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ABSTRACT

Labor Market Shocks, Parental Beliefs, and Children's Socio-Emotional Development

This paper investigates how shifts in local labor markets influence maternal expectations about future support from their children, and how those expectations affect adolescents' socio-emotional development. Using panel data from the Young Lives study in Peru (Rounds 4 and 5), the analysis exploits exogenous variation in female employment opportunities across departments through a shift-share instrument. Results show that improvements in women's local labor demand reduce the likelihood that mothers expect emotional or financial support from their children in adulthood. These lower expectations are, in turn, associated with improved socio-emotional development among adolescents, captured through standardized indices of self-esteem, self-efficacy, peer relations, and pride. The findings suggest that economic expansion may relax intergenerational expectations of support, thereby reducing the psychological burdens placed on children. This study contributes to research on gendered labor shocks, parental beliefs, and the socio-emotional consequences of intergenerational dynamics, particularly in low- and middle-income countries, showing how economic change can influence child development through shifts in maternal expectations.

JEL Classification: D1, J1, I2

Keywords: socio-emotional skills, maternal expectations, shift share, Peru

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1 Introduction

Socio-emotional skills, often referred to as non-cognitive skills, such as self-efficacy, emotional stability, and social confidence, are critical determinants of individual success and well-being across the life course (Heckman et al., 2006; Kautz et al., 2014; Alan et al., 2019). These skills influence educational attainment, labor market outcomes, and health, complementing cognitive abilities in shaping life trajectories (Bowles et al., 2001; Deming, 2017; Meroni et al., 2022).

Parental influences are central to children’s socio-emotional development, affecting a wide range of outcomes (Pinquart and Kauser, 2019; Bates and Bayles, 1998; Cummings et al., 2014). Parenting styles, emotional support, and parental beliefs shape children’s internal working models and coping mechanisms, which influence their psychological adjustment and resilience (Barber, 1997; Maccoby, 2003). In particular, maternal attitudes and behaviors play a defining role during adolescence, a key period for socio-emotional skill formation (Steinberg, 2001; Mullis and Mullis, 2018).

Parental expectations, especially maternal beliefs about future support from their children, are a potentially powerful but underexplored influence on adolescent development. These expectations are often shaped by cultural norms, gendered labor market dynamics, and the presence or absence of formal social protection. In contexts where familial ties are strong and public eldercare is limited, such expectations may structure emotional dynamics within the household (Rojas, 2007; De Vos and Solís, 2010; Attanasio and Kaufmann, 2014b).

This paper studies how exogenous changes in local economic opportunities affect maternal expectations of future intergenerational support, and how these expectations, in turn, influence children’s socio-emotional skills. The empirical strategy relies on a gender-specific shift-share instrument that captures variation in female labor demand across departments, based on fixed employment shares and national sectoral growth rates. The gendered nature of this instrument is motivated by persistent labor market discrimination and occupational segregation that disproportionately constrain women’s access to stable, well-paying jobs (Goldin, 2014; Seguino, 2007).

The analysis draws on panel data from the Young Lives study in Peru, which offers rich information on maternal attitudes, household conditions, and children’s socio-emotional outcomes. Prior research using this dataset has demonstrated how environmental and parental factors contribute to non-cognitive skill formation over time (Mitchell and Sánchez, 2023). To

address endogeneity and omitted variable concerns, a combination of individual fixed-effects models with the instrumental variable approach is used, isolating plausibly exogenous variation in expectations linked to local labor market shocks.

Understanding how economic shocks shape parental expectations and, in turn, child development is a complex task. These processes are tightly interwoven with household dynamics, cultural norms, and structural inequalities, making precise identification extremely challenging. Still, given the relevance of this topic for both academic inquiry and public policy, even partial or imperfect efforts can provide valuable insights. This study represents such an effort, one that acknowledges its empirical limitations while contributing to the understanding of how evolving economic opportunities influence family aspirations and children’s developmental outcomes.

Two main findings emerge. First, increases in female labor demand are associated with lower maternal expectations of receiving emotional or financial support from children, as mothers achieve greater economic stability and can rely less on their offspring for financial or emotional assistance. This finding aligns with labor economics literature showing how enhanced female labor force participation and access to formal employment reduce dependency on intergenerational transfers (Goldin, 2014; Seguino, 2007). Second, the results show a mixed pattern of associations between maternal expectations and children’s socio-emotional outcomes. On average, expectations are negatively associated with self-esteem, peer relationships, and self-efficacy, while a positive association emerges with pride. This contrast reflects how different socio-emotional outcomes capture distinct aspects of children’s internal responses, some emphasizing personal worth and agency, others highlighting connectedness, purpose, or perceived obligation.

These findings align with existing psychological literature showing that elevated parental expectations, particularly in the absence of external institutional support, can contribute to anxiety, stress, and decreased emotional well-being among youth (Luthar and Becker, 2002; Strein et al., 2003). According to Bowles et al. (2001), non-cognitive skill development is sensitive to family dynamics, and may be undermined when children perceive expectations as pressure rather than motivation. In this context, expectations function not only as aspirational anchors but also as potential vectors of emotional strain, especially when the state fails to absorb part of the caregiving burden.

These findings invite to reflect on the balance between public and private responsibility for care and support. When expectations of intergenerational help arise in contexts marked by unmet needs or limited resources, it becomes harder to interpret them as fully autonomous.

This study contributes to the development economics literature by providing novel evidence on how exogenous labor market shocks shape maternal expectations and, in turn, influence children’s socio-emotional development in a middle-income country setting. While foundational work by Heckman et al. (2006) and Mitchell and Sánchez (2023) establish the importance of parental inputs and socio-emotional skill formation, the closest related study is Attanasio and Kaufmann (2014b), which documents correlations between economic conditions and intergenerational support behaviors in Peru.

Building on Attanasio and Kaufmann (2014b)’s insights, this paper advances the literature by employing a gender-specific shift-share instrumental variable to isolate plausibly exogenous variation in maternal expectations driven by local labor market dynamics. Moreover, it investigates the downstream consequences of these expectations for children’s socio-emotional development. This approach overcomes limitations of endogeneity and measurement bias that have constrained prior analyses, allowing for a more credible causal interpretation of how labor market shocks affect parental expectations and, consequently, child outcomes. By connecting macroeconomic shocks to family-level beliefs and child outcomes, this research deepens understanding of the complex interplay between economic context, parental expectations, and intergenerational skill formation.

In doing so, this research highlights how economic changes and gender-specific labor market challenges combine with family dynamics to shape adolescents’ socio-emotional development. This contribution is particularly relevant in developing country contexts with weak formal social protection, where informal family support remains central.

The findings have important policy implications, highlighting that improving women’s labor market opportunities and alleviating caregiving burdens can promote better socio-emotional outcomes for the next generation. Evidence from Attanasio et al. (2015) shows that social protection programs, such as conditional cash transfers, can effectively reduce economic constraints faced by families, enabling caregivers to better support children’s development. At the same time, Goldin (2014) emphasizes the persistent challenges women face in labor markets due to caregiving responsibilities and gender norms, which limit their economic participation and advancement. Together, these studies underscore the need for gender-sensitive social protection policies that not only enhance women’s access to employment but also address the unequal distribution of unpaid caregiving work within households. Such integrated approaches are crucial to breaking cycles of intergenerational disadvantage by improving both material conditions and

the family environment that shapes children’s socio-emotional development.

The remainder of the paper is structured as follows. Section 2 reviews the related literature on socio-emotional development, maternal expectations, and gendered labor market dynamics. Section 3 outlines the methodological approach, including the identification strategy and potential mechanisms. Section 4 presents the data and key variables, including results from the factor analysis and baseline descriptive patterns. Section 5 reports the main results, covering first-stage estimates, instrumental variable regressions, and a discussion of mechanisms and policy implications. Section 6 concludes.

2 Related Literature

This study contributes to several intersecting strands of research centered on labor market dynamics, parental expectations, and the development of children’s socio-emotional skills.

A growing body of research investigates how expectations adapt in response to changing economic opportunities. Angrist et al. (2024) show that adolescent girls’ expectations about school and work can be reshaped by exposure to new peer norms in developing countries. Regarding parental expectations, more specifically, Beaman et al. (2012) demonstrate that institutional/policy-driven changes can shift parental beliefs about children’s futures, by studying how exposure to female leaders, induced by a randomized quota policy, led to a significant increase in parental aspirations for girls (including aspirations about education, marriage age, and career prospects). Moreover, Ray (2006) and Genicot and Ray (2021) emphasize the role of social comparisons and information flows in updating aspirations. And Carneiro et al. (2024) further show that parental beliefs about the returns to investment in child development evolve over time and significantly influence both time and financial inputs, particularly in low-income settings. Theoretical work by Doepke and Zilibotti (2017) complements this empirical evidence by illustrating how parenting styles and the degree of control parents exert are shaped by macroeconomic conditions such as inequality and the expected returns to skill. Building on this framework, Baez et al. (2025) analyze the Latin American context, where institutional fragility, persistent inequality, and strong family networks jointly influence parenting behavior. They document how these structural factors shape both parenting strategies, such as authoritarian, authoritative, and permissive styles, and disciplinary practices, including non-violent, psychological, and physical discipline. By situating parenting within the region’s structural constraints,

this perspective highlights the role of institutional and intergenerational dynamics in shaping family decisions. In line with these works, the present study investigates whether exogenous, gender-specific labor demand shocks causally affect maternal expectations of future support, a relationship that remains underexplored in the literature.

These expectations are shaped within broader gendered labor market and institutional contexts. Women’s participation in the labor market is constrained by persistent structural barriers. Occupational segregation confines many women to lower-paid, informal, and insecure jobs with limited social protections (Goldin, 2014). Statistical discrimination further restricts women’s access and advancement, as employers anticipate career interruptions tied to caregiving responsibilities (Seguino, 2007; Busso et al., 2017). These factors exacerbate gender wage gaps and economic vulnerability, influencing women’s reliance on family networks for support (Alon et al., 2021; Blau and Kahn, 2017; Guerra et al., 2019).

These labor market trajectories also interact with the timing of entry into the workforce. Berniell et al. (2023b) show that women entering the labor market during economic downturns experience less persistent scarring than men, a result they partly attribute to sectoral composition and preexisting gender norms around work expectations. This finding underscores the importance of understanding how macroeconomic shocks intersect with gender-specific roles and expectations, particularly at key transitional periods.

The burden of unpaid domestic and caregiving work compounds structural constraints on women’s labor force participation in Latin America. Berniell et al. (2023a) show that motherhood often leads women to shift into more flexible or informal employment arrangements to accommodate caregiving demands. Thus, limiting access to stable jobs and social protection, reinforcing dependence on family networks and potentially shaping maternal expectations about future support. For example, one of the problems associated with not having one’s own (and formal) income, both in the immediate and in the future is the lack of economic independence and the unequal distribution of income between the couple. With bargaining power being one of the aspects being shaped, and arguably also shaping expectations. In the literature on the subject, economical dependence is of the main reasons why a person in a situation of domestic violence does not leave that situation (Kim and Gray, 2008). In this sense, institutional reforms in social protection have further revealed how policy can shift intrahousehold dynamics and caregiving roles. Several Latin American countries have implemented non-contributory pension schemes to expand coverage to individuals, predominantly women, who lack sufficient formal employment

history. Berniell et al. (2020) study a major Argentine pension reform introduced in 2004–2005, which granted access to pensions for nearly two million women without full contribution histories. They find that among more educated women, the reform increased the probability of divorce or separation by 5.6 percentage points, suggesting an empowerment effect. For less educated women, there was a 7 percentage point drop in the likelihood of being solely responsible for domestic work, indicating a redistribution of caregiving tasks within households. These findings underscore how policy interventions targeting economic inclusion can reshape family bargaining dynamics and caregiving expectations, with potential implications for the intergenerational transmission of support norms.

Gasparini et al. (2015) provide a comprehensive regional overview of these dynamics, documenting how persistent gender gaps in employment, earnings, and time use reflect the combined effects of labor market discrimination, rigid gender norms, and institutional gaps—particularly limited access to childcare and maternity protection. They argue that despite progress in female educational attainment and labor force participation, the region’s progress toward gender equity has stalled due to entrenched inequalities in the unpaid care economy. Their work highlights how the interplay between public policies, labor informality, and familial structures shapes gendered outcomes in both the market and the home.

