text{tenure}_t + v_i, \tag{3}
\end{aligned}$$

where tenure_t is the time worked at the current job (measured in years), and v_i is the residual capturing unobserved productivity.

Then, the residuals from this model are saved and included in the second stage for estimating the labor supply equation:

$$\begin{aligned}
\ln(\text{hours}_i) = & \beta_0 + \beta_1 \ln(\text{wage}_i) + \beta_2 \text{age}_i + \beta_3 \text{age}_i^2 + \sum_e \beta_{4e} \mathbf{1}\{\text{education} = e\} \\
& + \sum_r \beta_{5r} \mathbf{1}\{\text{region} = r\} + \zeta \hat{v}_i + \delta \lambda_i + \varepsilon_i, \tag{4}
\end{aligned}$$

where \hat{v}_i is the first-stage residual and λ_i is the inverse Mills ratio. The coefficient β_1 captures the uncompensated elasticity of labor supply with respect to the hourly wage.

The second specification adapts the Heckman–MaCurdy framework by replacing hourly earnings with total labor income. In this alternative specification, the coefficient β_1 represents the hours elasticity with respect to total labor income.

The third specification is based on the approach of Blundell et al. (1998), which separates substitution and income effects. We include both the woman’s own wage and the household income (excluding her earnings) in the regression (fam_income_i). The first stage consists of estimating a reduced-form equation for log family income:

$$\begin{aligned}
\ln(\text{fam_income}_i) = & \gamma_0 + \gamma_1 \text{age}_i + \gamma_2 \text{age}_i^2 + \sum_e \gamma_{3e} \mathbf{1}\{\text{education} = e\} \\
& + \sum_r \gamma_{4r} \mathbf{1}\{\text{region} = r\} + \gamma_5 \text{race}_{i,t-1} + v_i, \tag{5}
\end{aligned}$$

and computing the residual \hat{v}_i^{fam} . The second stage is specified as:

$$\begin{aligned} \ln(hours_i) = & \beta_0 + \beta_1 \ln(wage_i) + \beta_2 \ln(fam_income_i) + \beta_3 age_i + \beta_4 age_i^2 \\ & + \sum_e \beta_{5e} \mathbf{1}\{\text{education} = e\} + \sum_r \beta_{6r} \mathbf{1}\{\text{region} = r\} + \beta_7 \hat{v}_i^{wage} \\ & + \beta_8 \hat{v}_i^{fam} + \delta \lambda_i + \varepsilon_i, \end{aligned} \quad (6)$$

where \hat{v}_i^{wage} and \hat{v}_i^{fam} are the residuals from the wage and family income first-stage regressions, respectively. This approach yields β_1 as the compensated labor supply elasticity (net of income effects) with respect to wages.

We estimate all elasticities separately for each quarter and use them as calibration parameters in the next stage of our analysis.

3.3 Identifying Bunching Evidence of the Male-Breadwinner Norm

To estimate the implicit tax imposed by the male breadwinner norm on wives' earnings, we adapt the bunching methodology from public finance literature (e.g., Chetty et al. (2011); Kleven (2016)). In our context, the norm imposes a discrete disutility (or implicit "tax") on a wife's earnings whenever her income exceeds her husband's. We model the wife's utility as

$$u^w(z^w) = z^w - v(z^w; n, e) - \tau(z^w) \cdot \mathbf{1}\left[\frac{z^w}{z^m}\right] > 1, \quad (7)$$

where z^w and z^m denote wife's and husband's gross earnings, respectively, $v(z^w; n, e)$ is the effort disutility of labor, n is an ability shifter, e is the compensated labor supply elasticity, and $\tau \in [0, 1)$ captures the proportional penalty (norm "tax") on earnings beyond the husband's income. Following Kleven & Waseem (2013), we specify an isoelastic effort function

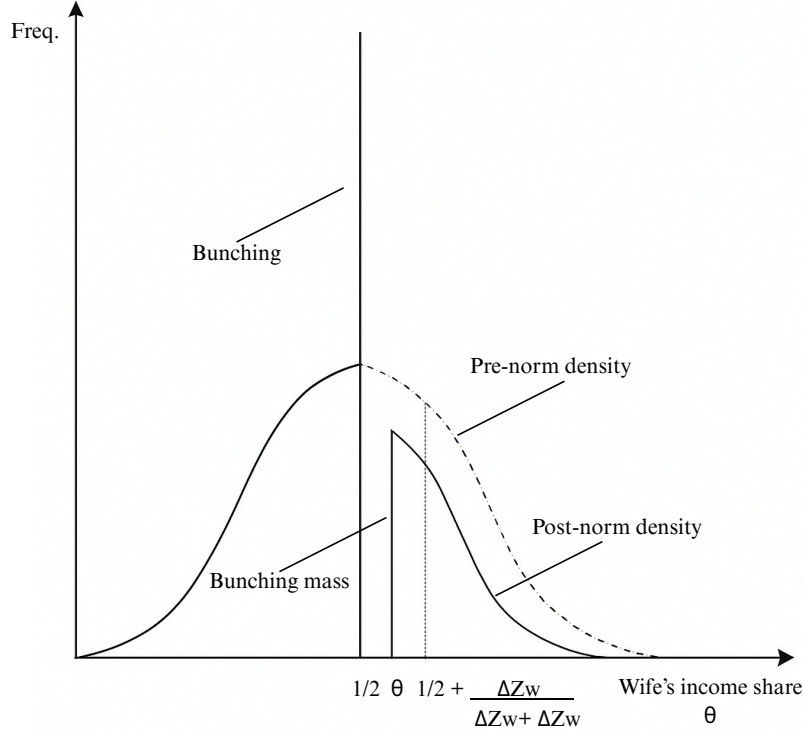
$$v(z^w; n, e) = \frac{n}{1 + 1/e} \left(\frac{z^w}{n}\right)^{1+1/e}, \quad (8)$$

so that income effects from a change in τ are absent.

