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Land of the (Un)Fair Go? Peer gender norms and gender gaps in the Australian labour market

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Land of the (Un)Fair Go? Peer gender norms and gender gaps in the Australian labour market[1][2]

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Abstract

Australian attitudes towards women remain more conservative than in many other OECD countries. We examine the effect of these norms on female labour outcomes and intrahousehold dynamics using a peer effects model and nearly two decades of longitudinal household survey data. Our results indicate that conservative gender norms are costly to individual women and are an important determinant of gender inequality, resulting for women in lower lifetime rates of labour force participation and suppressed lifetime earnings trajectories. Estimated effects are large in magnitude: shifting norms to be one standard deviation more egalitarian would eliminate three-quarters of the gender gap in employment and around two-thirds of the gender pay gap. More egalitarian peer norms are also associated with increased household incomes, a more equitable division of unpaid domestic work, and greater overall life satisfaction.

1 Introduction

Like many advanced economies, the past forty years has seen a dramatic convergence in the labour market outcomes of men and women in Australia. The employment rate gap between married men and women narrowed by 27 percentage points over the past four decades and dual earner families have replaced male breadwinner arrangements as the dominant family type. Australian women are now more likely than men to be university-educated. These trends, together with legislative and policy changes, have coincided with shifts towards more egalitarian attitudes of Australians about work and family roles.

Despite these changes, significant gender gaps persist in Australia, with these unlikely to be explained by traditional human capital explanations such as the gap in education or experience (Blau & Kahn, 2017). The participation gap between men and women remains higher than some other Organisation for Economic Co-operation and Development (OECD) countries including the United Kingdom and Canada at around 9 percentage points, Australian women take on one of the highest loads of unpaid domestic work within the OECD at around twice that of Australian men, and the gender pay gap remains at around 13.3% which is higher than the OECD average. Increasingly, international literature has turned to gender norms as a potential explanation for these remaining inequalities (Guiso, Sapienza & Zingales, 2006; Manski, 2000; Bisin & Verdier, 2011; Alesina & Giuliano, 2014), however the effects of gender norms remain understudied within Australia.

Gender norms refer to the patterns of behaviour that are socially prescribed as 'appropriate' for each gender within a given social community (Bittman et al., 2003). Like many dimensions of culture, norms are often slow-moving, instilled from a young age, and vertically transmitted between mothers and their daughters (Blau et al., 2013; Farre & Vella, 2013; Johnston, Schurer & Shields, 2014; Fernández, 2013). Gender norms may also be transmitted horizontally through social interactions within

peer groups, which is a faster-moving component (Nicoletti, Salvanes & Tominey, 2018; Cavapozzi et al., 2021).

Perhaps most studied gender norm in recent years has been the prescription that a wife should not earn more than her husband (Bertrand et al., 2015). Findings suggest this male breadwinner norm is associated with lower rates of marital formation and satisfaction, a greater share of female housework, and lower rates of female employment and earnings. Similar effects of the male breadwinner norm have been documented in many advanced economies, including Australia where it has been found to reduce marital formation and increase the likelihood of divorce (Foster & Stratton, 2021), and increase the incidence of intimate partner violence (Zhang & Breunig, 2021). Within Australia, Grosjean & Khattar (2018) have also shown that male-biased regional settlement patterns were associated with the development of more conservative gender norms which have persisted through vertical transmission and homogamy in marital formation, and in turn have negatively impacted the occupational prospects of women in those regions today.

Our present study uses directly assessed normative attitudes based on nearly two decades of nationally representative household survey data to consider the role played by peer gender norms. We argue that using directly assessed normative attitudes provides a richer and more accurate measure of gender norms than prevailing approaches based on a discontinuity in relative incomes, which have been shown to be prone to misidentification (Binder & Lam, 2020; Zinovyeva & Tverdostup, 2021).

We follow Cavapozzi et al (2021) in using a peer effect model, which allows us to incorporate both the horizontal (peer to peer) and vertical (intergenerational) components of belief transmission. In doing so, we borrow from the 'epidemiological' cultural literature, wherein culture is identified with gender norms based on an individual's country of birth (Fernandez, 2007; Fortin 2005, 2015). To ensure robustness of our results and incorporate the vertical component of normative transmission, we instrument gender norms from the Household, Labour, and Income Dynamics in Australia Survey (HILDA) by the average likelihood that a woman's peer's mother was employed when her peer was aged 14 years old.

Our focus on peer gender attitudes is relatively novel, with most existing studies instead focusing on the effect of peer labour supply. For example, Nicoletti, Salvanes & Tominey (2018) consider family networks and find that an increase in mothers' working hours is magnified by family peers. Olivetti, Patacchini & Zenou (2020) equate peers to mothers and school mates' mothers, finding that there are significant effects on a woman's hours worked from both her mother's hours and the average hours across school mates' mothers. The only other study we are aware of that focuses on peer gender norms from the United Kingdom and finds that direct effects of norms becoming one standard deviation more egalitarian is equivalent to a 3.8-percentage points (ppt) increase in the probability of employment for young mother's (Cavapozzi et al, 2021).

We focus predominantly on gender norms towards the division of paid work and caring responsibilities and extend upon previous literature by examining how the influence of gender norms differs for married women without children and married women with young children (0-4 years). We show that gender norms are a significant determinant of labour supply decisions for young mothers, consistent

with international literature on the motherhood penalty (Cavapozzi et al., 2021; Kleven et al., 2019). However, the effects of peer gender norms are not exclusive to mothers of young children: we also observe similar effects of peer gender norms on outcomes for married women without children.

To our knowledge, past studies which have sought to quantify the effects of gender norms on labour supply have predominantly done so at an individual level or in terms of relative working hours or incomes within spouses. We extend upon this previous literature to assess whether more egalitarian gender norms are associated with the rise of dual earner families and higher household incomes, reflecting a growing literature in which households are the relevant unit of labour supply. Our results show that women with more egalitarian peers are more likely to belong to dual earner couples and earn higher household incomes. Our findings suggest that cultural change toward gender norms being more egalitarian could boost female labour supply with no offsetting effect for their husbands' labour supply.

Lastly, we assess the effects of peer gender norms on non-market labour and an individual's overall life satisfaction. We find that women with more egalitarian peers take on more childcare, but less housework, and experience higher life satisfaction. Our results on life satisfaction are particularly noteworthy, highlighting the significant wellbeing effects of peer attitudes in addition to the economic effects found also in this study.

In the next section, we provide a brief overview of gender norms in Australia and the data used for the paper. We discuss sample selection and descriptive statistics of our analysed sample in Section 3. The estimation and identification strategy are summarised in Section 4. In Section 5, we present our results. Section 6 briefly presents results of several robustness checks. Finally, Section 7 concludes with a synthesis of our results and a discussion of policy relevance.