Thus, within households, caregiving burdens and expectations are dynamically negotiated and shaped by subjective beliefs, observable outcomes, and prevailing social norms. Parents’ expectations are not fixed but form in response to their beliefs about child development and the perceived consequences of caregiving decisions. Attanasio et al. (2019) show that parental beliefs about the productivity of different inputs, such as time, money, or educational activities, can be systematically measured and are predictive of actual investment behaviors in early childhood. These beliefs are often heterogeneous across households and contexts, suggesting that caregiving expectations are rooted in subjective mental models, not just economic constraints.

Building on this, Boneva et al. (2024) document how maternal labor supply choices are shaped by perceived pecuniary and non-pecuniary returns, anticipated social approval, and internalized gender norms. Many mothers believe that part-time work offers the best balance between maintaining the mother–child relationship and contributing to household income, while full-time work is often perceived to harm family cohesion. These beliefs, combined with external constraints such as limited childcare availability, play a key role in how caregiving responsibilities are assumed and justified within the household.

Further evidence from a natural experiment during the COVID-19 pandemic can lead into inferences about these dynamics, in the sense that these beliefs and expectations can adjust in response to changing household conditions. Mangiavacchi et al. (2021) and Champeaux et al. (2022) show that increased paternal involvement in childcare, triggered by employment disruptions, was associated with improved emotional well-being among children. While the study does not directly measure maternal expectations, the observed benefits of shared caregiving can imply a potential updating of maternal beliefs. If mothers observe that increased paternal engagement yields better outcomes for their children, they may revise prior expectations that caregiving is primarily their domain and recalibrate their forecasts regarding both the division of future caregiving and the support children may require or provide in the long term.

Turning to child development, a large literature highlights the importance of parental inputs and expectations in shaping children’s non-cognitive and cognitive skills. Heckman et al. (2006) demonstrate that both cognitive and non-cognitive abilities predict educational attainment, labor market success, and risky behaviors, with early life parental investments playing a key role. Heckman and Corbin (2016) frame these skills as essential components of human capabilities, with implications for inequality and policy. Nicoletti et al. (2024) show that the effectiveness of parental inputs varies by the child’s initial conditions and households stress level, emphasizing the need for tailored interventions.

This is particularly relevant in developing countries, where household constraints and institutional gaps may limit the efficacy of standard parenting strategies. Attanasio et al. (2020) provide evidence from a randomized field experiment in Mexico, finding that low-cost parent training programs substantially improve child cognitive and behavioral outcomes. The intervention’s success underscores the malleability of parenting behavior and its implications for child development.

Recent contributions extend these insights to longitudinal intergenerational outcomes. Attanasio et al. (2025) use data from the British Cohort Study to show that maternal socio-emotional traits significantly predict children’s socio-emotional outcomes, especially internalizing behaviors. Similarly, Mitchell and Sánchez (2023) model the development of socio-emotional skills in adolescence using Peruvian data, highlighting the predictive power of both social and task-related skills for future success.

A comprehensive review by Lo Bue et al. (2023) synthesizes evidence from 26 causal studies on maternal employment and child outcomes. While some studies find null or positive effects,

negative outcomes are often associated with unsafe work or lack of childcare, especially in low-income countries. These findings challenge public perceptions about early maternal employment and point to the importance of complementary policies such as childcare provision and parental leave.

Taken together, these studies provide a comprehensive understanding of how maternal expectations are embedded within larger household and institutional dynamics. They highlight the ways in which labor market conditions, gender roles, family relationships, and informational environments jointly shape both maternal expectations and children’s development. Building on this foundation, the present research proposes an integrated framework that connects macroeconomic shocks and gender-specific labor market challenges to maternal expectations and, ultimately, to the socio-emotional development of children. This approach bridges the fields of labor economics, family economics, and human capital development, offering empirical insights into how non-cognitive skills are shaped across generations in a middle-income developing country setting.

3 Methodological Approach

This section outlines the identification strategy used to identify the causal effect of maternal expectations on children’s socio-emotional development. It begins by describing the shift-share instrumental variable approach and the assumptions required for identification. It then explores the potential mechanisms underlying the observed relationships, considering both the impact of labor market shocks on maternal expectations and the downstream effects of those expectations on children’s socio-emotional outcomes. Finally, the empirical specification is detailed, including a discussion of the control variables employed to mitigate concerns about omitted variable bias and confounding.

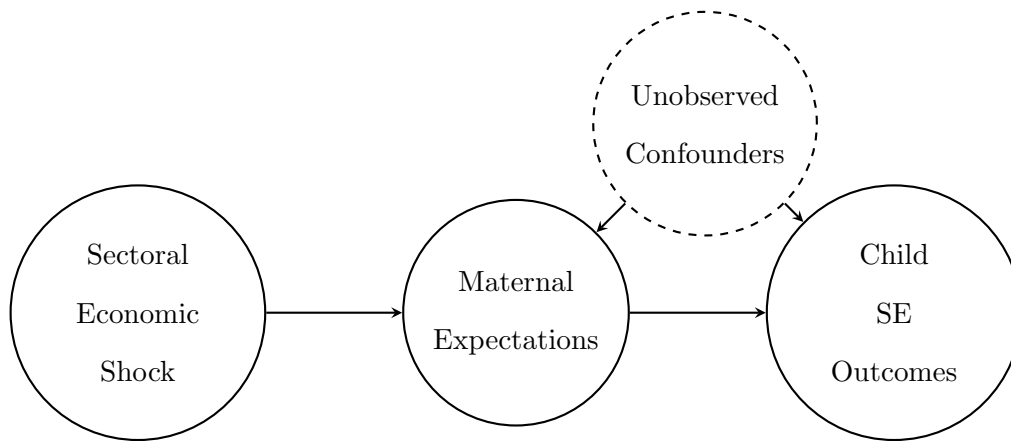
3.1 Identification Strategy

The objective of this work is to estimate the causal effect of maternal expectations regarding future financial and emotional support from their children on children’s socio-emotional outcomes. A key challenge in this estimation lies in the potential endogeneity of expectations: mothers’ beliefs may be influenced by unobserved family traits, values, or parenting behaviors that simultaneously affect children’s emotional development. To address this concern, the empirical

strategy employs an instrumental variable (IV) approach. The instrument is built using exogenous variation in local labor market conditions for women, derived from a Shift-Share measure based on baseline sectoral female employment shares by department and subsequent national female sectoral growth. The underlying identifying assumption is that these economic shocks influence children’s outcomes exclusively through their effect on maternal expectations. This assumption, along with the overall causal structure of the model, is illustrated in the following Directed Acyclic Graph (DAG).

The DAG in Figure 1 visually summarizes the causal assumptions underlying the instrumental variable strategy. Sectoral economic shocks at department level (\mathbf{Z}) are used as an instrument for maternal expectations regarding future financial and emotional support (\mathbf{T}), under the assumption that \mathbf{Z} affects \mathbf{T} but does not directly influence children’s socio-emotional outcomes (\mathbf{Y}). The endogeneity of \mathbf{T} is addressed through this instrument, acknowledging that unobserved confounders (\mathbf{U}), such as maternal personality traits, family dynamics, or cultural expectations, may simultaneously affect both maternal expectations and child outcomes ($\mathbf{U} \rightarrow \mathbf{T}$ and $\mathbf{U} \rightarrow \mathbf{Y}$). The core identifying assumption is the exclusion restriction: conditional on observed and unobserved factors, the instrument \mathbf{Z} influences \mathbf{Y} only through its effect on \mathbf{T} .

Figure 1: Directed Acyclic Graph (DAG) for Identification Strategy



3.1.1 Potential Mechanisms

Effect of the Shift-Share IV on Maternal Expectations

Understanding how labor market changes affect maternal expectations requires recognizing the interplay between economic opportunity and cultural context. In much of Latin America, family ties are deeply rooted in norms of mutual support and intergenerational reciprocity (Rojas, 2007; Aisenberg and Ayón, 2012). As such, expectations of future support may persist regardless of improvements in women’s economic conditions. However, these cultural patterns do not fully insulate expectations from external influences.

In particular, gender-specific labor market shocks may alter expectations by reshaping the material conditions women face.

Changes in local labor demand may signal improvements in women’s future economic prospects, reducing the perceived need to rely on children. Regarding this option, the instrument works if it captures the demand side of the labor market and problems women face in accessing or participating in it. These demand-side barriers are partly explained by statistical discrimination, where employers make decisions based on group averages rather than individual productivity, anticipating that women are more likely to interrupt careers or require flexible schedules due to caregiving responsibilities (Goldin, 2014). Such patterns are reinforced by entrenched gender norms that disproportionately assign domestic and caregiving tasks to women, limiting their labor market participation and occupational choices (Seguino, 2007). For Peru, according to the Peruvian National Household Survey (ENAHO), nearly 70% of employed women work in the informal sector, and women devote over 20 hours per week to unpaid domestic and caregiving tasks—nearly triple the male average (Instituto Nacional de Estadística e Informática (INEI), 2022a).

This dynamic, on the one hand, generates many inefficiencies in the labor market. For example, talent misallocation, where structural barriers prevent women from realizing their full economic potential. This not only limits individual outcomes but also hampers aggregate productivity and economic growth (Hsieh et al., 2019; Busso et al., 2017). But more importantly to this matter, these structural barriers, on the other hand, limit women access to contributory pensions and perpetuate dependence on intergenerational support (Elías, 2013). Particularly, in contexts where state-provided alternatives to care and income support for the elderly are lacking, private or informal mechanisms of intergenerational support become more prominent and expectations about intergenerational help may substitute for institutional safety nets (De

Vos and Solís, 2010; Attanasio and Kaufmann, 2014a).

Thus, the expected relationship between labor market shocks and expectations is inverse. Improved conditions may increase women’s own autonomy and reduce the need for help.

Crucially, the shift-share IV exploits exogenous variation in local female employment growth by sector, allowing to trace how these labor shocks, filtered through institutional constraints and gendered norms, influence maternal expectations. While omitted variable bias cannot be ruled out entirely, the empirical strategy includes rich controls for household structure, maternal characteristics, health and well-being, helping to isolate the effect of labor market changes from confounding factors.

Effect of Maternal Expectations on Socio-Emotional Outcomes

The effects of maternal expectations on children’s socio-emotional development are shaped by many of the same dynamics discussed above: cultural norms, caregiving responsibilities, and the limits of formal welfare systems. The role of expectations, however, is more ambiguous. Table 1 summarizes key channels.

On the one hand, maternal expectations of future support may signal to children a deep sense of trust, connection, and emotional closeness. When framed positively, these expectations can instill in children a sense of responsibility, motivation, and emotional security (Filgueira, 1998). Feeling that one’s contribution is valued may enhance self-esteem and social belonging.

On the other hand, expectations, especially in resource-constrained households, may also create burdens. Children may experience these expectations as pressure or obligation, reducing their autonomy and increasing anxiety or emotional distress (Luthar and Becker, 2002; Strein et al., 2003). This risk is particularly high when expectations are concentrated on one child—often a daughter—reflecting persistent gender norms around caregiving (Doyle and Coyle, 2012).

In settings with limited institutional alternatives, such as Peru, families often rely on internal redistribution of care and support roles. This magnifies the emotional and material stakes of maternal expectations, potentially reinforcing gendered patterns of responsibility and emotional strain.

To better isolate these effects, the empirical strategy controls for a broad set of observed characteristics that may also influence child development, such as maternal and child formal educational aspirations, household wealth, and maternal and child subjective well-being. This allows the analysis to focus more precisely on the mechanisms through which expectations themselves, rather than broader attitudes, shape children’s socio-emotional outcomes (Attanasio,

2011).

Table 1: Summary of Mechanisms Linking Maternal Expectations to Children’s Socio-Emotional Outcomes

Mechanism	Description	Empirical Implication
Cultural Encouragement	Expectations interpreted as trust or familial commitment, enhancing pride or motivation	Improved socio-emotional outcomes
Psychological Burden	Perceived obligation leads to anxiety or stress	Lower socio-emotional skills

3.2 Empirical Strategy

To estimate the causal effect of maternal expectations on children’s socio-emotional outcomes, a two-stage least squares (2SLS) approach is used. The first stage models maternal expectations as a function of exogenous variation in local labor market opportunities captured by the shift-share instrument:

$$\text{Expect}_{ihd} = \alpha_0 + \delta Z_{hd} + \mathbf{X}'_{ihd}\alpha + \varepsilon_{ihd}, \quad (1)$$

where Expect_{ihd} is a score variable that captures the intensity of the mother’s expectations of future financial or emotional help from the child, Z_{hd} is the shift-share instrument defined at the household’s department d , and \mathbf{X}_{ihd} is a vector of control variables for individual i in household h .