Before the norm is introduced ($\tau = 0$), wives' share of household earnings $\theta = z^w / (z^w + z^m)$ has a smooth density $h_0(\theta)$. Imposing $\tau > 0$ creates a *notch* at $\theta = 0.5$: any wife whose unconstrained optimum $z^w > z^m$ will optimally reduce her earnings down to z^m (the kink point), generating a spike in the observed distribution of θ at 0.5 (Kleven, 2016).

Formally, let $h(\theta)$ be the density of wives' relative hour income θ after the norm. The "bunching mass" at the notch is the excess number of couples at $\theta = 0.5$ compared to a smooth counterfactual density. Suppose that without the norm, the marginal buncher would earn $z^w = z^m + \Delta z^w$, but with the norm she reduces to z^m (so her income share drops from $(z^m + \Delta z^w) / (z^m + z^m + \Delta z^w)$ down to 0.5) (Figure 1)

Figure 1: Relative income density distribution diagram



Under the counterfactual density h_0 , the number of couples with shares between 0.5 and $0.5 + \Delta z^w/z^m$ is approximately:

$$B \approx \int_{1/2}^{1/2 + \frac{\Delta z^w}{z^m}} h_0(\theta) d\theta \approx h_0\left(\frac{1}{2}\right) \frac{\Delta z^w}{z^m}. \quad (9)$$

This shows that the excess mass B is proportional to $\Delta z^w/z^m$. We therefore define the normalized bunching parameter as $b = B/h_0(0.5) \approx \frac{\Delta z^w}{z^m}$, which captures the proportional excess mass relative to the counterfactual density at the threshold.

We equate the wife's utility at the bunching point $z^w = z^m$ and at her interior solution $z^w = z^m + \Delta z^w$, yielding a relationship between $\Delta z^w/z^m$, τ , and the elasticity e . After algebraic manipulation, this leads to the following expression (Kleven, 2016):

$$\frac{1}{1 + \frac{\Delta z^w}{z^m}} - \frac{1}{1 + 1/e} \left(\frac{1}{1 + \frac{\Delta z^w}{z^m}} \right)^{1+1/e} - \frac{1}{1 + e} (1 - \tau)^{1+e} = 0. \quad (10)$$

Given an estimated $\Delta z^w/z^m$ and an assumed elasticity e , this equation can be solved for the implicit norm tax τ . We tabulate the distribution of the wife's share (θ_i) in our sample of married couples, exclude the interval $[\theta^-, \theta^+]$ around 0.5 (which captures the bunching spike), and fit a smooth polynomial to the remaining histogram counts. Specifically, we estimate the following regression (Chetty et al., 2011):

$$c_j = \sum_{i=1}^q \beta_i \cdot \theta_j^i + \sum_{i=\theta^-}^{\theta^+} \delta_i \cdot \mathbf{1}[\theta^j = i] + v_i, \quad (11)$$

where c_j is the number of observations in bin j (centered at θ_j), and the dummy terms drop out the excluded window $\theta \in [\theta^-, \theta^+]$.

The polynomial order q and window width are chosen to balance fit and robustness (as recommended in Chetty et al. (2011) and Kleven (2016)). The fitted polynomial yields an estimate of the counterfactual density: for any bin j in the excluded window, $\hat{c}_j = \sum_{i=1}^q \hat{\beta}_i \cdot \theta_i$ is the predicted count in absence of bunching.

Next, we compute the total excess mass at the threshold as the sum of the differences between actual and predicted counts over the excluded bins

$$\hat{B} = \sum_{i=\theta^-}^{\theta^+} (c_j - \hat{c}_j). \quad (12)$$

and form the normalized bunching parameter

$$\hat{b} = \frac{\hat{B}}{\sum_{i=\theta^-}^{\theta^+} \hat{c}_j}, \quad (13)$$

which represents the fractional increase in density at the notch relative to the smooth counterfactual. This “normalized excess mass” is the analogue of the measure used in Chetty et al. (2011) and others.

We compute τ —our measure of the “gender-norm tax”—by solving equation (13) using elasticities estimated under the Heckman–MaCurdy and Blundell–Duncan–Meghir frameworks. The model operates under partial equilibrium assumptions (taking husbands’ incomes and labor-market conditions as given), and makes three key simplifications: (i) it excludes wives’ participation decisions and feedback effects, (ii) assumes isoelastic utility, so changes in τ generate only substitution effects (Kleven & Waseem, 2013), and (iii) interprets the excess-mass estimate \hat{b} as reflecting wives’ wage-minimizing adjustments at the kink. While alternative explanations like reporting errors or strategic complementarities could affect the $\theta = 0.5$ distribution (Zinovyeva & Tverdostup, 2021), we attribute any persistent spike to the male-breadwinner norm.

4 Results

The following subsections characterize the study sample and present results on female labor supply elasticities and the implicit tax associated with the male breadwinner norm.

4.1 Descriptive Statistics

As shown in Table 1, the share of female householders with a spouse more than doubled between 2012 and 2025, rising from 11.45% to 24.20%, while single female householders edged up from 23.42% to 27.71%. Over the same period, households headed by heterosexual couples declined from 66.02% to 55.28%, and couple-only households increased from 13.71% to 17.12%. In contrast, the share of couples with children fell from 42.30% to 32.50%, and those living with children and others dropped from 7.88% to 4.16%.

Table 1: Percentage Distribution by Category — 2012, 2018, and 2025

Category	2012	2018	2025
Female householder with spouse	11.45	18.52	24.20
Single female householder	23.42	24.60	27.71
Heterosexual couple	66.02	62.77	55.28
Couple only	13.71	15.73	17.12
Couple with children	42.30	38.79	32.50
Couple with children and others	7.88	6.37	4.16
Only man works	4.66	4.87	2.02
Only woman works	0.40	0.94	0.64
Both partners work	87.75	80.73	89.99

Households where only the man works declined significantly, from 4.66% in 2012 to 2.02% in 2025, while those where only the woman works remained rare, rising slightly from 0.40% to 0.64%. Dual-earner households, which initially declined from 87.75% in 2012 to 80.73% in 2018, recovered over the following years and reached 89.99% by 2025.