2 Context

2.1 Gender norms in Australia

Australia, as an advanced economy that is rich in cultural diversity and has conservative gender norms, provides a compelling case study on the role of gender norms on female labour market outcomes. On a range of international survey questions, Australian attitudes towards women remain more conservative than in many other OECD countries, including in the United Kingdom, Canada, and the United States. To our knowledge this paper represents an early effort to understand the effects of gender norms on outcomes in the Australian labour market.

Conservative gender norms within Australia are also reflected in a higher gender participation gap than some other OECD countries, a gender pay gap that remains above the OECD average, and a more inequitable division of unpaid work than OECD countries including the United Kingdom, Canada, and the United States. Australia's institutional policy settings have further reinforced conservative gender norms towards work and care. For example, Australia was the second-last OECD country to introduce national paid parental leave, and parental leave entitlements remain around half the OECD average.

Data from the International Social Survey Programme (ISSP) highlights that gender norms within Australia in 2012 were more conservative than in many other countries, including Scandinavia,

the United Kingdom, Canada, and the United States. Chart 1 shows the percentage agreement with several normative claims, highlighting the comparative conservatism of norms within Australia.

Chart 1: Gender norms across countries

A Agree that 'family suffer if woman works full-time'

Country	%
Finland	13
Iceland	16
Sweden	17
Denmark	18
Norway	21
Taiwan	22
Japan	26
United Kingdom	27
United States	28
Canada	29
Czech Republic	33
Ireland	33
Australia	33
France	34
Croatia	35
Netherlands	35
Poland	35
South Africa	38
Bulgaria	38
Lithuania	39
Slovenia	39
Slovakia	39
Israel	41
Turkey	44
China	45
Hungary	47
Switzerland	48
Philippines	49
Latvia	52
Austria	56
Russia	57
India	59
South Korea	60
Venezuela	64
Chile	65
Mexico	72
Argentina	74

B Agree that 'both spouses should contribute to income'

Country	%
Bulgaria	93
Philippines	92
Slovenia	92
South Africa	88
Croatia	87
Sweden	87
Israel	86
Czech Republic	86
China	85
Norway	84
Mexico	84
Argentina	84
Venezuela	84
Slovakia	82
France	82
Taiwan	82
Chile	82
Iceland	81
Denmark	80
Latvia	78
Finland	78
Poland	76
Russia	76
Lithuania	75
Hungary	73
Austria	71
India	70
Turkey	69
South Korea	67
Switzerland	67
United States	65
Netherlands	63
United Kingdom	63
Ireland	61
Canada	55
Australia	54
Japan	46

C Agree that 'woman should stay home if their child is under school age or in school

| Country	%
Denmark	5
Iceland	7
Israel	9
Sweden	10
Norway	11
Finland	15
Slovenia	18
France	24
Croatia	24
Switzerland	25
Ireland	27
Netherlands	27
United States	28
Canada	28
Lithuania	29
Russia	32
Slovakia	32
Venezuela	34
Bulgaria	34
United Kingdom	34
Chile	34
South Africa	34
Taiwan	35
Hungary	36
Czech Republic	37
Australia	38
China	40
Latvia	43
Mexico	45
South Korea	46
Argentina	47
Austria	49
Poland	54
Japan	55
Turkey	55
India	57
Philippines	57

Source: International Social Survey Programme. (2012). Family and Changing Gender Roles module.

To examine gender norms within Australia, we leverage nationally representative household survey data covering the past two decades. This period has seen a slowing of labour market convergence in the outcomes of men and women, notably a flatlining in the gender pay gap, and important social policy changes including the introduction of Paid Parental Leave in 2011. The annual Household, Income and Labour Dynamics in Australia (HILDA) Survey asks respondents about their gender attitudes approximately once every four waves. We use this survey data to construct a pooled index across several questions (outlined in section 4), which measures the extent to which an individual holds more egalitarian norms (a higher value) or more conservative (a lower value).

We find that gender norms are relatively slow-moving but have become a little more egalitarian through time, shifting by an equivalent of 0.71 standard deviations between 2001 and 2019. This is around twice the gap in average gender norms between men and women (Chart 2), and similar in magnitude to the gap between those with a university education and with no post-school qualification. Gender norms are more dispersed within generations than across generations, highlighting the slow-moving intergenerational component, however younger generations have generally become more egalitarian (Chart 3). We find that older Australians, men, those living in regional areas, and those with no post-school education continue to hold the most conservative gender norms. Detailed summary statistics are provided in Table A1 in Appendix A.

Chart 2: Gender norms, by sex
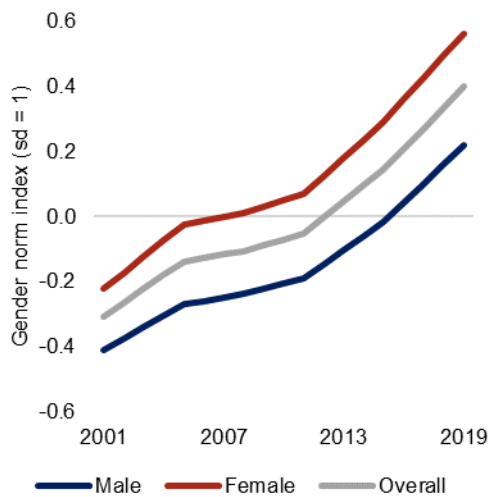
Source: analysis based on HILDA Survey Wave 19. A higher gender norm index represents more egalitarian norms. Series is linearly interpolated between Waves.

Chart 3: Gender norms, by birth cohort
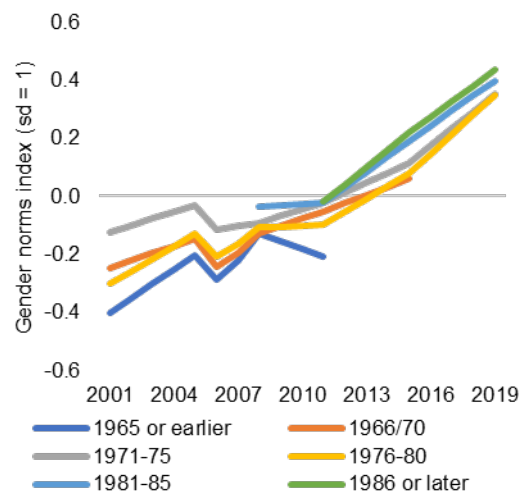
Source: analysis based on HILDA Survey Wave 19. A higher gender norm index represents more egalitarian norms. Series is linearly interpolated between Waves.

Conservativism in Australian gender attitudes is generally most pronounced toward combining paid work and mothering. In 2019, 18% of Australians agreed with the claim that "It is better for everyone involved if the man earns the money and the woman takes care of the home and children". This is reflected in lower rates of labour force participation and earnings for young mothers, and a sizeable motherhood penalty in Australia (Bahar et al., 2023). However, since the introduction of Paid Parental Leave in 2011, labour force outcomes have improved for mothers of young children and the pace at which gender norms have become more egalitarian has also accelerated.