The second stage estimates the effect of predicted expectations on socio-emotional outcomes:

$$Y_{ihd} = \beta_0 + \beta_1 \widehat{\text{Expect}}_{ihd} + \mathbf{X}'_{ihd}\gamma + u_{ihd}, \quad (2)$$

where Y_{ihd} represents standardized indices of socio-emotional development (e.g., self-esteem, self-efficacy, pride, and peer relations).

The vector of controls \mathbf{X}_{ihd} includes child-level covariates (time use, BMI for age, distance to school), maternal characteristics (married, education), and household characteristics (wealth, household size, urban location). In addition, the model includes two key attitudinal controls: whether the mother and the child report that the ideal formal educational attainment is to finish

university, and two measures of subjective well-being reported by the mother, current well-being and expected well-being in four years, and a measure reported by the child.

Moreover, an index of the mother’s agency and pride is included to account for how the increase in labor opportunities can speak to the mother’s self sense of independence and a measure of poor physical and psychological health of the mother that could deepen the sense of future reliance.

Including these variables helps reduce potential omitted variable bias and accounts for differences in maternal optimism or future-oriented thinking that may correlate with both expectations and parenting practices. These controls also help isolate the effect of expectations from other forward-looking aspirations and evaluative beliefs that could independently influence children’s non-cognitive outcomes.

Fixed effect at child level are included and standard errors are clustered at the department level to account for potential correlation in shocks across households within the same labor market.

4 Data

This study uses data from the Young Lives project¹, specifically Rounds 4 and 5 for Peru. Young Lives is a longitudinal study on childhood poverty and inequality, coordinated by the University of Oxford and conducted in four countries: Ethiopia, India (Andhra Pradesh and Telangana), Peru, and Vietnam.

The project follows two cohorts of children over more than 15 years: a younger cohort born in 2001-2002, who were, on average, 1 year old when the study began, and an older cohort born in 1994-1995, who were, on average, 8 years old at baseline. It adopts a pro-poor sampling strategy, oversampling households in disadvantaged areas and excluding the top 5% of the wealthiest districts. While the sample is not nationally representative, it captures substantial variation in socioeconomic, geographic, and cultural contexts within each country.

Young Lives collects rich longitudinal data on children’s cognitive and socio-emotional development, health, education, household conditions, and family background. The survey includes detailed information about children’s primary caregivers, typically their mothers, making it particularly well-suited for analyzing intergenerational dynamics of socio-emotional skills and parenting practices. This analysis focuses on the younger cohort, who by Round 4 were, on

¹See University of Oxford (2019)

average, 12 years old, and by Round 5, 15 years old.

Rounds 4 and 5 include detailed questions on emotions, attitudes, and feelings administered to both the index children and their main caregivers, allowing the construction of multiple indicators of socio-emotional skills.

Following Mitchell and Sánchez (2023), four child-level socio-emotional skill indexes were constructed using factor analysis: *self-efficacy*, *self-esteem*, *peer relations*, and *pride*. These indexes are grounded in a multidimensional conception of human capital that emphasizes the role of socio-emotional traits in shaping developmental trajectories during adolescence. Each index was derived from children’s responses to a set of Likert-scale statements designed to capture latent psychological constructs. Factor extraction was based on the criterion of eigenvalue greater than one, and in all cases, a single dominant factor was retained, with loadings exceeding 0.8.

The construction of these indexes builds on literature that models skill formation as a dynamic and multidimensional process (see Cunha et al. (2010) and Heckman (2006)). In particular, Mitchell and Sánchez (2023) conceptualize socio-emotional development as encompassing both self-regulatory traits (such as self-efficacy and agency) and interpersonal traits (such as pro-sociality and peer relations), each contributing uniquely to future educational and labor market outcomes. While their study focuses on older cohorts and long-term outcomes, their measurement framework informs the approach adopted here.

In the present analysis, higher values on the *self-efficacy* index indicate a stronger perceived capacity to manage challenges and adapt to stress; *self-esteem* reflects overall self-worth and self-acceptance; *peer relations* capture the quality of relationships and social integration; and *pride* denotes a sense of personal accomplishment and self-respect. These constructs map closely to the task-effectiveness and social skill dimensions described by Mitchell and Sánchez (2023), who emphasize their distinct developmental trajectories and differing associations with time use and cognitive ability.

At the caregiver level, similar methods were used to construct indexes of *agency and pride*, *expectations of help from children in adulthood*, and *poor health*. These indexes were derived from caregivers’ responses to Likert-scale questions designed to capture latent psychological constructs relevant to their perceptions of autonomy, emotional resilience, and expectations about intergenerational support. One factor was retained in each case based on the eigenvalue-greater-than-one rule, and factor loadings generally exceeded 0.5.

As in Mitchell and Sánchez (2023), the analysis relies on information from the primary

caregiver as identified in the household roster, rather than distinguishing between mothers and fathers. This strategy is motivated by two considerations. First, it increases the effective sample size, since approximately 8% of children in the sample live with non-parental caregivers; nonetheless, 92% of caregivers are parents and 89% identify as female (see Table A.8)². Second, the survey modules capturing socio-emotional constructs are administered only to the main caregiver and not separately to both parents.

The caregiver indexes are conceptually aligned with the broader literature on non-cognitive influences in human capital formation. In particular, traits such as agency and pride, proxied by measures of self-determination and perceived control over life circumstances, are consistent with the task-effectiveness domain emphasized by Mitchell and Sánchez (2023). Their study highlights how caregiver characteristics shape early investments and behavioral modeling, which in turn contribute to the emotional climate in which children develop. In this sense, the caregiver’s emotional profile is an integral component of the child’s developmental environment.

The primary explanatory variable of interest is the caregiver’s *expectation of future support/help from the child*, measured through a factor index based on items regarding the likelihood of expecting both financial and emotional help in adulthood. This construct captures the forward-looking beliefs caregivers hold about their child’s eventual reciprocity, and serves as a proxy for expectations that may shape the caregiver’s attitudes, investment strategies, and emotional availability. The empirical analysis investigates whether such expectations influence children’s socio-emotional development during early adolescence.

To account for potential confounding factors, a set of controls is included that are commonly associated with children’s emotional development. These include: the child’s travel time to school, age-adjusted Body Mass Index (BMI), time spent at school, studying, or in paid work; the caregiver’s highest completed education level (none, primary, secondary, or post-secondary); urban residence; household size; and a dummy indicating whether the household’s wealth index is above the 70th percentile. These controls help mitigate bias arising from variation in health status, time use, parental human capital, and socioeconomic background (see Currie and Almond (2011); Brooks-Gunn and Duncan (1997); Heckman (2006)).

Although the empirical strategy includes individual fixed effects to control for unobserved time-invariant heterogeneity, concerns remain about endogeneity due to reverse causality and omitted time-varying factors. For instance, changes in family dynamics, income shocks, or the

²For generalization purposes, the term *mother* may be used throughout to refer to the main caregiver.

child’s own behavior may influence both the caregiver’s expectations and the child’s outcomes. To address endogeneity concerns in the estimation of how maternal expectations affect child outcomes, this study constructs a shift-share instrumental variable (IV) that leverages plausibly exogenous variation in local female labor demand. Specifically, the instrument interacts baseline department-level sectoral employment shares of women (measured in 2013) with national-level sectoral growth in female employment between 2013 and 2016. This approach follows the canonical shift-share design introduced by Bartik (1991), in which the treatment intensity is computed by combining pre-determined local exposure weights with national shocks that are common across regions but differentially impact based on local economic structure.

This methodology has become widely adopted in applied economics, particularly in labor and trade research, as a way to isolate exogenous local variation when treatment intensity (e.g., labor demand or trade exposure) is otherwise endogenous. Autor et al. (2013) use this framework to estimate the effects of import competition from China on U.S. local labor markets, relying on initial industry composition to identify local differences in exposure to national trade shocks. More recent methodological contributions by Borusyak and Hull (2020) and Breuer (2021) have formalized the identifying assumptions behind shift-share instruments, highlighting two key conditions: (1) that the national shocks are exogenous and orthogonal to local unobservables, and (2) that the local exposure shares are predetermined and not influenced by subsequent trends. The instrument used in this study satisfies both conditions by fixing exposure shares prior to the period of analysis and using national sectoral trends that are external to any one locality. As such, it provides a credible source of variation to identify the causal effect of maternal expectations, instrumented via changes in local female labor market opportunities, on the socio-emotional development of children.

To compute the instrumental variable, this study draws on labor market data from the Encuesta Nacional de Hogares (ENAH), a nationally representative household survey conducted annually by the Instituto Nacional de Estadística e Informática (INEI). The ENAH collects detailed information on individuals’ employment status, occupation, industry, income, and demographic characteristics. Using the 2013 wave, which coincides with Round 4 of Young Lives, the sample is restricted to women of working age (aged 14 to 65) and excludes student or retired individuals to focus on active labor market participants.

Specifically, baseline sectoral employment shares are calculated at the department level for adult women, using the ENAH 2013 data. To reduce dimensionality and improve interpretabil-

ity, sectors were grouped into 3 broad categories: (i) tradable goods, (ii) tradable services, and (iii) non-tradable services. These groupings reflect the main economic activities reported in the ENAHO and are designed to capture structural differences in female labor force composition across regions.

The grouping of economic activity into tradable goods, tradable services, and non-tradable services is a functional classification, informed by persistent structural characteristics in Peru's labor market (Instituto Nacional de Estadística e Informática (INEI), 2022b; World Bank, 2020; Inter-American Development Bank (IDB) and World Bank, 2017). First, labor force data from INEI show that women are disproportionately concentrated in non-tradable services. In 2021, women comprised 94.5% of domestic workers, 68.2% of health workers, and 65.9% of those employed in education (Instituto Nacional de Estadística e Informática (INEI), 2022b). These sectors are typically oriented toward local consumption, offer limited formal employment, and are characterized by low wages and precarious working conditions. By contrast, tradable goods sectors, such as agriculture, mining, and manufacturing, remain male-dominated and are more strongly linked to international market demand.

Second, the World Bank's report further reveals that sector of employment is a critical driver of inequality. Women employed in services face lower earnings and higher rates of informality, even after controlling for education and experience. Informality among women remains above 60% in urban areas and exceeds 80% in rural zones, particularly in commerce and caregiving occupations (World Bank, 2020). The report emphasizes that sectoral segregation, where men dominate higher-productivity sectors and women are confined to lower-productivity, non-tradable services, contributes substantially to the national gender wage gap. Third, Peru is among the highest-ranking countries in terms of employment rate but among the lowest in job quality, especially with respect to formal contracts and wages that exceed minimum subsistence thresholds (Inter-American Development Bank (IDB) and World Bank, 2017). These disparities are concentrated in low-productivity, non-tradable services that employ the majority of working women.

Finally, tradable services such as finance, telecommunications, and professional services offer better pay and higher formality but are accessible primarily to urban, highly educated workers. Their employment patterns and economic exposure differ substantially from the non-tradable services group, justifying their analytical separation in this study.

The national sectoral growth rates are computed from changes in aggregate female employ-

ment at the national level between 2013 and 2016. The resulting Shift-Share instrument captures the predicted change in female employment in each department based on the pre-existing sectoral composition and national trends. This exogenous shift in local labor demand is used to instrument changes in caregivers’ expectations of future support from children, under the assumption that shifts in women’s economic opportunities may influence their forward-looking beliefs about intergenerational assistance, and the tradable/non-tradable distinction maps clearly onto persistent occupational, institutional, and gendered divides in the Peruvian labor market. This tripartite grouping thus allows the shift-share instrument to reflect structural variation in labor opportunities that are both macroeconomically relevant and socially consequential.