Women with a college degree consistently exhibit the highest relative income, maintaining levels near 49%, while those with less education follow lower but converging trajectories (Table 2). The gap across educational groups narrows modestly over time, suggesting that rising schooling levels may help reduce intra-household earning disparities. A similar pattern appears across age cohorts: women aged 46–65 hold the largest income shares—likely due to accumulated experience—while younger women (especially those aged 16–25) report lower relative earnings, though their shares rise steadily across the period.

Table 2: Women’s Relative Income by Education, Age Group, Sector and Household Position — 2012, 2018, and 2025

Group	2012	2018	2025
Less than Primary	0.4402	0.4538	0.4573
Complete Primary	0.4353	0.4467	0.4565
Complete High School	0.4392	0.4461	0.4495
College Degree	0.4956	0.4878	0.4895
16–25 years	0.4356	0.4414	0.4576
26–35 years	0.4485	0.4532	0.4578
36–45 years	0.4526	0.4611	0.4659
46–55 years	0.4535	0.4683	0.4719
56–65 years	0.4692	0.4754	0.4837
Woman Head of Household	0.4897	0.4788	0.4789
Woman Spouse	0.4403	0.4501	0.4555

Relative income also varies by labor market position and household role: women in the formal sector earn slightly more than those in the informal sector, and female heads of household maintain higher income shares than spouses, though this gap narrows modestly by 2025.

Table 3 summarizes key statistics for the two main samples of working Brazilian women in 2012, 2018, and 2025. Women in the “Implicit tax data” group (married with working spouses) consistently had higher average wages and differed demographically, being older and more likely to live in urban areas than those in the broader “Elasticities data” sample. The wage gap between the groups also widened slightly over time.

Table 3: Characteristics of Women Workers and Those With Working Husbands — 2012, 2018, and 2025

Variable	Elasticities data			Implicit tax data		
	2012	2018	2025	2012	2018	2025
Hourly wage (R\$)	14.93 (33.04)	15.47 (41.72)	17.41 (42.23)	15.56 (34.18)	16.33 (41.48)	18.96 (50.23)
Age	36.29 (11.84)	38.12 (11.93)	39.21 (12.19)	34.38 (11.88)	35.78 (12.20)	37.33 (12.37)
Less than primary education (%)	32.01 (46.65)	25.13 (43.38)	16.57 (37.18)	32.67 (46.90)	24.44 (42.97)	15.61 (36.30)
Complete primary education (%)	16.96 (37.53)	14.31 (35.02)	11.80 (32.26)	19.98 (39.98)	17.37 (37.89)	14.70 (35.41)
Complete high school (%)	38.01 (48.54)	41.48 (49.27)	46.16 (49.85)	36.49 (48.14)	41.40 (49.26)	45.29 (49.78)
College degree (%)	13.02 (33.65)	19.08 (39.29)	25.47 (43.57)	10.87 (31.12)	16.78 (37.37)	24.39 (42.95)
Black/brown/indigenous (%)	52.95 (49.91)	56.70 (49.55)	57.22 (49.48)	51.36 (49.98)	54.58 (49.79)	54.78 (49.77)
Number of children in household	0.60 (0.87)	0.50 (0.77)	0.43 (0.71)	0.66 (0.88)	0.56 (0.79)	0.50 (0.73)
Urban area (%)	80.34 (39.74)	81.13 (39.13)	82.55 (37.95)	74.97 (43.32)	76.04 (42.68)	77.75 (41.59)
Number of observations	86,377	84,672	77,693	53,650	51,793	44,706

Note: Standard deviations are reported in parentheses.

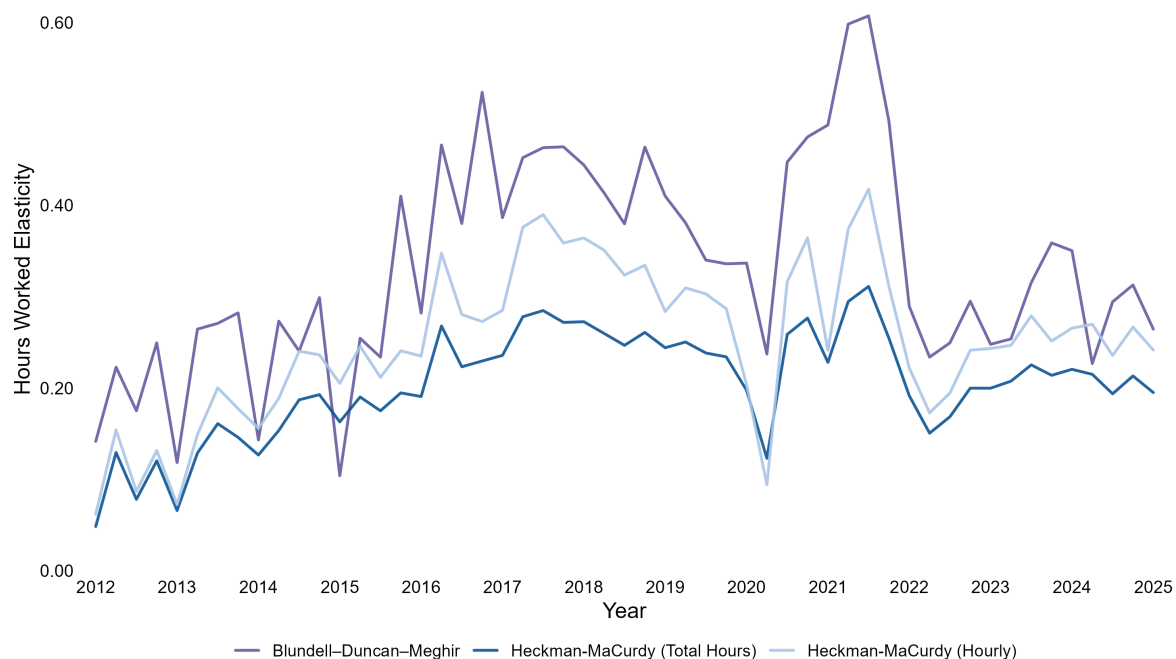
Throughout the period, both groups showed consistent growth in average hourly wages, workforce aging, and significant educational improvements, evident in shrinking shares of basic education and expanding proportions of high school and college graduates. They also experienced reductions in household children, increased urbanization, and stable proportions of women identifying as Black, Brown, or Indigenous.