2.2 Relationship between gender norms and employment

The influence of gender norms on female employment has been widely documented by existing literature. To motivate the remainder of our paper, we show that more gender norms are an important determinant of female employment outcomes both at a national level across countries and across regions within Australia. Chart 4 plots the relationship between gender norms and the female employment rate using data from OECD countries observed in the 2012 ISSP, showing that conservative norms exhibit a strong negative correlation with the share of females participating in paid employment. We also show that conservative gender norms across countries are associated with a lower share of dual earner households, using data from the ISSP combined with the OECD Family database, shown in Chart 5.

Chart 4: Relationship between gender norms and the female employment rate, OECD countries (2012)

Chart 5: Relationship between gender norms and share of dual earner couples, OECD countries (2012)
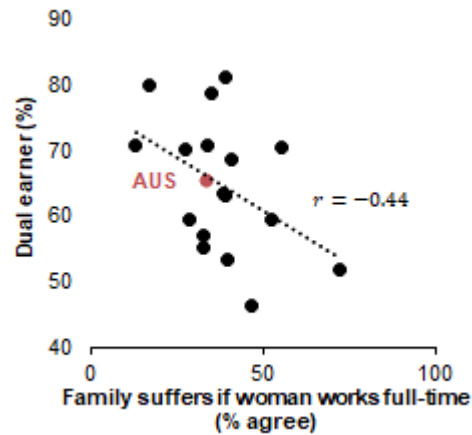
Using data from the Australian Bureau of Statistics' Labour Force Survey, we find that egalitarian gender norms are positively associated (correlation coefficient of 0.51) with the female employment rate across regional labour markets within Australia. This relationship between egalitarian gender norms and employment also extends to a lower average employment rate gap between men and women over the past decade. We also see a strong link between an individual's gender norms and their lifetime labour force participation (Chart 6) and earnings trajectories (Chart 7). The gap between more egalitarian and more conservative women is narrower as women enter the workforce and widens over the working life, highlighting the salience of gender norms to female labour market outcomes over the life-course.

Chart 6: Relationship between gender norms and female lifetime labour force participation
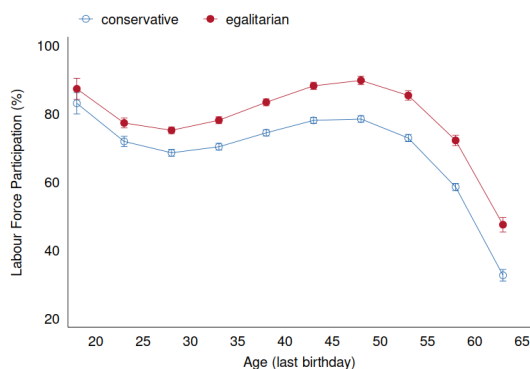
Chart 7: Relationship between gender norms and female lifetime earning trajectories
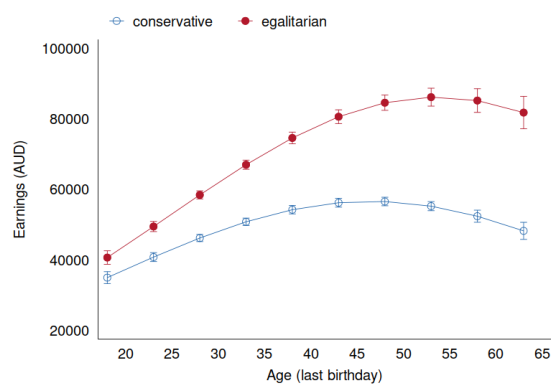
3 Data

3.1 HILDA

Our analysis uses data from the first 19 Waves of the HILDA Survey, an ongoing panel dataset of Australian households covering financial years from 2001-02 to 2018-19 (e.g.1 July 2001 to 30 June 2002). The empirical strategy we follow is cross-sectional in nature, and we use the unbalanced panel to draw on the largest sample size possible. Using the cross-sectional nature of this dataset in each given wave also alleviates potential concern over non-random attrition, which may otherwise be a particular concern for individuals born in a non-English speaking country in our sample (Summerfield et al., 2020). Generally, however, HILDA has a high response rate and a low attrition rate, ensuring that it retains its representativeness over time.

Each wave of HILDA contains detailed demographic data including an individual's level of educational attainment, country of birth, birth year, marital or cohabiting status, and gender. These variables enable us to define peer groups based on individuals sharing common characteristics. HILDA also includes detailed labour market outcomes for each household member, including annual labour earnings from all jobs, the number of weekly hours worked, and detailed labour force status. These outcomes serve as dependent variables in our main regression analysis.

Another important advantage of the HILDA data in the context of Australian data is that it links partners within households, allowing us to examine household labour supply and the division of unpaid work and care. We also consider the division of household work within partners, using time use data provided from HILDA, including time spent on domestic tasks and childcare. Lastly, HILDA also asks respondents to indicate their overall life satisfaction using a 10-point Likert scale.

Key to our gender norms identification is the Attitudes and Values module, which is administered to respondents around one in every four waves and asks individuals the extent to which they agree (disagree) with normative claims about the role of women in society. Since its inception in 2001, the HILDA survey has included this module 6 times (Waves 1, 5, 8, 11, 15 and 19), and we require individuals in our sample to have been observed in one of these waves. For our empirical analysis, we further limit our sample to those identified as living in a mixed-sex partnership or marriage, and to be aged between 25 and 45 years old – representing women of peak fertility years who are likely to have completed their formal education. Our final sample was based on 12,425 observations of partnered women aged between 25 and 45 years.

We further explore how the effect of gender norms vary based on maternal status, comparing partnered mothers whose youngest child was aged 0-4 years (4,696 observations) and partnered women with no dependent children (3,156 observations).

Table 1: Steps in sample selection (unique individuals)

Steps	Number of non-missing values
Full sample of women	19,656
Dropping <25 and >45 years old	7,966
Comprised as couple	6,396
Restricting to women in mixed-sex partnership	6,303
Drop if peer less than 10	6,154
Final analysed sample	6,154

Author calculation. Sample is drawn from HILDA Wave 1, 5, 8, 11, 15 and 19.

3.2 Descriptive statistics

Table 2 shows summary statistics from our final analysed sample, pooled across all years by cohort. Mothers of young children are on older (at 33.5 years) than non-mothers (at 32 years), and less educated with only 39.5% with a university degree (compared with 48.8% of non-mothers). Our subsamples also differed with respect to geographic distribution of residence. In our regression equations, we control for these important differences and compare women with more egalitarian attitudes to those with more conservative attitudes within each sub-sample.