The remainder of this section is organized as follows. The next subsection details the construction of the socio-emotional and caregiver indexes through factor analysis, including item selection and loading structures. This is followed by a presentation of descriptive statistics for all key variables used in the empirical analysis.

4.1 Factor Analysis Results

The socio-emotional outcomes used in this study for both children and caregivers were constructed using exploratory factor analysis (EFA) applied to survey items administered in Rounds 4 and 5. This method reduces multiple observed variables into a smaller set of unobserved latent constructs by identifying common variance across conceptually related items.

The selection of items was guided by theoretical considerations and previous studies on socio-emotional development and non-cognitive skills. Factors were extracted using the iterated principal factor method. The number of factors retained was determined using the Kaiser criterion, which retains only those with eigenvalues greater than 1.

Each resulting factor was standardized to have mean zero and standard deviation one, followed by winsorizing at percentiles 2 and 98 to treat outlier observations, facilitating comparison across individuals and survey rounds, and enabling direct interpretation in the regression analysis. Higher values of the indexes correspond to greater levels of the latent trait (e.g., stronger self-esteem).

For children, four socio-emotional indexes were constructed: self-efficacy (Table A.1), self-esteem (Table A.2), peer relations (Table A.3) and pride (Table A.4). Each index retained one factor, with eigenvalues ranging from approximately 1.5 to over 5.0. Factor loadings across items consistently exceeded 0.6, often reaching above 0.8, indicating strong internal consistency and

unidimensionality of the constructs.

At the caregiver level, three indexes were constructed: agency and pride (Table A.5), expectations of help from children in adulthood (Table A.6) and poor health (Table A.7).

Similarly, each maternal construct yielded a single retained factor with loadings generally above 0.4. The factor for expectations of help captures the extent to which caregivers foresee emotional and financial support from their child in adulthood. The agency and pride factor reflects emotional resilience and perceived control over life circumstances. Finally, the poor health factor aggregates indicators of physical and emotional strain, as perceived by the caregiver.

Together, these indexes provide a consistent and empirically grounded measurement of latent socio-emotional traits relevant to adolescent development and intergenerational dynamics. The full list of items used in each construct is provided in the Appendix.

4.2 Descriptive Statistics

To provide an overview of the dataset and to contextualize the subsequent analysis, descriptive statistics for the main variables of interest are presented in this subsection. Tables A.9 and A.10 report measures of central tendency (mean), dispersion (standard deviation), and distribution (minimum, median, 99th percentile, and maximum) for Rounds 4 and 5, respectively.

The child socio-emotional outcomes, constructed through factor analysis and standardized, include *self-efficacy*, *self-esteem*, *peer relations*, and *pride*. As a result of the standardization procedure, the means are centered around zero. However, it was observed that the standard deviations increased, suggesting greater heterogeneity as children progressed through adolescence. This broadening of distributions is illustrated in Appendix Figures A.1 and A.2, where wider and occasionally right-tilted distributions can be seen in Round 5, particularly for *pride*.

Maternal variables were found to change less substantially across rounds. The average score for *agency and pride* increased modestly, while a small decline was observed in *expectations on help*. The *poor health* index remained relatively stable in both mean and dispersion. These trends are visualized in Appendix Figures A.3 and A.4, where symmetrical distributions with only minor shifts in central tendency are shown.

In addition to the core socio-emotional constructs, several educational and well-being indicators were examined. Post-secondary education was reported as the ideal level to complete by more than 80% of children in both rounds, indicating high and stable aspirations. Subjective well-being also remained relatively stable, with means of 6.5 in Round 4 and 6.3 in Round 5 (on

a 0–10 scale), and a modal value of approximately 6 in both periods.

At the caregiver level, educational expectations aligned with those of the children: roughly 70% reported post-secondary education as ideal for their child, while about 20% selected secondary education. Mothers' current subjective well-being averaged 5.6 in Round 4 and declined slightly to 5.5 in Round 5. Expectations of well-being four years into the future decreased from 7.1 to 6.8, suggesting a mild reduction in optimism.

Background characteristics of the sample were also described. The age of children increased from approximately 12 to 15 years across survey rounds. The gender distribution remained balanced, with around 50% of the children identified as female. Urban residence was reported for approximately 70% of the sample, and the average household size was five. Educational attainment among caregivers was relatively low: nearly half had completed only primary education or less, while just 20% had received more than secondary education. Most caregivers were reported as married. Between 40% and 50% of households fell within the top 30% of the wealth index, indicating moderate economic diversity.

The average travel time to school increased, driven in part by growth in the upper tail of the distribution. On average, children were reported to spend about 30% of their day in school and around 10% studying, with limited engagement in paid work. BMI-for-age z-scores averaged between 0.4 and 0.5 in both rounds, suggesting a generally healthy nutritional profile, though considerable variation was observed across individuals.

The descriptive patterns presented in this section provide a detailed portrait of the study sample and offer important context for interpreting the empirical findings. The observed variability in child socio-emotional outcomes, alongside relatively stable maternal characteristics and expectations, underscores the relevance of examining how forward-looking beliefs and household dynamics interact during adolescence. These patterns also reinforce the importance of accounting for both individual and contextual heterogeneity in the analysis that follows.

4.2.1 Baseline Patterns of Female Employment and Child Outcomes

Before estimating causal effects, it is important to examine whether the baseline structure of local female employment is systematically associated with children's initial socio-emotional development. Such an assessment provides insight into the variation captured by the shift-share instrument and helps contextualize the plausibility of the exclusion restriction. If baseline socio-emotional outcomes vary meaningfully with the sectoral composition of female employment, this

may reflect long-standing structural features of local economies that predate the shocks exploited in the IV strategy. In contrast, limited baseline correlation would support the interpretation that subsequent variation in maternal expectations and child development is primarily driven by exogenous national employment trends, interacted with local pre-existing structures. To this end, this section presents four sets of descriptive evidence.

First, Table A.11, Table A.12, and Table A.13 describe, respectively, the distribution of female employment across sectors at baseline (2013), the national growth rates in sectoral female employment between 2013 and 2016, and the resulting estimated shift-share values across departments. These numbers reflect considerable heterogeneity in both initial sectoral structures and in the degree to which departments are exposed to national trends. Departments with greater shares of female employment in expanding sectors are predicted to experience larger labor demand shocks. For instance, departments with a higher proportion of women employed in tradable services, a sector that experienced relatively strong national growth, were more likely to receive stronger predicted shocks. This baseline variation across sectors (tradable goods, tradable services, and non-tradable services) and across geography creates the necessary contrast for the instrument to identify plausibly exogenous variation in economic conditions. These tables also underscore the logic of the shift-share design: it is not any single local condition, but rather the interaction between national shifts and local structures that generates identifying variation.

Second, Figure A.5 presents a map of departments by quartile of baseline sectoral distribution. Figure A.6 shows the geographic distribution of the estimated shift-share instrument. While both maps exhibit non-random spatial patterns, they are not perfectly correlated. This distinction reflects the central identifying assumption: the IV captures variation in predicted changes, not merely in static structures. This contrast reinforces the exogeneity of the instrument, as it is driven by national sectoral growth patterns interacting with fixed local employment structures, rather than by persistent local characteristics alone.

Third, Figure 2 shows boxplots of baseline socio-emotional outcomes by quartile of baseline female employment exposure. These plots allow for a visual inspection of differences in the central tendency and distribution of outcomes across institutional labor contexts. While minor differences appear in some outcomes, there is no clear or systematic gradient across quartiles. Peer relations and self-efficacy show especially little variation. The interquartile ranges and medians are relatively stable, and no clear monotonic trend is observed. Taken together, these patterns suggest that baseline child outcomes are not strongly associated with baseline female

employment structure.

Fourth, Figure 3 plots baseline maternal expectations of future support from children across quartiles of baseline female labor exposure. This visual check complements the previous analysis by assessing whether local institutional labor structures were already shaping maternal perceptions before the shocks. The distributions show modest variation but no systematic gradient, reinforcing the notion that baseline expectations were not strongly correlated with structural labor differences across departments.

These results are included here as an attempt to provide reassurance that the identifying variation in the shift-share IV is not confounded by strong pre-existing differences in child development or maternal expectations. While structural labor market conditions may shape many aspects of local life, the absence of strong associations between baseline exposure and socio-emotional outcomes or expectations suggests that the observed treatment effects are unlikely to reflect spurious correlations. This supports the claim that the estimated effects of maternal expectations on child development are driven by exogenous shifts in female employment opportunities, rather than by long-standing regional differences in children's capabilities.

Figure 2: Baseline SE outcomes by Female Employment Exposure Quartiles

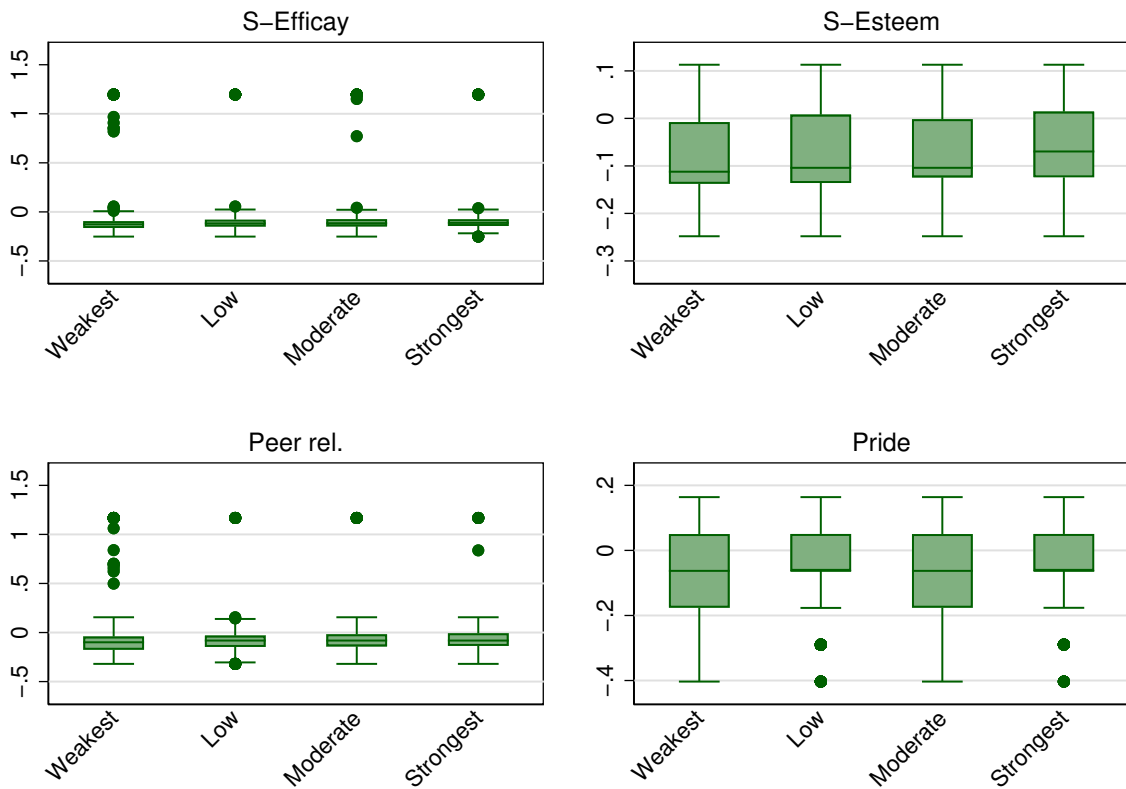
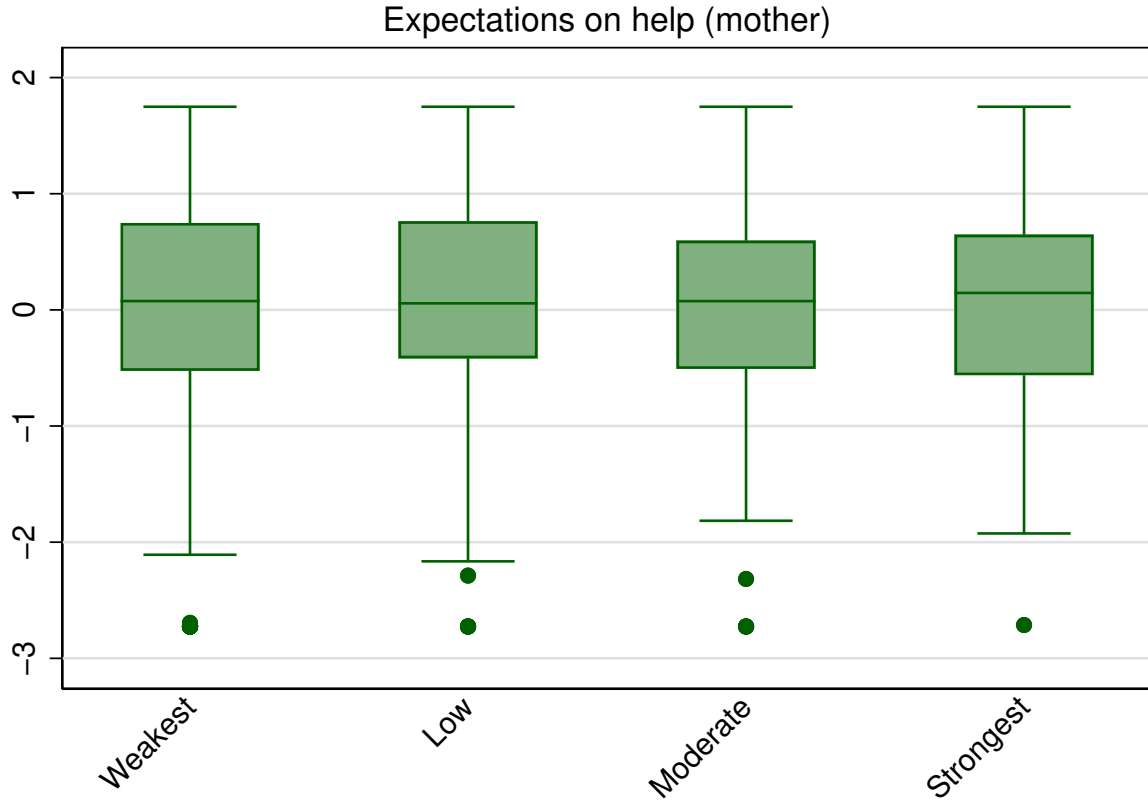