In sum, the trends show couples increasingly sharing economic responsibilities, seen in rising both the proportion of dual-earner couples and women's relative income. Nevertheless, persistent plateaus near income parity indicate ongoing challenges when wives' earnings approach or surpass their husbands'.

4.2 Labor Supply Elasticities

Figure 2 shows the evolution of women's labor supply elasticities from 2012 to 2025. The steady increase across all series indicates growing wage sensitivity over time. Estimates from the Blundell–Duncan–Meghir (BDM) approach are consistently higher than those from Heckman–MaCurdy (HM), suggesting that accounting for household and unobserved heterogeneity reveals a stronger substitution between leisure and labor.

Figure 2: Labor Supply Elasticities (2012–2025)

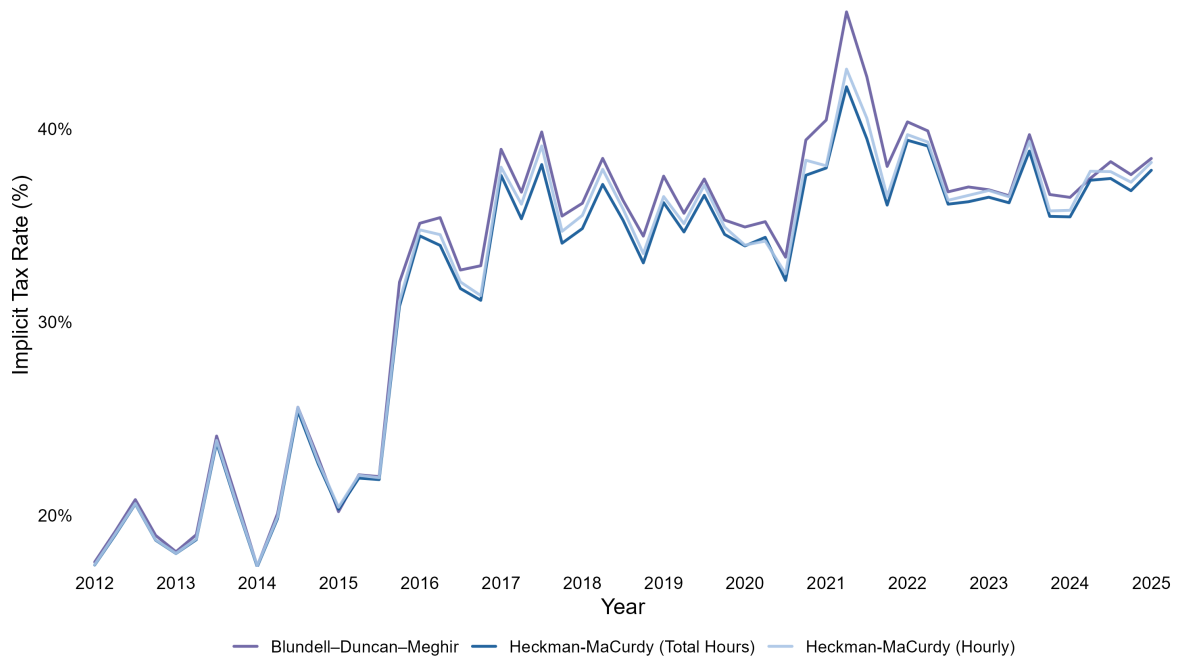


The sharp decline in BDM elasticity around 2015—absent in Heckman-MaCurdy estimates—reflects its accounting for household heterogeneity and non-participation decisions, capturing how Brazil’s recession increased women’s responsiveness to non-wage factors (e.g., household risk-sharing and informal work). The 2020 COVID-19 shock depressed all elasticity estimates as women exited the labor force or cut back on hours due to school closures and caregiving demands. By 2021–2022, elasticities rebounded, stabilizing, by 2023, at levels modestly lower than the pre-pandemic.

4.3 Bunching Evidence of the Male Breadwinner Norm

Figure 3 shows the evolution of the estimated implicit tax on female labor supply in Brazil from the first quarter of 2012 to the first quarter of 2025. This implicit tax captures the behavioral disincentives associated with the share of household income earned by women, derived from the excess bunching observed at the 50% income share threshold within couples.

Figure 3: Implicit Tax Rate on Female Earnings (2012–2025)



Across the entire period, the implicit tax calculated from the three elasticity models reveals consistent upward trends. Between 2012 and 2015, the estimates suggest that, influenced by the male breadwinner norm, women adjusted their earnings to avoid crossing the threshold of out-earning their husbands—effectively limiting their income by roughly 18–25%. Beginning in 2016, however, there is a sharp and sustained rise in the implicit tax, with estimates stabilizing at higher levels, around 30–35%.

The most notable peak occurs around 2021, when the implicit tax temporarily exceeds 40%. This spike coincides with the COVID-19 pandemic, a period marked by school and daycare closures that forced many women to balance full-time caregiving with paid work. As a result, many reduced their working hours, left the labor market altogether, or limited their earnings—reinforcing the norm-driven disincentive effect. Although the implicit tax declines slightly afterward, it remains elevated compared to the pre-2016 period, suggesting that the disincentive effects embedded in the intra-household income distribution have become more pronounced over time.