Table 2: Descriptive statistics (mean)

	(1) All female	(2) Married (0-4 kids)	(4) Married no kids
Age (last birthday)	35.39	33.51	32.12
	(5.897)	(4.686)	(5.976)
Number of children aged 0-4	0.506	1.340	0
	(0.726)	(0.528)	(0)
Number of children aged 5-16	0.863	0.700	0
	(1.040)	(0.916)	(0)
Mother employed when aged 14	0.624	0.633	0.690
	(0.484)	(0.482)	(0.463)
Less than Year 12	0.357	0.344	0.253
	(0.479)	(0.475)	(0.435)
Diploma degree	0.269	0.261	0.260
	(0.443)	(0.439)	(0.438)
University degree	0.375	0.395	0.488
	(0.484)	(0.489)	(0.500)
Peer gender norm	0.633	0.335	-0.041
Observations	12425	4696	3156

Standard deviation in parentheses. Panel observation. Sample is drawn from HILDA Wave 1, 5, 8, 11, 15 and 19. Table reports weighted summary statistics as indicated by the left panel of the table. We restrict sample to married women who co-reside with her partner aged 25-45 years old in each wave.

Detailed summary statistics for outcome variables used are presented in Appendix A. On average, mothers of young children were less likely to participate in paid employment, had the lowest average earnings, and took on the highest levels of childcare and other domestic work.

3.3 Peer groups

Our analysis considers the role of peer gender norms in influencing a woman's labour supply decisions and the division of household labour. To construct peer groups, we follow the predominant approach used in existing literature and group women based on shared characteristics, reflecting that comparison to non-homogenous peers is unlikely (Nicoletti, Salvanes & Tominey, 2018). We follow the approach used by Cavapozzi et al (2021) and define reference groups based on gender, country of birth group, and broad educational attainment (no post-school education, university-level education, or other post-school qualification such as at the Certificate- or Diploma-level). We define six birth cohorts based on 5-year age windows, separately grouping individuals who were born in 1965 or earlier, or 1986 onwards. In our regression modelling, we control for the effects of educational attainment, gender, birth cohort, age, and age-squared, which leaves variation within peer groups to be driven by country of birth group. We group countries of birth using minor group classifications published as part of the Standard Australian Classification of Countries (2016). The choice to use minor groups reflect that these countries generally share cultural and economic similarity and allows us to increase the size of each peer group, meaning that our measurement of gender norms is likely to be more accurate.

Our identification therefore relies on variation in an individual's gender norms based on their country of birth. This reflects the approach used by the epidemiological cultural literature, wherein culture is identified with gender norms based on an individual's country of birth (Fernandez, 2007, Fortin 2005, 2015; Guiso et al., 2006). Within Australia, existing studies on the epidemiological perspective of culture have included Deutscher (2020) who examined the cultural importance of education and the intergenerational mobility of second-generation migrants. Australia is well suited to this analysis given a relatively high share of immigrants, ranging from 20 to 25% of our sample in each survey Wave. Additionally, because individuals do not choose their country of birth, this definition of peers alleviates concerns over potential endogenous peer membership. We exclude individuals with less than 10 peers.[3] Our final sample used in analysis is then based on 208 peer groups with a median size of 38.5 peers.

3.4 Gender norms

Our measure of gender norms comes from the Attitudes and Values module, which is administered to respondents around one in every four Waves and includes questions on the extent to which individuals agree or disagree with various claims about the role of women in society. For our main regression analysis, we restrict our set of questions to those asked consistently since Wave 1. We also drop some questions which were identified as having a very high degree of correlation using factor analysis. Our resulting index is then based on the following questions:

(i)   If both partners in a couple work, they should share equally in the housework and care of children

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[3] As a comparison, Cavapozzi et al (2021) exclude individuals with less than 4 peers from their sample. We also estimate a version of our model where we use 10-year birth cohorts and drop individuals with less than 20 peers, from which we obtain similar results for each of our outcomes.

(ii)   Whatever career a woman may have, her most important role in life is still that of being a mother

(iii)   Children do just as well if the mother earns the money and the father cares for the home and children

(iv)   It is better for everyone involved if the man earns the money and the woman takes care of the home and children

(v)   A working mother can establish just as good a relationship with her children as a mother who does not work for pay

(vi)   Mothers who don't really need the money shouldn't work

Each of these questions is assessed on a 7-point Likert scale, indicating the extent to which the respondent strongly disagrees (=1) or strongly agrees (=7) with the claim. For some questions, we reverse the scale to ensure that the ordinal scale for all questions indicates more egalitarian gender norms. We also normalise questions across individuals to have mean zero and a standard deviation of 1 across Waves. Our next step uses factor analysis to produce a composite index across questions for each woman. This index is then aggregated for each peer group in each survey Wave using a "leave-one-out" mean $\overline{g}_{-i} = \frac{1}{J}\sum_{j \in J} g_j$ of the gender norms of the focal woman's peers (excluding the focal woman). Finally, our gender norm index is standardised across peer groups to be mean-centred at zero and to have a standard deviation of 1, allowing our regression coefficients to be interpreted in terms of a one-standard deviation increase in the egalitarianism of peer gender norms.

4 Empirical analyses

4.1 Baseline specification

To assess the impact of gender norms on an individual, we follow a recent approach pioneered by Cavapozzi et al (2021). Our baseline model takes the form of a mean regression model, emphasising the effect of social interactions through peers:

$$Y_{ic} = \alpha + \delta\overline{g}_{-i} + \gamma^k \mathbf{X}_{ic} + \tau_c + \theta_d + \varepsilon_{ic} \text{ Equation (1)}$$

where we investigate the relationship between outcomes Y of individual i at survey wave c on peers' gender norms $\overline{g}_{-i}$ conditional on a vector of individual and household characteristics including the focal woman's age, age-squared, birth cohort, level of education, state of residence, total number of children by age group (0-4 years, 5-15 years, over 15 years), wave survey fixed effects, state fixed effects (θ_d) and ε_{ic} is a zero-mean error-term. Our peer norms variable, $\overline{g}_{-i}$, is the "leave-one-out" mean of the focal woman's peer gender norm index, and our coefficient of interest δ represents the average marginal effect of a one-standard deviation in the egalitarianism of peer gender identity norms. We use robust standard errors clustered at the peer-group level.

Our baseline analysis runs this equation for all women who were identified in mixed-sex partnership, before exploring heterogeneity according to an individual's life-stage and running the model separately for partnered women with no children and partnered women whose youngest child was aged 0-4 years. For our regressions where we use incomes and wages as dependent variables, we

require these to be positive-valued. We further restrict our regressions using individual annual earnings to women who are employed full-time, consistent with measurement of the gender pay gap and the dominant approach used by existing literature. As robustness, we also provide estimations using the Heckman selection model which modelled employment decision on our covariates in the first stage. Table C19 in Appendix C presents the summary of results of the Heckman selection. We use this model to consider the effects of gender norms in three domains:

1. "Individual labour market outcomes": do women with more egalitarian peer groups increase their employment participation, and conditional on working do these women experience improved labour market outcomes?
2. "Household labour market outcomes": are women from more egalitarian peer groups more likely to belong to dual earner households and have higher household incomes?
3. "Non-market outcomes": do women with more egalitarian peers take on a higher or lower share of unpaid household work, and experience higher life satisfaction?

We anticipate that the effects of gender norms will be most pronounced for mothers aged 0-4 years, reflecting an increased importance of cultural reference groups for women in this stage of life.