Figure 3: Baseline Expectations on help by Female Employment Exposure Quartiles



5 Main Results

5.1 First-Stage Estimates and Instrument Validity

Table 2 reports the first-stage estimates of the instrumental variable strategy, where maternal expectations are instrumented using a shift-share measure of female employment growth. The coefficient on the instrument is negative and statistically significant at the 1% level, suggesting that increases in local female employment opportunities are associated with lower maternal expectations of future support from children.

The strength of the instrument is confirmed by a robust F-statistic of 11.23, exceeding conventional Stock-Yogo thresholds and indicating that weak instrument concerns are unlikely to compromise identification. The Sanderson-Windmeijer multivariate F-test yields the same value, reinforcing the conclusion that the excluded instrument is relevant in the presence of controls.

These results support the core identifying assumption: that variation in local female labor

demand, driven by national sectoral trends and pre-existing employment structures, affects maternal expectations but is exogenous to other determinants of child outcomes. Given this strong first-stage relationship and the plausible exclusion restriction, the analysis proceeds with confidence in the validity of the instrument.

Table 2: Shift-share variable on maternal expectations

(1)	
Variables	Expectations of future help (mother)
Shift-share IV	-0.210*** (0.063)
Obs	2,432
Clusters	20
F-statistic	11.231
FE	YES
Controls	YES

5.2 Main results

Table 3 presents the second-stage IV estimates of the effect of maternal expectations on adolescent socio-emotional outcomes: self-efficacy, self-esteem, peer relationships, pride, and math test scores, serving as a proxy for cognitive achievement. All outcomes are standardized, and coefficients can thus be interpreted in standard deviation units.

The results reveal a consistent and robust pattern across socio-emotional outcomes. For self-efficacy, maternal expectations are negatively associated. The coefficient is statistically significant at the 5% level ($\beta = -0.072$, $SE = 0.038$), suggesting that children internalizing expectations of future support may feel less capable of influencing their own life course. For self-esteem, the estimated coefficient is also negative and significant at the 10% level ($\beta = -0.079$, $SE = 0.039$), implying that higher expectations of intergenerational help may erode adolescents' sense of personal worth or self-regard. For peer relationships, the association is statistically significant at the 10% level and also negative ($\beta = -0.084$, $SE = 0.054$). This suggests that

when children anticipate a future caregiving role, it may constrain their ability to form or maintain peer relationships, potentially reflecting emotional preoccupation or social withdrawal. In contrast to the previous outcomes the coefficient on pride is positive ($\beta = 0.038$) but not statistically significant ($SE = 0.081$). This finding may point to an ambivalent or dual nature of familial expectations: while they could reinforce a sense of identity or purpose within the household, the effect does not appear strong enough to yield consistent psychological benefits. Finally, for math test scores, no significant association is found between maternal expectations and cognitive outcomes, as measured by math performance ($\beta = -0.048$, $SE = 0.155$). This underscores that the primary channels of influence are affective and relational, rather than academic.

Table 3: Maternal expectations on children socio-emotional outcomes

	(1)	(2)	(3)	(4)	(5)
Variables	S-efficacy	S-esteem	Peer relations	Pride	Maths
Expectations of help	-0.072** (0.038)	-0.079* (0.039)	-0.084* (0.054)	0.038 (0.081)	-0.048 (0.155)
Observations	2,432	2,432	2,432	2,432	2,388
Cluster	20	20	20	20	20
FE	YES	YES	YES	YES	YES
Controls	YES	YES	YES	YES	YES

Overall, the findings highlight that expectations of future help, while rooted in familial norms and intergenerational bonds, may carry psychological trade-offs for adolescents. The strongest negative effect appears in peer-related outcomes, suggesting that internalized responsibility may interfere with social development. Lower self-efficacy and self-esteem further suggest that children facing implicit expectations of support might perceive themselves as less independent or self-determined.

Although the pride coefficient offers a glimpse of potential affirmation through family roles, its lack of precision limits strong interpretation. The evidence points to an emotional cost of intergenerational expectations, where cultural alignment and psychological burden may coexist,

depending on the socio-emotional domain.

5.2.1 Heterogeneous Effects by Maternal Agency and Pride

To further probe the mechanisms linking labor market shocks, maternal expectations, and children’s socio-emotional development, this subsection explores heterogeneous treatment effects by maternal characteristics: agency and pride. This dimension is jointly considered here as moderators of both the first-stage and second-stage relationships.

Figure A.7 displays the first-stage marginal effect of the shift-share instrument across values of maternal agency and pride. As previously discussed, the estimated effect of local female labor market shocks on maternal expectations is, on average, negative and statistically significant. This negative effect, however, is not significant across the sample. Instead, the relationship becomes significant as agency and pride increase. As agency and pride rise, the effect becomes statistically indistinguishable from zero until the very upper end of the distribution.

These results could be suggesting that mothers with higher levels of internal control, self-worth, and social standing may update their expectations more in response to changes in labor opportunities, perhaps because they perceive themselves as less dependent on their children regardless of economic context. This interpretation is consistent with the underlying composition of the agency and pride factor. As shown in Appendix Table A.5, this dimension is constructed from items that reflect beliefs in personal efficacy (e.g., “If I try hard I can improve my situation in life,” “I like to make plans for my future”), feelings of pride tied to social and familial roles (e.g., “The job I do makes me feel proud,” “I feel proud of my children”), and symbolic indicators of status (e.g., “I am proud of my clothes”). Together, these elements suggest a profile of mothers who are not only more future-oriented and confident in their individual agency, but who also derive emotional reinforcement from fulfilling expected social roles. Such mothers may interpret intergenerational expectations differently, reinforcing the argument of greater opportunity of financial independence being the main driver behind the lowering of the expectation of future help.

The second-stage heterogeneity results, presented in Figure A.8, show the estimated effect of maternal expectations on the socio-emotional outcomes of adolescents across the same range of agency and pride. While only the effect on self-esteem reaches conventional levels of statistical significance, the outcomes for self efficacy, self esteem and peer relations display a consistent pattern: expectations of future support are negatively associated with socio-emotional outcomes

among adolescents and intensify for those whose mothers exhibit higher levels of agency and pride. For children whose mothers score lower on these dimensions, the estimated effects are closer to zero or slightly positive. These findings may reflect variation in how expectations are perceived and internalized by children. When coming from mothers with higher agency and pride, such expectations might signal more rigid or traditional beliefs about intergenerational roles, potentially constraining the adolescent’s perceived autonomy or self-worth. By contrast, expectations expressed by mothers with lower agency may be interpreted more as aspirational hopes tied to vulnerability than as moral obligations.

The presence of heterogeneity implies that the strength and possibly the meaning of maternal expectations vary by underlying maternal traits. It is worth noting that the identifying assumption remains plausible: the labor shock affects children’s socio-emotional development only through its impact on maternal expectations, and any observed moderation arises from how those expectations differentially translate into adolescent experiences depending on the social positioning of the mother.

The full set of regression tables underlying this analysis is provided in Appendix ??, including both stages of the 2SLS estimation and the interaction terms used to estimate marginal effects. These results contribute to a richer understanding of how economic change interacts with intra-household beliefs to shape adolescent development.

5.3 Discussion of Mechanisms and policy implications

The findings presented above provide new evidence on how local labor market conditions influence intergenerational expectations and, in turn, children’s socio-emotional development. The analysis shows that in areas where female employment expanded, mothers report, on average, lower expectations of future help from their children in adulthood. This pattern aligns with the notion that economic opportunities for women influence not only income trajectories but also perceived roles within the household and long-term plans for support.

These reductions in maternal expectations could be operating through both material and symbolic mechanisms. On the material side, increased employment among women, especially in sectors linked to higher productivity or urban demand, can enhance perceived financial security. Although the data do not directly measure job formality, employment growth in tradable services and goods-producing sectors often correlates with more stable and better-remunerated work opportunities (Instituto Nacional de Estadística e Informática (INEI), 2022b; World Bank, 2020).

In a country where informality remains widespread, even modest improvements in employment access may reduce the perceived need to rely on children later in life.

On the symbolic side, employment outside of traditional care roles may shift how mothers view themselves and their future. This shift in self-perception can reshape intra-household expectations, including those related to intergenerational support. Cultural norms in Latin America, particularly the emphasis on reciprocal family obligations (Aisenberg and Ayón, 2012; Rojas, 2007), may still exert influence. However, increased labor force participation in modern sectors may enable mothers to reconsider the extent to which they expect support from their children.

If one looks more closely at what mothers expect from their children in the future, whether emotional support, care, or financial help, these expectations, on average, reflect needs that could, in principle, be addressed through public provision, and with a level of quality and stability that private arrangements seldom ensure. Formal systems of old-age support in Peru remain limited, particularly for informal workers and rural populations, who often lack access to contributory pensions or structured eldercare services. While non-contributory programs such as *Pensión 65* offer partial relief, their reach and adequacy are insufficient to fully substitute family-based support (World Bank, 2020). In such contexts, expanded access to employment may partially ease perceived economic vulnerability, particularly for women, who often take on primary responsibility of ensuring for caregiving and long-term household support. Even without major shifts in job quality, the availability of work itself can influence how mothers anticipate their future needs, reducing expectations of support from children as a primary coping mechanism.

Turning to the implications of these expectations for adolescent development of socio-emotional skills, the results suggest that children who anticipate being responsible for supporting their mothers in the future, on average, report lower socio-emotional outcomes. This is particularly evident in dimensions such as self-efficacy, self-esteem, and peer relationships. These patterns support the interpretation that internalized expectations may act as a latent source of stress or constraint, interfering with developmental processes that require autonomy, emotional balance, and healthy social interaction.

The most pronounced association is observed in the peer relationships index, suggesting that children who anticipate future caregiving or financial roles may experience difficulty engaging freely with their peers. This could reflect a sense of obligation or emotional entanglement that

places interpersonal strain on the child’s immediate social life. Lower self-esteem and self-efficacy scores reinforce the view that expectations of future support may dampen the child’s perception of personal agency, leading to a narrowed view of what is possible for oneself. These mechanisms are consistent with psychological models of burdened caregiving identities in children and adolescents, particularly in economically vulnerable households.