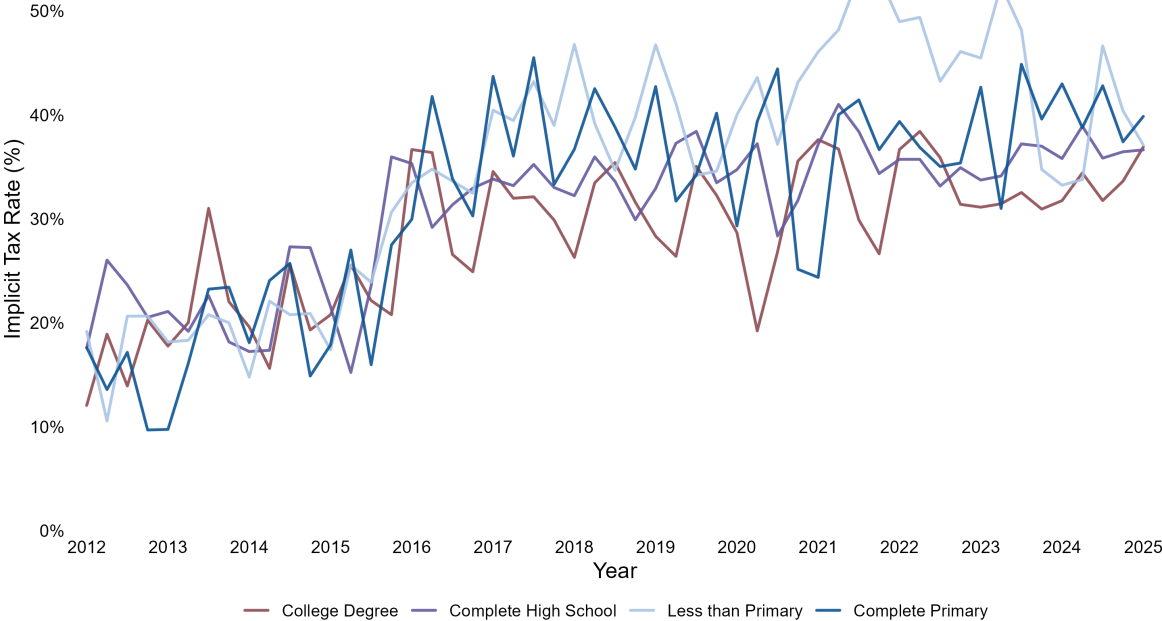
Given the similar trajectories of the implicit tax rates across the three elasticity models, we rely on the Heckman-MaCurdy Total Hours specification for the subsequent analysis, which captures adjustments along both the extensive (participation) and intensive (hours) margins—critical for Brazil’s high-informality labor market.

4.4 Heterogeneity Analysis

The implicit tax rates by education level initially show parallel growth trends across all groups. However, from mid-2020 through 2023, the line for less-educated women diverged markedly from other groups, exhibiting significantly higher implicit tax rates. While trends remained closely clustered before this period, the results align with the relative income patterns observed in descriptive statistics: more educated women consistently exhibit lower implicit tax rates compared to less educated counterparts (Figure 4). This inverse relationship between edu-

cational attainment and implicit taxation strengthened during the pandemic years, suggesting that human capital accumulation became increasingly crucial for mitigating gender-based labor market distortions during economic shocks.

Figure 4: Implicit Tax Rate on Female Earnings by Education Level (2012–2025)



The age-group analysis reveals a consistent temporal pattern across all cohorts: stable implicit tax rates before 2016, followed by a sharp increase and persistently elevated rates thereafter (Figure 5). The results, however, present an intriguing paradox. While descriptive statistics demonstrate that women’s relative household income increases with age, the bunching estimation reveals an inverse structural relationship: older women (aged 56–65) systematically exhibit higher implicit tax rates than their younger counterparts ².

When comparing female household heads to spouses in male-headed households, we observe that the trends converge over time, with heads of household at times facing a slightly higher implicit tax rate (Figure 6). This result runs counter to expectations, as one might assume that primary earner status would be associated with lower penalties. However, in Brazil, the formal designation of “household head” may not fully capture economic primacy, as the title can be nominal rather than reflective of actual earning dominance or intra-household bargaining power.

²We omitted the 16-25 age group from the analysis because its sample size—already limited in the original data—proved insufficient for reliable estimation under the bunching approach.

Figure 5: Implicit Tax Rate by Age Group (2012–2025)