4.2 Instrumental variables approach

A potential concern with our OLS specification is that the focal individual and her peers may share similar unobserved characteristics and live in similar environments that are correlated both with gender norms and labour market outcomes, which may bias our results. To address this potential endogeneity issue, we use an instrumental variables (IV) approach, whereby each peer group's gender norms are instrumented with the average employment status of the peers' mothers during the peers' adolescence ($\overline{e^m}_{-i}$). Hence, we estimate the following in our first-stage regression:

$$\overline{g}_{-i} = \beta + \overline{e^m}_{-i} + \gamma \mathbf{X}_{ic} + \tau_c + \theta_d + \varepsilon_{ic} \text{ Equation (2)}$$

thus, on the second-stage, we modify Equation (1) to estimate the following.

$$Y_{ic} = \alpha + \delta \widehat{\overline{g}_{-i}} + \gamma^k \mathbf{X}_{ic} + \tau_c + \theta_d + \varepsilon_{ic} \text{ Equation (3)}$$

This approach recognises the slow-moving intergenerationally transmitted component of gender norms. Specifically, for each of the focal woman's peers, we define their mother's employment status as an indicator variable taking a value of 1 if the peer's mother worked when the peer was aged 14, and zero otherwise. We then take a "leave-one-out" average of this instrument for each peer group in each survey year. On average, 62.4% of partnered women, 63.3% of partnered women with young children, and 69.0% of partnered women with no children reported that their mother was employed when they were aged 14 years old.

Our IV follows the approach pioneered by Cavapozzi et al (2021) and is likely to satisfy the exclusion criteria given that the peers' mother's work status is unlikely to influence the labour supply of the focal woman directly, because interactions between the peers' mothers and the focal individual are likely to be quite rare. Our approach to defining peer groups deviates from other literature which has used schoolmates or overlapping family members. However, defining groups nationally on birth cohort, education, and country of birth helps to ensure that our results are not driven by endogenous

selection or reverse causality. We also control for the focal individual's mother's employment status e_i^m when the individual was aged 14 to better isolate the influence of peer social norms.

The relevance criteria of our IV rests on the assumption that there is an intergenerational link between peers' mother's employment status when their child was aged 14 and their child's gender norms, something which is attested to in many international studies and supported by our first stage results. We find a positive, sizeable, and statistically significant correlation between a peer's mother's employment and the peer's gender norms (*F-stat* of at least 18 in each specification at first stage as summarized in Table C1 in Appendix C). We find no evidence of weak instruments or under-identification, with Kleibergen-Paap and Kleibergen-Paap-rk statistics reported in Table C1 in Appendix C. In our applications, we also find little evidence of weak instruments, with F-statistics greater than 10.

5 Results

5.1 Individual labour market outcomes

5.1.1 Labour supply

We first consider the effect of peer gender norms on an individual woman's labour supply, exploring whether more egalitarian peer attitudes are associated with increased employment participation and higher employment earnings. A summary of the results is presented in Table 3 (corresponding IV results are presented in Table C2 in Appendix C).

We find that peer gender norms have a large and statistically significant effect on female labour supply, with a one-standard deviation shift toward gender norms becoming more egalitarian associated with an increased likelihood of participation (+4.4 ppts using OLS, or +6.2 ppts with our IV) and employment (+5.1 ppts using OLS, or +7.4 ppts with our IV). In 2023 terms, such a shift in gender norms across all married women aged 25-45 (holding all else constant), would be equivalent to boosting female labour force participation by 164,467 women and employment by 190,632. This is also equivalent in magnitude to reducing the gender gap in participation rates in these age groups by up to half, and the employment gap by up to 75%. It is also suggestive that these remaining gaps may be due to a normative dimension and, given the slow-moving nature of gender norms documented, may explain the slowing convergence of male and female employment outcomes.

Table 3: Peer gender norms and individual labour supply

	(1) Overall	(2) Married 0-4 kids	(3) Married no kids
Participate in labour force (=0/1)			
Peer gender norm	0.044***	0.051***	0.030***
	(0.008)	(0.013)	(0.010)
Obs	10,676	4,001	2,695
R2	0.150	0.100	0.051
Mean	0.769	0.610	0.922
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer

	(1)	(2)	(3)
	Overall	Married 0-4 kids	Married no kids
Employed (=0/1)			
Peer gender norm	0.051***	0.061***	0.035***
	(0.008)	(0.013)	(0.013)
Obs	10,676	4,001	2,695
R2	0.145	0.107	0.058
Mean	0.745	0.592	0.897
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer
Employed part-time (=0/1)			
Peer gender norm	0.034***	0.076***	-0.033**
	(0.008)	(0.011)	(0.014)
Obs	10,668	3,998	2,693
R2	0.047	0.051	0.023
Mean	0.370	0.419	0.172
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer
(Log) Weekly hours worked			
Peer gender norm	0.000	-0.060***	0.049**
	(0.011)	(0.019)	(0.019)
Obs	7,942	2,364	2,415
R2	0.171	0.079	0.031
Mean	3.313	3.054	3.607
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer

Standard errors in parentheses.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard error clustered at peer group level. Sample is drawn from HILDA Wave 1, 5, 8, 11, 15 and 19. Dependent variable is indicated by the first row of each panel of table. We restrict sample to married women who co-reside with her partner aged 25-45 years old in each wave. Regressions control for focal women covariates including age, square age, education level dummies, total number of children, number of children aged 0-4 years old, and number of children aged 5-16 years old. Model also includes survey year and state fixed effects.

More egalitarian peers were found to be associated with large and significant positive labour supply effects across both mothers and non-mothers. These effects were estimated to be largest in magnitude for mothers of young children, boosting their likelihood of participation by 5.1 ppt (+8.4 ppt with IV) and of employment by 6.1 ppt (+9.9 ppt with IV). Our IV generally confirms these results although with a higher magnitude of estimated effect.

We turn next to examine the effect of gender norms at the intensive margin (IV results in Table C2 in Appendix C), finding that women with more egalitarian peers are more likely to work part-time (+3.4 ppt with OLS, +6.4 ppt with IV) with this effect driven by mothers of young children (+7.6 ppt with OLS, +11.6 ppt with IV). The effect of gender norms on the intensive margin of employment depends heavily on an individual's stage of life, with estimated effects ranging from a reduction in average hours worked by 6.0% (-18.4% with IV) for mothers of young children to increasing average hours worked for women without children by 4.9% (3.4% with IV, albeit is not statistically significant).

5.1.2 Individual earnings

We find that more egalitarian peer attitudes positively influence a woman's lifetime earnings and hourly wages. Across all partnered women, shifting gender norms to be one standard deviation more egalitarian would increase annual incomes for full-time female employees by 8.7% (9.4% with IV, as in Table C3 in Appendix C). This compares to a gender pay gap in February 2023 of 13.3%, suggesting that such a shift in peer attitudes could reduce the gender pay gap in Australia by around

two-thirds. The slow-moving nature of these gender norms in Australia may also explain the relative persistence of the gender pay gap in Australia compared with other OECD countries.