Interestingly, not all domains are affected equally. The coefficient on pride is positive but statistically insignificant, and the association with math performance also appears statistically insignificant. These null findings suggest that the effects of maternal expectations may be more closely tied to affective and interpersonal development than to cognitive or academic outcomes. It is also plausible that pride reflects a more ambivalent emotional state: a child may feel proud of their role within the family even while carrying the emotional weight of future responsibility.

Altogether, these results underscore the importance of viewing maternal expectations not as static cultural beliefs, but as dynamic responses to evolving economic structures. As labor markets offer women new forms of participation and security, traditional assumptions about support within the family may shift. Particularly, in contexts where formal institutions of public provision of care and support remain underdeveloped, these shifts in expectations carry implications not only for mothers but also for their children, affecting the emotional and psychological conditions under which they grow and relate to others. In this sense, expanding high-quality labor market opportunities for women may yield benefits that extend well beyond income, contributing to healthier developmental environments for the next generation.

6 Conclusion

This paper provides new evidence on the intergenerational consequences of local economic change. Using longitudinal data from Young Lives Peru and a gender-specific shift-share instrument, the study shows that improvements in women’s labor market opportunities are associated with lower maternal expectations of receiving emotional or financial support from their children in adulthood. This finding suggests that expectations within families are not static, but adapt to broader structural conditions, shaped by perceived security, cultural roles, and evolving opportunities for women.

The analysis further reveals that higher maternal expectations of future help are linked to lower levels of adolescents’ socio-emotional development. Specifically, children whose mothers ex-

pect support tend to report, on average, lower self-esteem, reduced self-efficacy, and weaker peer relationships, dimensions that are central to healthy adolescent development. These patterns point to the psychological weight that intergenerational obligations can carry when absorbed too early, potentially interfering with the development of autonomy, confidence, and social integration.

At the same time, the results show no statistically significant association between maternal expectations and children's sense of pride or cognitive performance, suggesting that while some children may derive meaning or emotional affirmation from their expected role in the family, these effects are not strong or consistent enough to offset the broader emotional costs.

Taken together, the findings underscore how structural shifts in female employment can ripple across generations, reshaping not only household roles but also children's emotional trajectories. In contexts where public systems of care and old-age support remain underdeveloped, families are often left to absorb these responsibilities privately. This arrangement may foster resilience, but it also risks imposing emotional burdens on children, particularly in the absence of institutional buffers.

Policy implications follow clearly. Expanding women's access to employment is a critical step toward gender equity and family stability. And to ensure that these gains translate into balanced dynamics within the home, labor market improvements must be accompanied by strengthened systems of social protection. Investments in childcare, eldercare, income security, and child development programs can help redistribute caregiving expectations more fairly, allowing aspirations within families to be empowering rather than burdensome. In this way, economic growth can serve not only as a source of opportunity, but as a foundation for emotional well-being across generations.

A Appendix

Table A.1: Factor Analysis - Self efficacy

Variables	Round 4		Round 5	
	Factor 1	Uniqueness	Factor 1	Uniqueness
I can always manage to solve difficult problems if I try hard enough	0.797	0.364	0.996	0.009
If someone opposes me, I can find the means and ways to get what I want	0.780	0.391	0.994	0.011
It is easy for me to stick to my aims and accomplish my goals	0.800	0.360	0.995	0.010
I am confident that I could deal efficiently with unexpected events	0.759	0.424	0.924	0.146
Thanks to my resourcefulness, I know how to handle unforeseen situations	0.788	0.378	0.996	0.008
I can solve most problems if I invest the necessary effort	0.776	0.398	0.929	0.137
I can be calm when facing difficulties since I can rely on my coping ability	0.834	0.304	0.956	0.086
When I am confronted with a problem, I can usually find several solutions	0.735	0.460	0.995	0.010
If I am in trouble, I can usually think of a solution	0.763	0.417	0.983	0.035
I can usually handle whatever comes my way	0.781	0.390	0.942	0.113
Eigenvalue	6.114		9.435	

Table A.2: Factor Analysis - Self esteem

Variables	Round 4		Round 5	
	Factor 1	Uniqueness	Factor 1	Uniqueness
I do lots of important things	0.714	0.490	0.996	0.007
In general, I like being the way I am	0.938	0.119	0.996	0.009
Overall, I have a lot to be proud of	0.773	0.402	0.978	0.043
I can do things as well as most people	0.845	0.285	0.996	0.008
Other people think I am a good person	0.603	0.637	0.972	0.056
A lot of things about me are good	0.810	0.343	0.980	0.040
I'm as good as most other people	0.610	0.628	0.996	0.008
When I do something, I do it well	0.656	0.570	0.964	0.070
Eigenvalue	4.526		7.759	

Table A.3: Factor Analysis - Pride

Variables	Round 4		Round 5	
	Factor 1	Uniqueness	Factor 1	Uniqueness
I have lots of friends	0.736	0.459	0.998	0.003
I make friends easily	0.669	0.553	0.997	0.007
Other kids want me to be their friend	0.605	0.634	0.950	0.097
I have more friends than most other kids	0.732	0.464	0.998	0.005
I get along with other kids easily	0.885	0.217	0.998	0.004
I am easy to like	0.661	0.563	0.998	0.004
I am popular with kids of my own age	0.651	0.576	0.929	0.136
Most other kids like me	0.636	0.596	0.998	0.004
Eigenvalue	3.939		7.741	

Table A.4: Factor Analysis - Peer relations

Variables	Round 4		Round 5	
	Factor 1	Uniqueness	Factor 1	Uniqueness
I am proud of my clothes	0.917	0.159	0.958	0.082
I am proud of my shoes or of having shoes	0.917	0.159	0.958	0.082
Eigenvalue	1.681		1.837	

Table A.5: Factor Analysis - Agency and pride (mothers)

Variables	Round 4		Round 5	
	Factor 1	Uniqueness	Factor 1	Uniqueness
If I try hard I can improve my situation in life	0.699	0.511	0.651	0.576
I like to make plans for my future	0.724	0.475	0.660	0.565
I am proud of my clothes	0.650	0.578	0.651	0.576
I feel proud of the job done by the HH head	0.601	0.639	0.741	0.451
The job I do makes me feel proud	0.766	0.413	0.790	0.376
I feel proud of my children	0.722	0.478	0.724	0.475
I can do little to help my child do well in school, no matter how hard I try	0.502	0.748	0.415	0.828
Eigenvalue	3.159		3.153	

Table A.6: Factor Analysis - Expectations on help (mothers)

Variables	Round 4		Round 5	
	Factor 1	Uniqueness	Factor 1	Uniqueness
To which extent do you expect the following kinds of help when s/he is grown-up?				
S/he continues living close to you	0.543	0.705	0.474	0.775
S/he provides financial assistance to his/her younger siblings	0.527	0.722	0.513	0.737
S/he helps you with housework	0.616	0.620	0.609	0.629
S/he provides financial assistance to you	0.607	0.632	0.641	0.589
S/he helps you care for his/her younger siblings	0.498	0.752	0.495	0.755
S/he cares for you when you are old	0.662	0.562	0.641	0.589
S/he provides emotional support to you	0.598	0.642	0.537	0.712
Eigenvalue	2.365		2.213	

Table A.7: Factor Analysis - Poor health (mothers)

Variables	Round 4		Round 5	
	Factor 1	Uniqueness	Factor 1	Uniqueness
Did you often have headaches?	0.464	0.785	0.465	0.784
Was your appetite poor?	0.508	0.742	0.484	0.766
Did you sleep badly?	0.516	0.734	0.530	0.719
Were you easily frightened?	0.487	0.763	0.479	0.770
Did your hands shake?	0.350	0.877	0.411	0.831
Did you feel nervous, tense or worried?	0.487	0.763	0.473	0.776
Was your digestion poor?	0.435	0.810	0.436	0.810
Did you have trouble thinking clearly?	0.492	0.758	0.502	0.748
Did you feel unhappy?	0.570	0.675	0.555	0.692
Did you cry more than usual?	0.595	0.646	0.536	0.713
Did you find it difficult to enjoy your daily activities?	0.569	0.677	0.620	0.615
Did you find it difficult to make decisions?	0.529	0.720	0.556	0.691
Did your daily work suffer?	0.552	0.696	0.494	0.756
Were you unable to play a useful part in life?	0.484	0.766	0.397	0.843
Did you lose interest in things?	0.571	0.674	0.528	0.721
Did you feel you were a worthless person?	0.507	0.743	0.428	0.817
Were things so bad that you felt that you just couldn't go on?	0.438	0.808	0.293	0.914
Did you feel tired all of the time?	0.602	0.638	0.578	0.666
Did you have uncomfortable feelings in your stomach?	0.469	0.780	0.508	0.742
Were you easily tired?	0.567	0.679	0.565	0.681
Eigenvalue	5.266		4.944	

Table A.8: Main caregiver's relationship to the child

Relationship to the child	Male	Female	Total
Father/mother	3.1	89.3	92.4
Mother's or father's partner	0.0	0.5	0.6
Legal tutor	0.1	0.1	4.4
Grandparents	0.2	4.3	0.7
Siblings	0.2	0.5	1.6
Others	0.3	1.4	1.7
Total	3.8	96.2	100.0

Table A.9: Descriptive statistics – Round 4

Variable	N	Mean	St dev.	Min.	Median	99th p.	Max.
Self-efficacy -child	1903	-0.1	0.2	-0.3	-0.1	1.2	1.2
Self-esteem - child	1903	-0.1	0.1	-0.2	-0.1	0.1	0.1
Peer relations - child	1903	-0.1	0.2	-0.3	-0.1	1.2	1.2
Pride - child	1903	-0.1	0.1	-0.4	-0.1	0.2	0.2
Post-sec education ideal level to finish -child	1903	0.8	0.4	0.0	1.0	1.0	1.0
Subjective well-being - child	1875	6.5	1.9	1.0	6.0	9.0	9.0
Agency and pride - mothers	1903	0.0	1.0	-5.2	0.1	1.2	1.2
Expectations on help - mother	1903	0.0	0.9	-2.7	0.1	1.7	1.7
Poor health - mother	1903	0.0	1.0	-1.0	-0.3	2.9	2.9
Sec. educ is ideal level to finish - mother	1903	0.2	0.4	0.0	0.0	1.0	1.0
Post-sec. educ is ideal level to finish - mother	1903	0.7	0.4	0.0	1.0	1.0	1.0
Subjective well-being (current) - mother	1893	5.6	1.9	0.0	6.0	9.0	9.0
Subjective well-being (in 4 years) - mother	1889	7.1	1.9	0.0	8.0	9.0	10.0
Poor health - mother	1893	39.0	8.4	18.0	38.0	64.0	79.0
Age mother	1902	0.7	0.4	0.0	1.0	1.0	1.0
Urban	1828	5.2	1.8	2.0	5.0	11.0	18.0
Household size	1869	0.1	0.3	0.0	0.0	1.0	1.0
Max level educ caregiver=none	1869	0.4	0.5	0.0	0.0	1.0	1.0
Max level educ caregiver=primary	1869	0.4	0.5	0.0	0.0	1.0	1.0
Max level educ caregiver=secondary	1869	0.2	0.4	0.0	0.0	1.0	1.0
Max level educ caregiver=more than secondary	1903	0.8	0.4	0.0	1.0	1.0	1.0
Mother is married	1903	0.4	0.5	0.0	0.0	1.0	1.0
HH wealth index over 70th percentile	1879	11.9	0.3	11.0	12.0	13.0	14.0