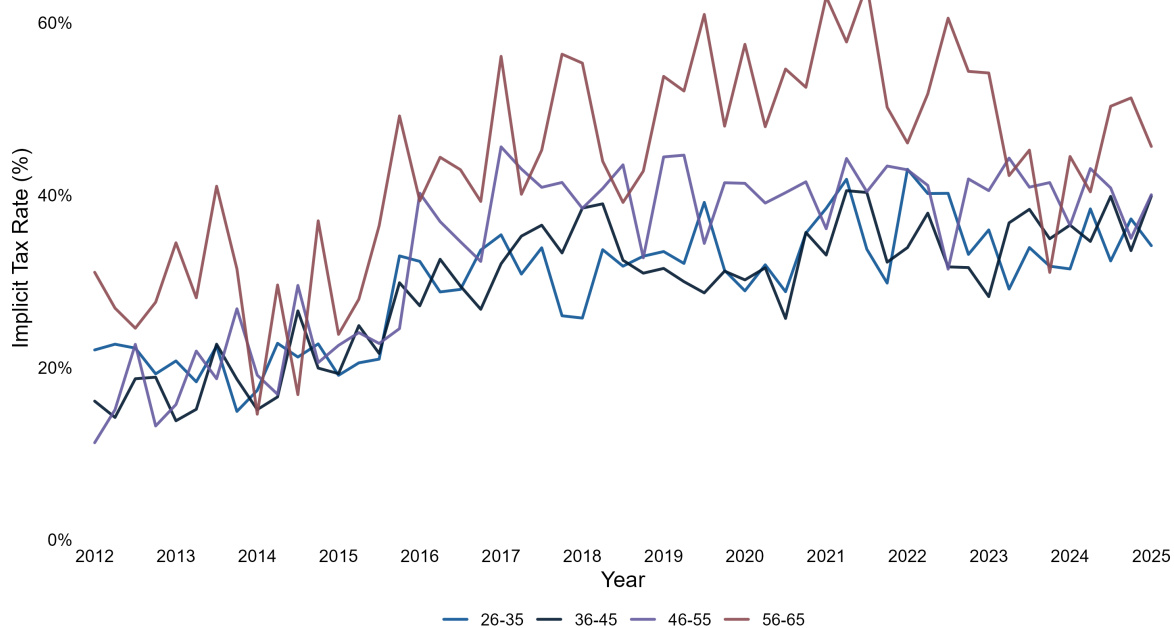
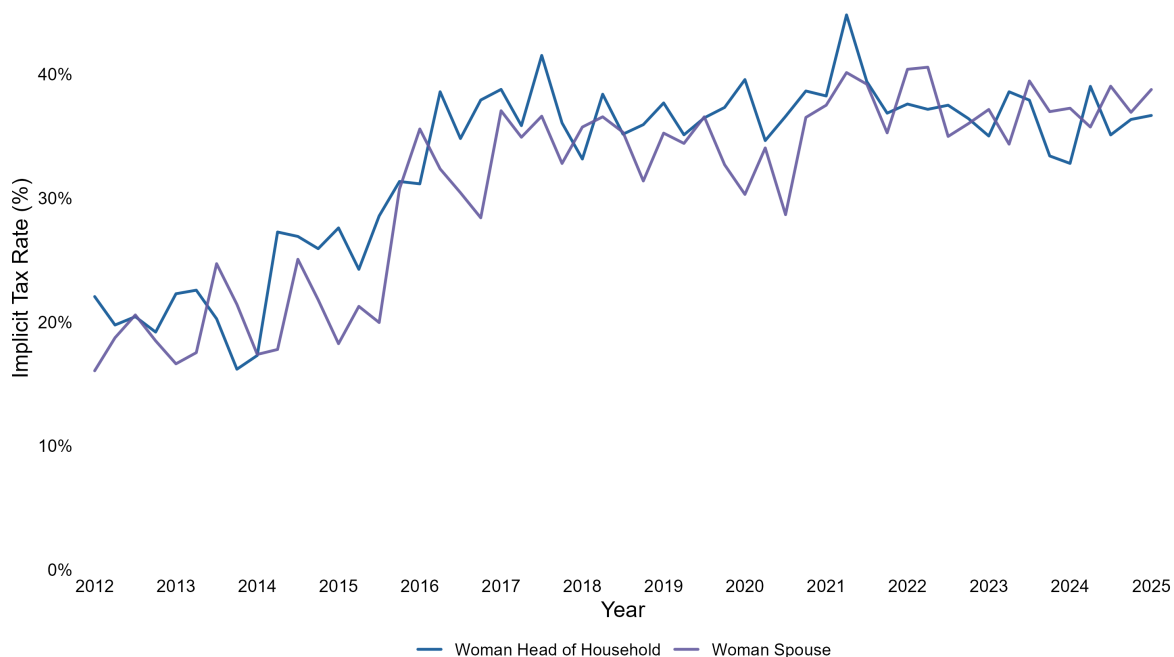


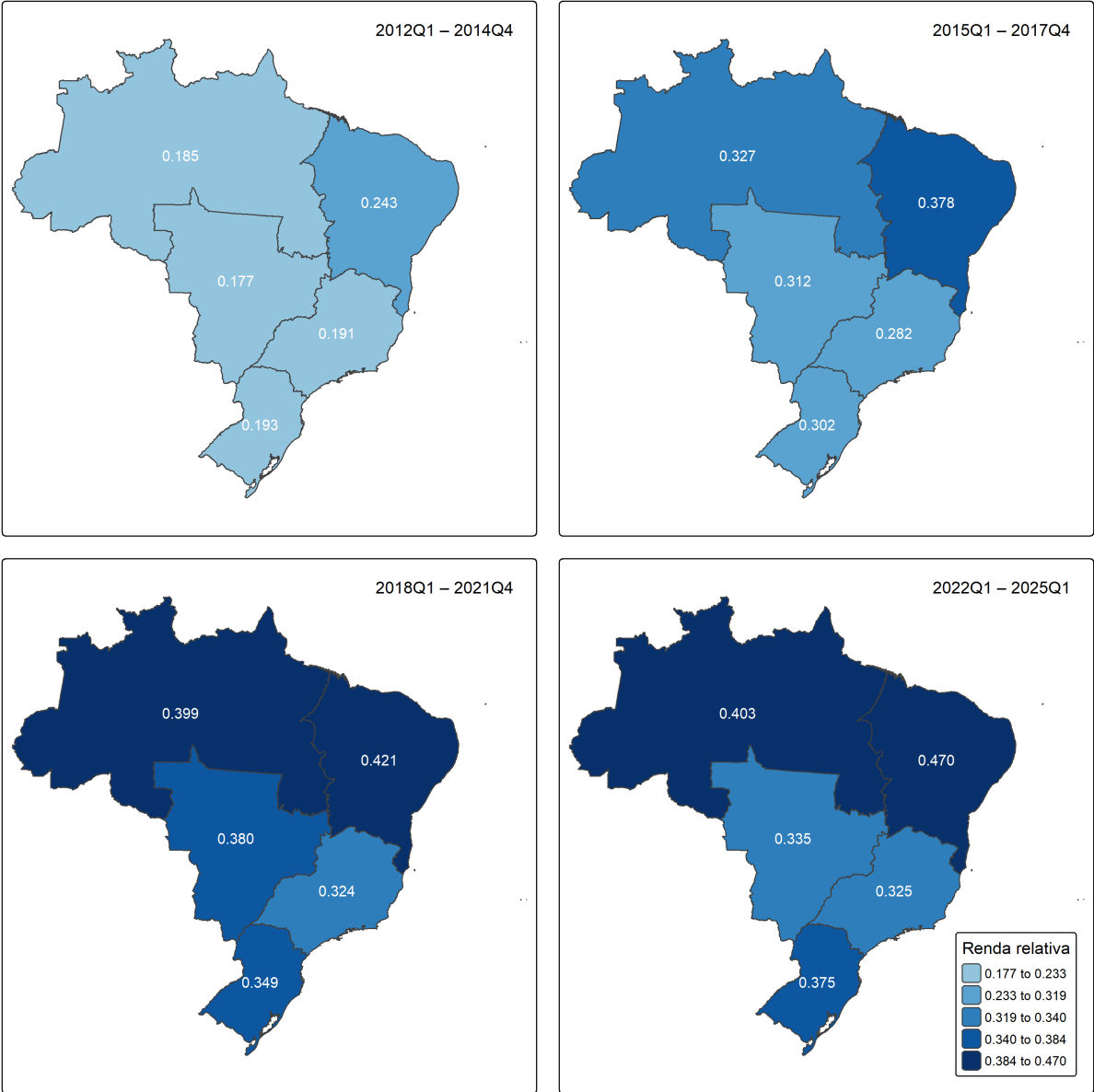
Figure 6: Implicit Tax Rate on Female Earnings by Household Position (2012–2025)