Peer gender norms are an important determinant of full-time earnings, with more egalitarian peers boosting full-time earnings by 10.7% for mothers of young children and 10.0% for women without children. Results from IV estimation, as presented in Table C3 in Appendix C, suggest that this is more robust for married women without children, with a larger estimated effect at 16.9% of annual incomes. However our results for mothers of young children are not robust to IV specification, possibly due to the relatively small sample of full-time workers observed in this cohort.

We show that more egalitarian peers are associated with significant increases in hourly wages, with a one standard deviation shift in gender norms boosting a woman's hourly wages by 4.4%. Again, these effects are strongest for married women without children at 7.3% (8.9% with IV, see Table C3 in Appendix C). A possible mechanism for this is that women without children face less career disruption and thus may have higher occupational attainment than their counterparts with dependent children. This compares to an effect of 3.7% (with OLS) to 7.5% (with IV) for the wages of mothers with young children.

Table 4: Peer gender norms and individual earnings

	(1)	(2)	(3)
	Overall	Married 0-4 kids	Married no kids
Log of annual earnings (full-time employees)			
Peer gender norm	0.083***	0.102***	0.095***
	(0.016)	(0.034)	(0.028)
Obs	3,748	629	1,867
R2	0.271	0.275	0.243
Mean	10.840	10.805	10.881
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer
Log of hourly wage			
Peer gender norm	0.043***	0.036**	0.070***
	(0.009)	(0.017)	(0.015)
Obs	7,122	2,048	2,254
R2	0.364	0.336	0.349
Mean	3.247	3.337	3.249
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer

Standard errors in parentheses.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard error clustered at peer group level. Sample is drawn from HILDA Wave 1, 5, 8, 11, 15 and 19. Dependent variable is indicated by the first row of each panel of table. We restrict sample to married women who co-reside with her partner aged 25-45 years old in each wave. Regressions control for focal women covariates including age, square age, education level dummies, total number of children, number of children aged 0-4 years old, and number of children aged 5-16 years old. Model also includes survey year and state fixed effects. For log of annual earnings estimation, we restrict sample to only include full-time workers.

5.1.3 Occupational segregation

We briefly assess whether gender norms are an important determinant of occupational choices for women by estimating the degree of occupational segregation separately for those with egalitarian and conservative attitudes. To perform this analysis, we use the Duncan Index which compares employment shares of men and women by occupation. It ranges from 0 to 100 and equals 100 when men and women are completely segregated (no men or women work in the same occupation) and 0 when

equal shares of both sexes work in all occupations (complete integration). We conduct this analysis at the individual level rather than across peer groups, so that peer group membership is not endogenously determined by factors such as education; and compare men and women whose gender norms index is one standard deviation higher than the mean (egalitarian) to those below this level (conservative).

From this, we find that occupational segregation is much higher among men and women with more conservative gender norms, while individuals with more egalitarian peers experience greater labour market integration. The gap between egalitarian and conservative employees has persistently been around 15 percentage points and is similar in magnitude to that found between university-educated and all employees by Sobeck (2023).

Chart 11: Duncan index by peer gender norms
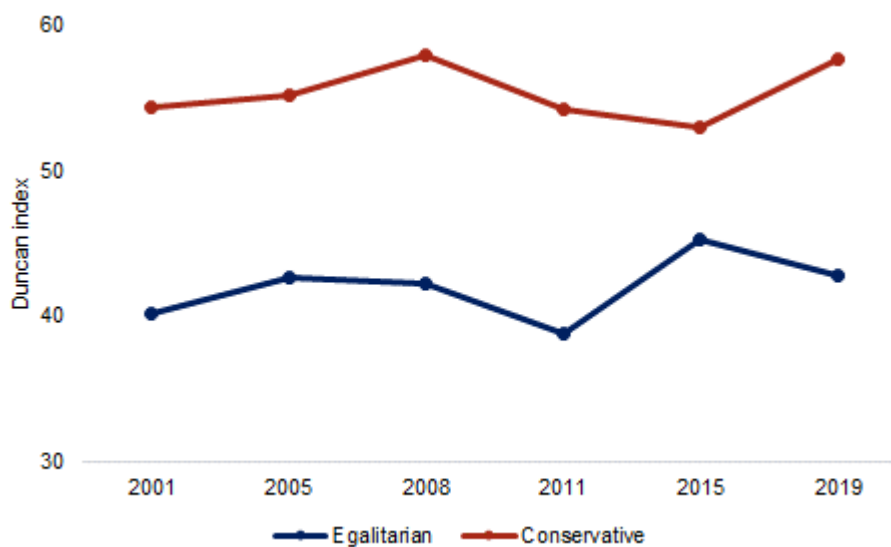
Note: Duncan Index constructed based on 2-digit occupations separately for men and women whose gender norms index was above the median (egalitarian) or below the median (conservative).
Source: authors analysis of HILDA Wave 19.0.

Our results highlight that conservative gender norms restrict female workers from choosing the jobs that best suit their individual talents and abilities. This is costly both to individual women in terms of foregone earnings and at a national level in terms of lower productivity stemming from reduced job matching efficiency and diversity (Hsieh et al., 2019; Criscuolo et al. 2021; Ostry et al. 2018). More research is required to fully understand the influence of peer gender norms on the occupational choices of women, something beyond the scope of our initial analysis.

5.2 Household labour outcomes

5.2.1 Household labour supply

We turn next to our second hypothesis and explore whether gender norms have a bearing on the labour outcomes of households. First, we assess the effects of gender norms on household labour supply, including their association with dual earner status, couple hours worked, and the relative division of paid work within spouses. Table 5 provides a summary of results (corresponding results using IV specification are summarized in Table C4 in Appendix C).

At the extensive margin, we find that women with more egalitarian peers are more likely to belong to dual earner households, consistent with these women also having higher participation rates. Overall, the magnitude of effect was estimated at 6.0 ppt (+8.8 ppt with IV), with this strongest for mothers of young children (+6.9 ppt with OLS, +11.1 ppt with IV). Large effects were also observed for women without children (+5.7 ppt with OLS, +6.3 ppt with IV). These findings contrast with existing literature which views spouses as substitutes in the labour market, showing instead that more egalitarian peer gender norms are associated with increased labour supply for both husbands and wives. This suggests that gender norms becoming more egalitarian could boost female employment without a corresponding reduction in their husbands' labour supply.