Table A.10: Descriptive statistics – Round 5

Variable	N	Mean	St dev.	Min.	Median	99th p.	Max.
Self-efficacy -child	1860	-0.1	0.0	-0.2	-0.1	0.0	0.0
Self-esteem - child	1860	-0.1	0.0	-0.2	-0.1	0.0	0.0
Peer relations - child	1860	-0.1	0.1	-0.2	-0.1	0.0	0.0
Pride - child	1860	-0.1	0.1	-0.3	-0.1	0.0	0.0
Post-sec education ideal level to finish -child	1860	0.8	0.4	0.0	1.0	1.0	1.0
Subjective well-being - child	1829	6.3	1.5	1.0	6.0	9.0	9.0
Agency and pride - mothers	1860	0.1	0.7	-2.3	0.0	1.3	1.3
Expectations on help - mother	1860	0.0	0.9	-2.6	0.1	1.9	1.9
Poor health - mother	1860	0.0	1.0	-1.0	-0.3	2.7	2.7
Sec. educ is ideal level to finish - mother	1860	0.2	0.4	0.0	0.0	1.0	1.0
Post-sec. educ is ideal level to finish - mother	1860	0.7	0.4	0.0	1.0	1.0	1.0
Subjective well-being (current) - mother	1831	5.5	1.8	0.0	6.0	9.0	9.0
Subjective well-being (in 4 years) - mother	1831	6.8	2.0	0.0	7.0	9.0	10.0
Poor health - mother	1829	42.1	8.5	20.0	41.0	67.0	84.0
Age mother	1859	0.7	0.4	0.0	1.0	1.0	1.0
Urban	1706	5.2	1.9	2.0	5.0	11.0	16.0
Household size	1785	0.1	0.3	0.0	0.0	1.0	1.0
Max level educ caregiver=none	1785	0.4	0.5	0.0	0.0	1.0	1.0
Max level educ caregiver=primary	1785	0.4	0.5	0.0	0.0	1.0	1.0
Max level educ caregiver=secondary	1785	0.2	0.4	0.0	0.0	1.0	1.0
Max level educ caregiver=more than secondary	1860	0.8	0.4	0.0	1.0	1.0	1.0
Mother is married	1860	0.5	0.5	0.0	0.0	1.0	1.0
HH wealth index over 70th percentile	1857	15.0	0.3	14.0	15.0	16.0	16.0