Implicit tax rates rose across all regions, mirroring the national trend, yet with distinct regional patterns. Over time, the North and Northeast consistently exhibited higher rates, indicating stronger disincentives for wives to increase earnings. In contrast, the Southeast maintained

lower levels, likely reflecting its more equitable economy and robust female labor policies (Figure 7). These widening regional gaps underscore how persistent cultural and structural differences—rooted in deeply unequal socioeconomic foundations—continue to shape women’s labor supply decisions across Brazil.

Figure 7: Implicit Tax Rate by Brazilian Region (2012–2025)

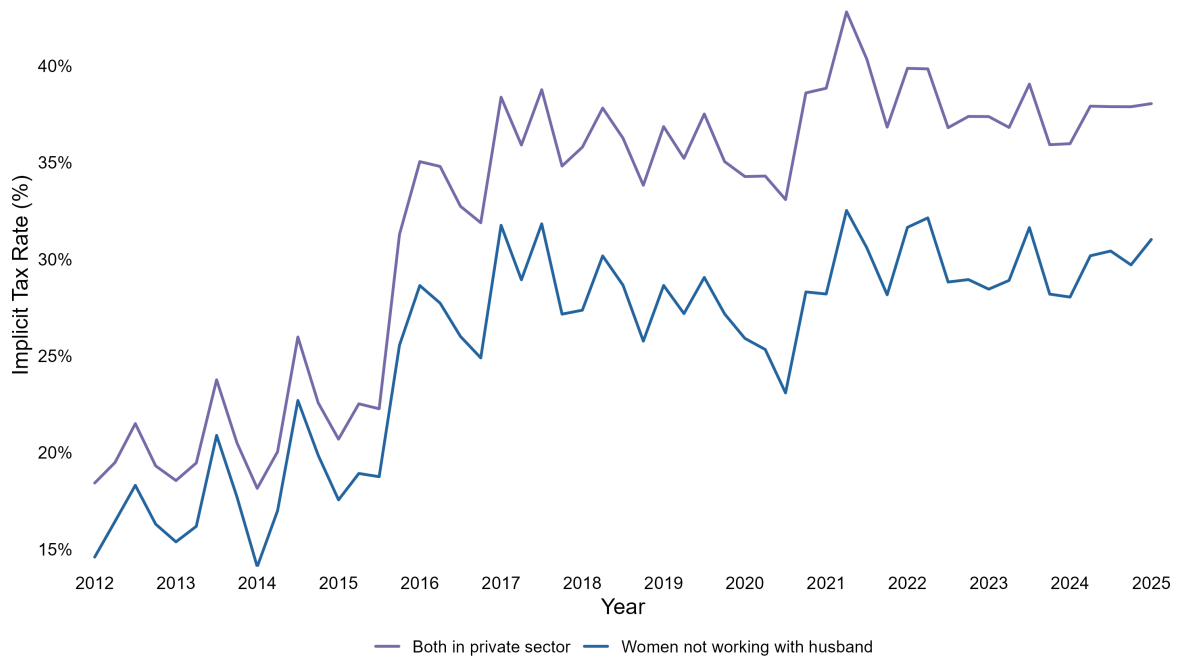


In sum, the persistently elevated implicit tax rates post-2016 reveal a troubling paradox in intra-household bargaining dynamics: despite women’s incremental gains in relative income, the cost of disrupting the male breadwinner norm has intensified. Notably, the inverse relationship between women’s education levels and implicit taxation suggests that human capital shields against—but does not dismantle—gender-driven distortions, as even highly educated women actively curtail earnings near the 50% threshold. More critically, the steeper penalties for older women and female heads of household imply that traditional norms exert stronger pressure on those expected to have greater autonomy, hinting at deeply internalized social constraints rather than purely rational bargaining.