Despite this increase in dual earner status among more egalitarian peer groups, results at the intensive margin of hours worked within couples indicate that hours are only increased for married women without children (+2.8 hours per week with OLS, and +4.0 hours with IV) while offset by reduced hours worked by young families. Results for relative hours worked show that more egalitarian female peers are associated with a woman working a reduced share of hours while her children are young (-2.0% with OLS, -4.4% with IV) while not significantly impacting the distribution of paid work for partnered women without children.[4]

Table 5: Peer gender norms and household labour supply

	(1) Overall	(2) Married 0-4 kids	(4) Married no kids
Dual Earner (=0/1)			
Peer gender norm	0.060***	0.069***	0.057***
	(0.010)	(0.014)	(0.019)
Obs	8,208	3,146	2,119
R2	0.133	0.108	0.090
Mean	0.720	0.580	0.859
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer
Total couple hours			
Peer gender norm	1.073***	-0.162	2.773***
	(0.318)	(0.512)	(0.827)
Obs	7,298	2,199	2,204
R2	0.457	0.421	0.448
Mean	82.922	76.248	89.133
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer
Female share of couple hours			
Peer gender norm	-0.005*	-0.020***	0.004
	(0.003)	(0.004)	(0.005)
Obs	7,298	2,199	2,204
R2	0.305	0.188	0.273
Mean	0.376	0.325	0.446
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer

Standard errors in parentheses.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard error clustered at peer group level. Sample is drawn from HILDA Wave 1, 5, 8, 11, 15 and 19. Dependent variable is indicated by the first row of each

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[4] To explain the discrepancy between higher couple hours but lower relative hours contributions, we find that women from more egalitarian peer groups have partners who work a higher average number of hours (an additional 0.7 to 1.7 hours per week across our full sample of partnered women). This is unlikely to be due to marital sorting, as women from more egalitarian peer groups are less likely to be partnered to men with a university-level education.

panel of table. We restrict sample to married women who co-reside with her partner aged 25-45 years old in each wave. Regressions control for focal women covariates including age, square age, education level dummies, total number of children, number of children aged 0-4 years old, and number of children aged 5-16 years old. Model also includes survey year and state fixed effects.

5.2.2. Household earnings

Following international literature on the male breadwinner norm (Bertrand et al., 2015), we expect that women from more egalitarian peer groups will account for a higher relative share of a couple's total income.[5] Table 6 summarizes our investigation (corresponding IV result is presented in Table C5 in Appendix C). We find that a one standard deviation shift in peer gender norms becoming more egalitarian is associated with a 2.3 ppt increase in a female's share of earnings within spouses (1.9 ppt with IV). In relative terms, this equates to a 7.8% increase in a female's share of spousal earnings (6.4% with IV). This is observed for both mothers of young children (2.8 ppt with OLS, or 2.7 ppt with IV) and women without children (2.0 ppt with OLS, or 2.9 ppt with IV).

Table 6: Peer gender norms and household earnings

	(1)	(2)	(4)
	Overall	Married 0-4 kids	Married no kids
Female share of relative earnings			
Peer gender norm	0.023***	0.028***	0.020**
	(0.005)	(0.007)	(0.008)
Obs	7,585	2,893	2,031
R2	0.192	0.125	0.043
Mean	0.296	0.221	0.415
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer
(Log) couple earnings			
Peer gender norm	0.095***	0.081***	0.128***
	(0.014)	(0.022)	(0.026)
Obs	9,995	3,691	2,583
R2	0.221	0.248	0.196
Mean	11.362	11.285	11.494
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer
(Log) partner earnings			
Peer gender norm	0.054***	0.071***	0.067**
	(0.013)	(0.025)	(0.025)
Obs	7,450	2,828	2,016
R2	0.106	0.153	0.080
Mean	11.099	11.121	11.041
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer

Standard errors in parentheses.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard error clustered at peer group level. Sample is drawn from HILDA Wave 1, 5, 8, 11, 15 and 19. Dependent variable is indicated by the first row of each panel of table. We restrict sample to married women who co-reside with her partner aged 25-45 years old in each wave. Regressions control for focal women covariates including age, square age, education level dummies, total number of children, number of children aged 0-4 years old, and number of children aged 5-16 years old. Model also includes survey year and state fixed effects.

More egalitarian female peers are not only associated with higher individual incomes for women but also higher annual earnings for their male spouses (5.5% with OLS, or 13.4% with IV), translating to higher overall couple earnings for women with more egalitarian peers. We estimate these effects on

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[5] Following approach used in Bertrand et al (2015) and associated literature we restrict our sample to couples where each spouse reported positive earnings.

couple earnings to range from 10.0% (with OLS) to 18.6% (with IV) per annum, totalling additional real earnings of between $8,570 to $16,037 per annum. Our results here have important implications for couple-level inequality, with the gap in couple incomes between women with egalitarian peer groups and those with conservative peer groups persisting in all survey years and increasing some-what over the past two decades. These results are more consistent with household labour supply decisions, rather than marital sorting on potential earnings.

These effects on couple incomes are observed for both mothers and non-mothers, with baseline results indicating they are highest in magnitude for women without children (14.7% with OLS, 15.8% with IV). This compares to 8.4% for mothers of young children (20.8% with IV). More egalitarian female peers were also associated with additional annual earnings for their husbands, with baseline results highest in magnitude for mothers of young children (7.4% with OLS, 14.7% with IV).

5.3 Non-market outcomes
5.3.1 Division of household labour
Next, we consider the role of peer gender norms on the household division of labour. A standard model of Beckerian comparative advantage predicts that men and women within couples will specialise according to their comparative advantage, such that an increase in female paid employment is associated with a reduction in the relative level of housework that she undertakes (all else equal) (Becker, 1991). In contrast, models incorporating social norms predict that if women deviate from a prescribed norm such as by being employed, they may seek to compensate for this deviation through complying with norms in other ways such as by taking on more housework (Akerlof & Kranton, 2000, 2010). We explore this by considering the effects of peer gender norms on both the absolute level and relative share of housework and childcare undertaken by women, after additionally controlling for their part-time employment status. Table 7 presents the results using OLS model, while Table C7 in Appendix summarizes the corresponding IV results.

Table 7: Peer gender norms and household labour supply

	(1)	(2)	(3)
	Overall	Married 0-4 kids	Married no kids
Total domestic work			
Peer gender norm	-1.490***	-1.353**	-1.779***
	(0.344)	(0.634)	(0.452)
Obs	8,234	3,090	2,193
R2	0.177	0.083	0.080
Mean	24.508	28.861	14.904
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer
Relative domestic work			
Peer gender norm	-0.008**	0.003	-0.020**
	(0.003)	(0.006)	(0.008)
Obs	7,243	2,750	1,902
R2	0.070	0.029	0.033
Mean	0.611	0.650	0.538
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer
Total childcare			
Peer gender norm	1.730***	4.569***	

	(0.314)	(0.563)
Obs	8,292	3,168
R2	0.386	0.077
Mean	21.718	40.506
Covariates	Yes	Yes
Clustered S.E	Peer	Peer
Relative childcare		
Peer gender norm	0.023***	0.026***
	(0.004)	(0.005)
Obs	5,718	2,868
R2	0.057	0.021
Mean	0.639	0.687
Covariates	Yes	Yes
Clustered S.E	Peer	Peer

Standard errors in parentheses.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard error clustered at peer group level. Sample is drawn from HILDA Wave 1, 5, 8, 11, 15 and 19. Dependent variable is indicated by the first row of each panel of table. We restrict sample to married women who co-reside with her partner aged 25-45 years old in each wave. We only allow for positive income or earning in the model. Regressions control for focal women covariates including age, square age, education level dummies, total number of children, number of children aged 0-4 years old and number of children aged 5-16 years old. Model also includes survey year fixed effect and state fixed effect.