Figure A.1: Distribution of children's socio-emotional skills

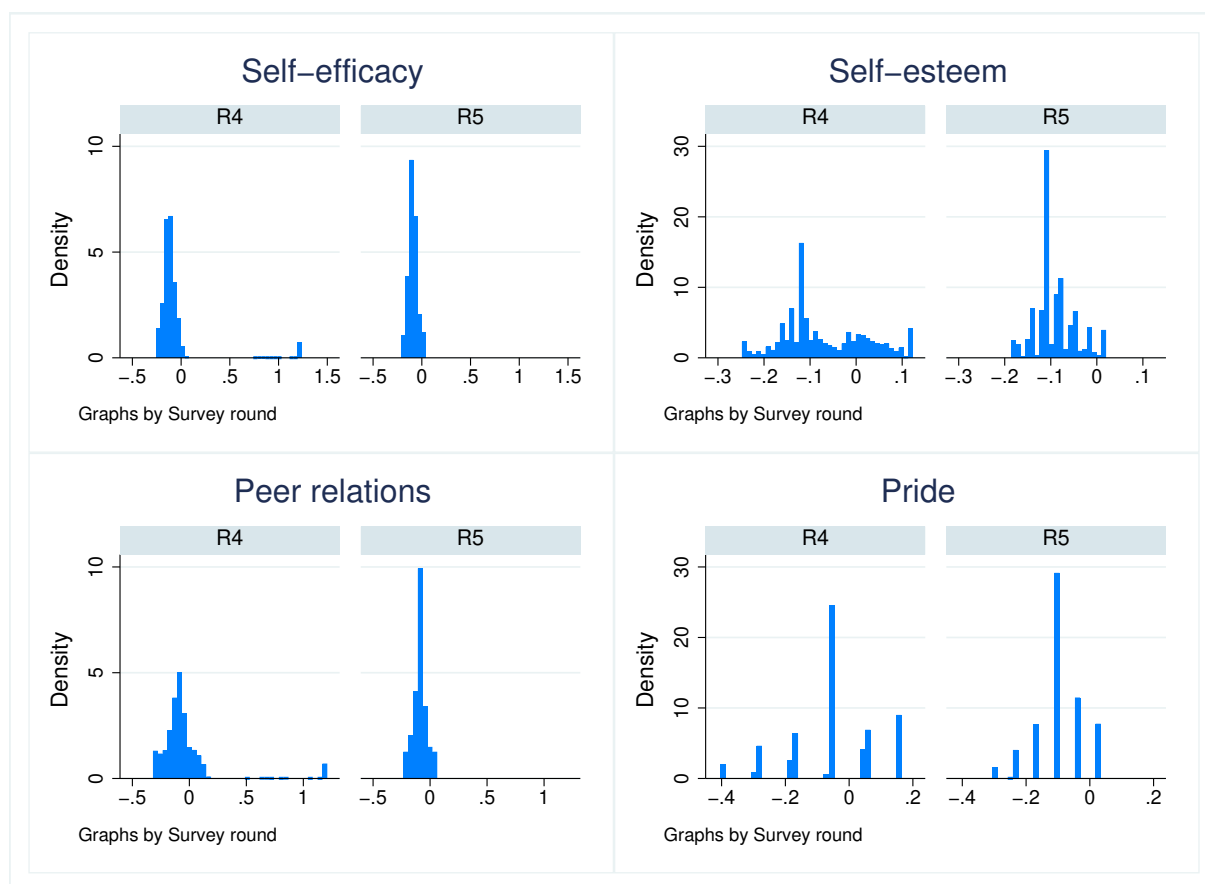


Figure A.2: Distribution of children's current subjective well-being

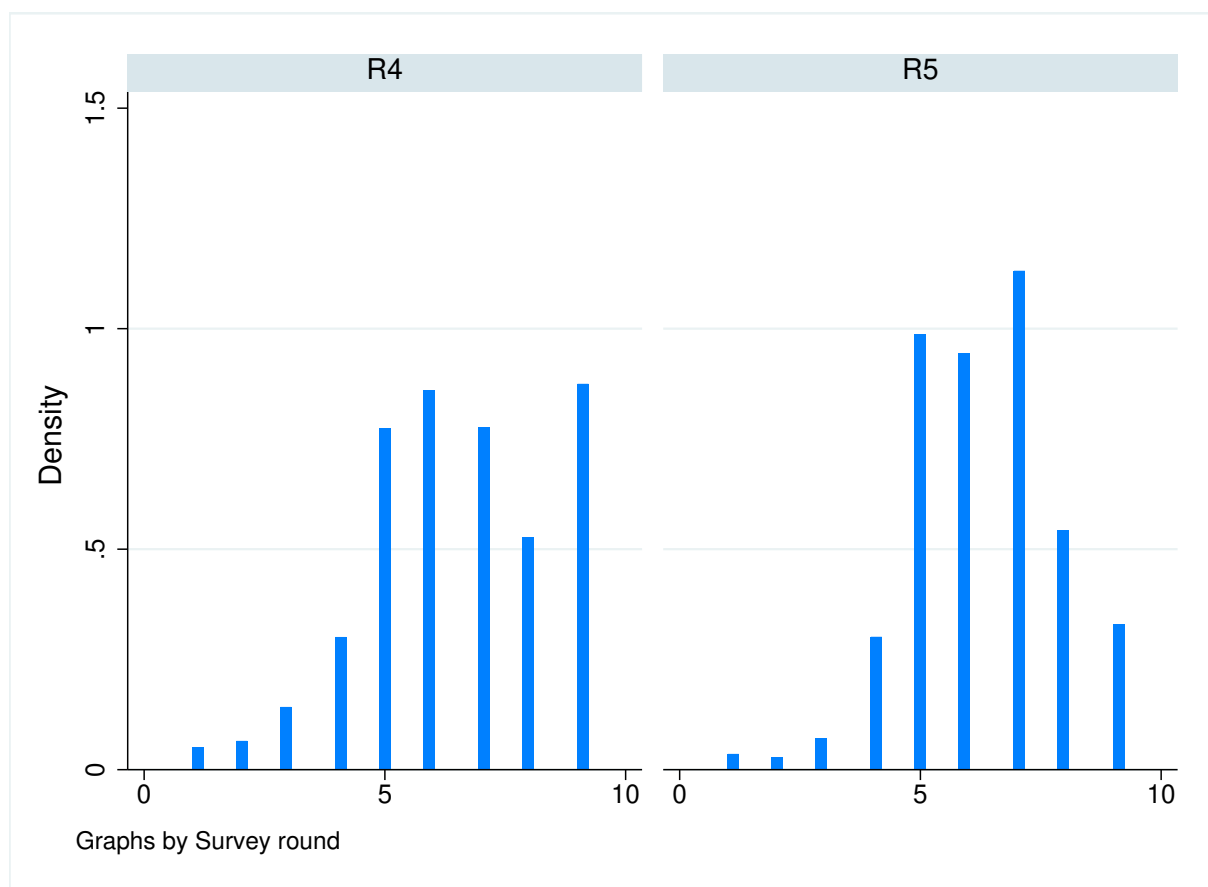


Figure A.3: Distribution of mother's attitudinal variables

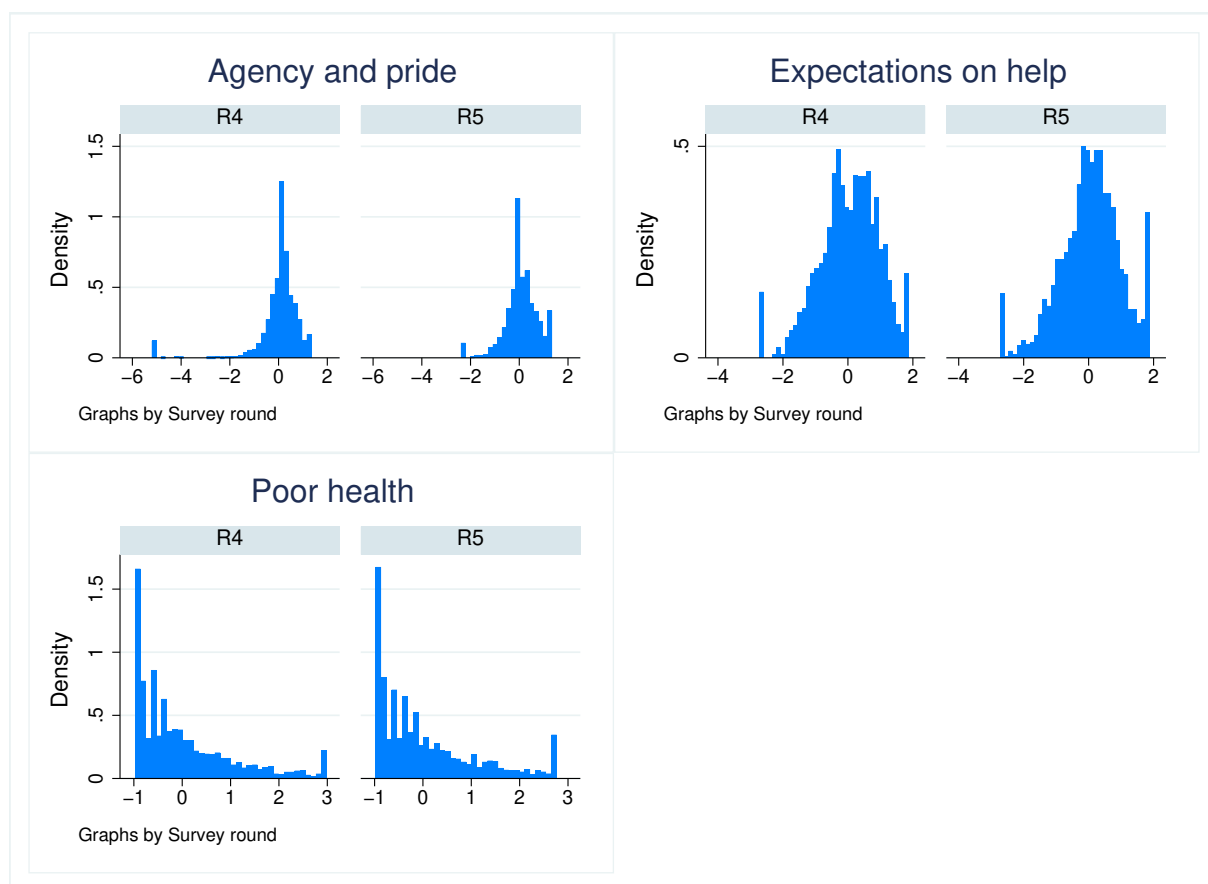


Figure A.4: Distribution of mother's subjective well-being

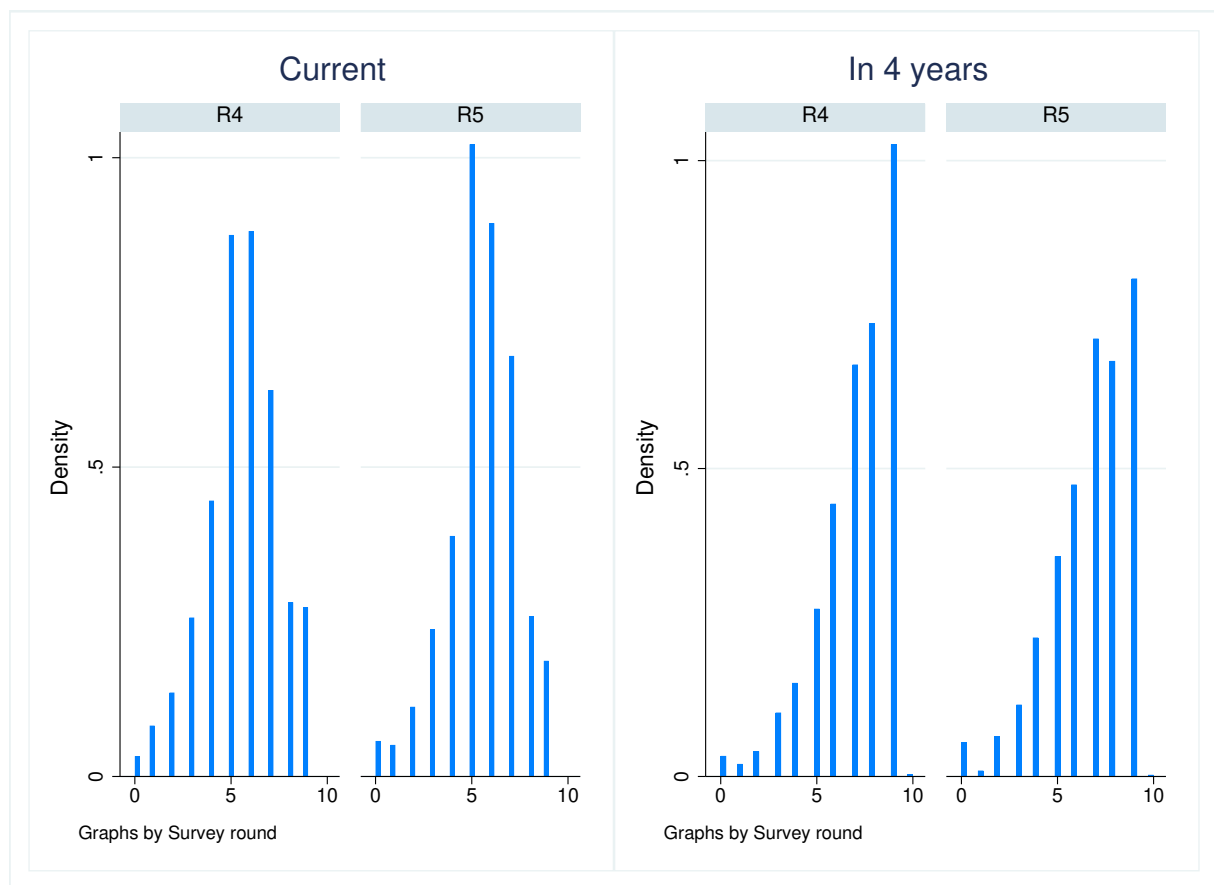


Table A.11: Distribution of Employment by Sector and Department

Department	Tradable goods (%)	Tradable services (%)	Non-tradable services (%)
Amazonas	52.6	27.8	19.6
Ancash	39.7	39.0	21.3
Apurimac	53.4	32.3	14.3
Arequipa	23.5	52.7	23.7
Ayacucho	49.4	34.6	15.9
Cajamarca	61.9	24.3	13.9
Callao	12.3	54.5	33.1
Cusco	40.7	40.6	18.6
Huancavelica	66.4	23.7	9.9
Huanuco	50.8	29.8	19.4
Ica	23.4	53.9	22.7
Junín	41.0	42.4	16.7
La Libertad	29.7	46.5	23.9
Lambayeque	26.3	48.7	24.9
Lima	13.7	53.9	32.4
Loreto	23.2	50.3	26.4
Madre de Dios	17.7	60.1	22.3
Moquegua	27.1	44.9	28.0
Pasco	43.0	34.3	22.6
Piura	27.9	45.9	26.2
Puno	55.4	33.4	11.2
San Martín	36.0	41.5	22.5
Tacna	18.1	58.2	23.7
Tumbes	11.2	59.2	29.6
Ucayali	22.4	55.1	22.5

Table A.12: National Sectoral Employment Growth (2013-2016)

Sector	Growth (%)
Tradable goods	2.2
Tradable services	2.5
Non-tradable services	2.3

Table A.13: Shift-Share IV Coefficients by Department

Department	Shift-share coef (%)
Amazonas	2.300
Ancash	2.341
Apurimac	2.312
Arequipa	2.392
Ayacucho	2.322
Cajamarca	2.283
Callao	2.403
Cusco	2.345
Huancavelica	2.278
Huanuco	2.307
Ica	2.396
Junín	2.350
La Libertad	2.370
Lambayeque	2.379
Lima	2.403
Loreto	2.386
Madre de Dios	2.417
Moquegua	2.367
Pasco	2.326
Piura	2.370
Puno	2.314
San Martín	2.351
Tacna	2.412
Tumbes	2.420
Ucayali	2.400

Figure A.5: Exposure to Female Sectoral Aggregation by Department



Note: This map displays the geographic distribution of predicted exposure to labor market shocks derived from the shift-share instrument. Exposure is defined as the interaction between female employment shares by sector in 2013 and national growth trends in each sector cell. Departments are grouped into quartiles of increasing exposure, ranging from *Weakest* to *Strongest*.

Figure A.6: Exposure to Female Sectoral Shocks by Department



Note: This map displays the geographic distribution of exposure to female labor market sectors derived from the share component of the instrument. Exposure is defined as the female employment shares by sector in 2013. Departments are grouped into quartiles of increasing exposure, ranging from *Weakest* to *Strongest*.

Figure A.7: IV variable on Expectations on help (mother) by Agency and pride (mother)

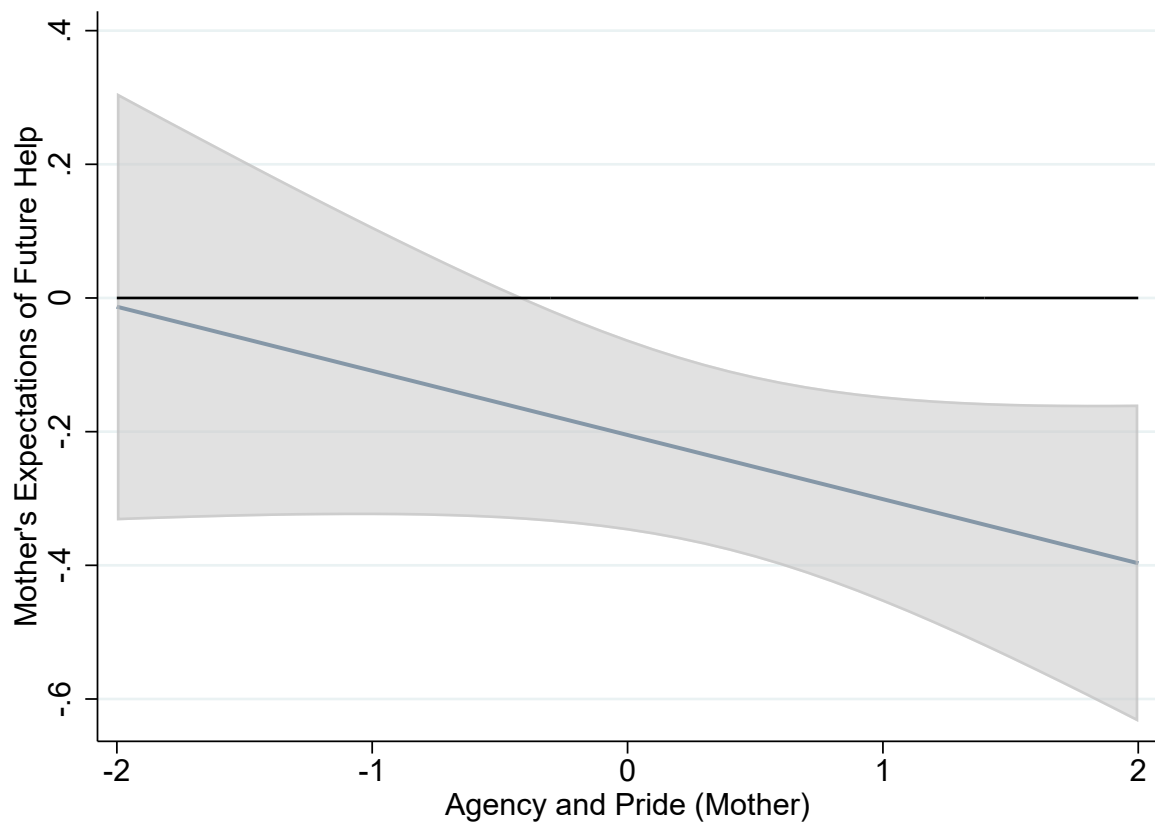
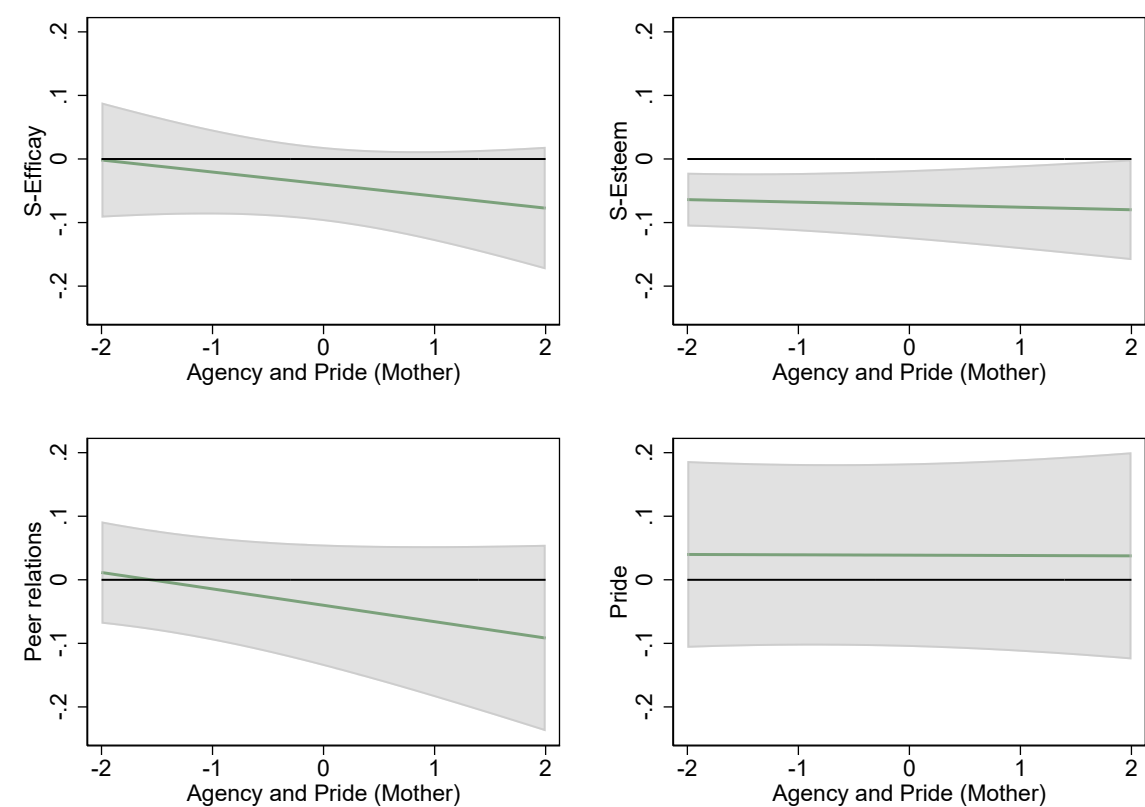


Figure A.8: Expectations on help (mother) on SE outcomes by Agency and pride (mother)



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