4.5 Robustness Checks

To assess robustness, we first follow Souza et al. (2023) by excluding self-employed women who work alongside their husbands in the same sector and occupation, thereby isolating the implicit-tax effect from distortions driven by shared income sources and addressing Zinovyeva & Tverdostup (2021)’s concern that income equalization in dual-earner couples might produce spurious bunching. We then restrict the sample to private-sector dyads, controlling for institutional differences in wage-setting (Figure 8).

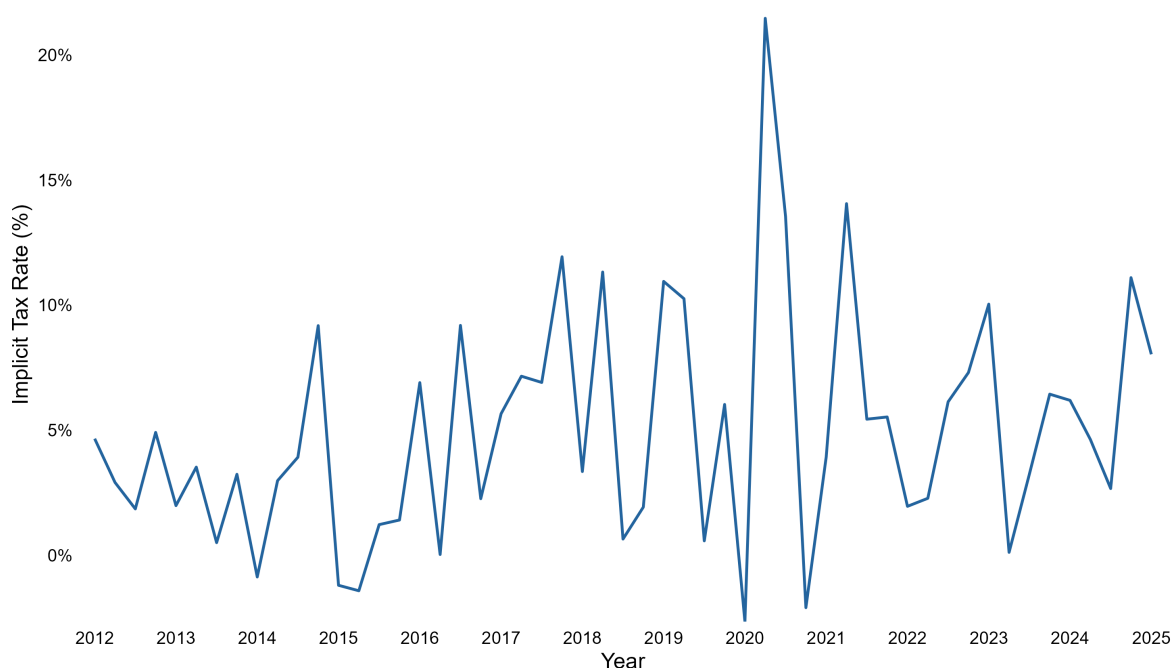
Figure 8: Implicit Tax Rate on Female Earnings by Partner Matching Criteria (2012–2025)



Both approaches consistently showed quantitatively similar implicit tax rates and identical upward trends. The lines for same-education couples and private-sector-only couples exhibited very similar magnitudes compared to the general estimates. The women-not-working-with-husband subsample yielded a lower—though still substantial—implicit tax rate, confirming the male-breadwinner norm’s persistence across alternative specifications.

Finally, following Binder & Lam (2022), who argue that spousal income bunching may reflect assortative mating rather than behavioral responses to social norms, we investigate whether the observed clustering in women’s relative earnings is driven by partner selection patterns. To explore this, we simulate counterfactual couples by re-matching each man with a woman from a different household who shares similar observable characteristics—specifically, age group, educational attainment, geographic region (state and urban/rural), and number of children (as a proxy for family-size preferences). Additionally, matches are restricted to individuals with complementary household roles—i.e., responsible person and spouse/partner—to preserve a realistic household structure. We then calculate the woman’s relative income share in each simulated couple by dividing her labor earnings by the total earnings of the pair (Figure 9).

Figure 9: Implicit Tax Rate on Female Earnings in Simulated Couples (2012–2025)



Even after randomly re-matching individuals across households, the estimated implicit tax on women’s relative earnings remains positive, suggesting that assortative matching explains part of the bunching observed when women begin to out-earn their male partners. While the implicit tax in the counterfactual sample remains virtually flat from 2012 to 2025, it rises steadily among actual couples, indicating that intra-household dynamics have increasingly amplified the penalty on women’s earnings. In short, structural labor market inequalities create a persistent baseline disadvantage, but evolving gender norms and bargaining within households appear to have deepened this gap over time.

5 Final Considerations

This paper examines how the male-breadwinner norm has evolved in Brazil. Applying a bunching approach to PNAD-C microdata, we find not only persistence but a strengthening of implicit disincentives: the “tax” on women’s earnings climbed from 18–25 percent to a sustained 30–35 percent, peaking above 40 percent during the COVID-19 crisis.

Education offers some relief but fails to dismantle the norm—more-educated women face slightly lower penalties, yet still bunch their earnings just below parity. Moreover, an “autonomy trap” emerges: women who appear most independent (older or officially household heads) incur even steeper penalties, indicating that internalized social pressures—not just bargaining—sustain the breadwinner norm as women near economic primacy.

Methodologically, despite the limits of cross-sectional data and the challenge of isolating causal channels, our robustness checks yield a consistent signal. From 2012 to 2025, the implicit tax in the counterfactual (re-matched) sample remains virtually flat, while the tax in actual couples rises sharply—suggesting that intra-household dynamics have increasingly amplified the penalty on women’s earnings over time.

These patterns show that apparent gains in aggregate metrics conceal deepening behavioral rigidities within households. As women’s economic potential expands, the invisible tax on their

earnings intensifies—transforming individual progress into normative enforcement. This calls for a two-pronged policy strategy: addressing structural barriers through labor-market reforms and overhauling household-level supports to prevent marriage from turning external inequalities into private economic penalties.

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