Egalitarian peers are associated with women taking on a lower level of domestic work, in the range of 1.5 hours less per week with OLS (or -1.4 hours with IV), but this is more than offset by a higher load of childcare among women with children (+1.4 hours with OLS, +1.2 hours with IV). This is reflected in a decrease in a female's relative spousal share of domestic work by around 0.8 ppt (0.6 ppt with IV, albeit not statistically significant) and in childcare by 2.3 ppt (4.2 ppt with IV).

There are several potential mechanisms for rationalising these findings. On the one hand, the reduction in domestic work is consistent with Beckerian-style comparative advantage and a more equitable division of work and care responsibilities within spouses. However, this is outweighed by these women taking on additional childcare responsibilities – which may or may not be a utility-maximising decision. While some existing literature has shown that women who are more educated tend to be more involved as parents (Guryan et al., 2008), we find that women from more egalitarian peer groups are more likely to report being dissatisfied with the spousal division of childcare. This is consistent with women from more egalitarian peer groups, being more likely to be employed, compensating for this through taking on a higher load of unpaid domestic work and childcare. Within Australia, recent studies have found that comparative advantage explains relatively little of the sexual division of labour within spouses (Siminski & Yestenga, 2022). Further research is required to fully rationalise these findings and better understand the effect of gender norms on the spousal division of unpaid labour.

5.3.2 Self-reported satisfaction

Finally, we consider the link between a woman's overall life satisfaction and peer gender norms. We reason that restrictive gender norms may be associated with lower levels of overall life satisfaction, as social convention weighs more on an individual's sense of identity. We examine this using self-reported life satisfaction, based on a 10-point Likert scale (a higher score indicating greater satisfaction). We also control for household incomes, so that our results are not driven by greater affluence.

Our findings, as summarized in Table 8 (corresponding IV results reported in Table C6 in Appendix C) suggest that more egalitarian peer gender norms are associated with higher self-reported

life satisfaction, with this effect found for both mothers of young children and women without children. This highlights that the consequences of conservative peer gender norms are not simply economic: they matter for an individual's overall sense of wellbeing and life satisfaction.

Table 8: Peer gender norms and life satisfaction

	(1)	(2)	(4)
	Overall	Married 0-4 kids	Married no kids
Satisfaction with life			
Peer gender norm	0.107***	0.129***	0.157***
	(0.030)	(0.041)	(0.038)
Obs	10,672	3,998	2,694
R2	0.011	0.017	0.027
Mean	8.006	8.058	7.976
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer

Standard errors in parentheses.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard error clustered at peer group level. Sample is drawn from HILDA Wave 1, 5, 8, 11, 15 and 19. Dependent variable is indicated by the first row of each panel of table. We restrict sample to married women who co-reside with her partner aged 25-45 years old in each wave. Regressions control for focal women covariates including age, square age, education level dummies, total number of children, number of children aged 0-4 years old, and number of children aged 5-16 years old. Model also includes survey year and state fixed effects.

6 Robustness

Throughout this paper, we have generally shown that our results are robust to the use of 2SLS estimation, which alleviates some concerns over endogeneity and reverse causality. In addition to our 2SLS estimation, we conduct three main robustness checks to ensure the validity of our results.

6.1. Effects of female peer gender norms on male spouses

Firstly, we consider the influence of a female's peer gender norms on outcomes for male spouses in our main sample. Following international literature, we expect that a female's peer's gender norms will have less of an effect on her husband's income or labour supply. Our results reported in Appendix C (Tables C8 to C18, column (1)) confirm this, providing confidence that we are correctly identifying the effects of peer gender norms and that these effects are largest in magnitude for women.

6.2 Alternative index

Secondly, we also consider an alternative gender norms index which utilises additional questions that were introduced from Wave 5 of the HILDA Survey and retained in subsequent Waves. These included:

   (i)   It is not good for a relationship if the woman earns more than the man;
   (ii) On the whole, men make better political leaders than women do;
   (iii) A pre-school aged child is likely to suffer if his/her mother works full-time;
   (iv) Children often suffer because their fathers concentrate too much on their work; and
   (v)   If parents divorce, it is usually better for the child to stay with the mother than with the father.

Replicating our results with an index using these additional questions helps mitigate concerns that our results are driven by question selection. This is important as our baseline results primarily rely on gendered attitudes towards the role of women in navigating care and work responsibilities, whereas many international studies focus on the male breadwinner norm. For consistency of this index through time,

we restrict our sample to years from 2005 to 2019 and include all questions prior to conducting factor analysis before rerunning our analysis.

Our results are generally supported by findings from this alternative index, being similar in magnitude and statistical significance (Appendix C, Tables C8 to C18 Column (2)). This provides confidence in our index construction and alleviates concerns that our results are driven by question selection.

6.3. Effects of male peer gender norms on female spouses

Literature on the male breadwinner norm has commonly shown that a male's gender norms are a significant determinant of outcomes for his wife. We extend upon this literature by briefly exploring the importance of a husband's peer's gender norms on his wife's outcomes used in our baseline analysis. We generally find similar and statistically significant effects of a husband's peer's norms becoming more egalitarian on outcomes of women within Australia (Appendix C, Tables C8 to C18 Column (3)). Specifically, a husband belonging to a more egalitarian peer group was associated with increases in his wife's likelihood of employment, annual labour earnings, hourly wages, likelihood of belonging to a dual earner household, and overall life satisfaction. We also replicate our results for the volume of domestic work and childcare that a woman takes on. This highlights the importance of her husband's peers for women in Australia, showing that policy seeking to address cultural change should equally be directed to men. As a robustness check, it also provides a little more confidence in our identification of gender norms according to one's country-of-birth given high rates of cultural homogamy in marital formation.

7. Concluding discussion

Australians hold conservative attitudes towards the role of women in society, particularly concerning women's role in balancing paid work and care responsibilities. Conservatism of Australian gender norms is reflected in a higher gender pay gap than the OECD average, a higher gender gap in workforce participation than countries such as the United Kingdom and Canada, and greater conservatism in a range of international survey questions measuring gender norms. We show that gender norms are more conservative among older Australians, men, and those with no post-school education.

Such conservative peer gender norms are costly to individual women and are an important determinant of gender inequality, resulting for women in lower lifetime rates of labour force participation and suppressed lifetime earnings trajectories. We show that peer gender norms are an important determinant of the motherhood penalty in Australia, with more conservative peer attitudes associated with a lower likelihood of employment (ranging from 6.1 ppt to 8.8 ppt) and an income penalty of 10.2% of annual full-time-equivalent earnings for mothers of young children. These direct employment effects from a one standard deviation shift in gender norms are almost double those estimated in the United Kingdom by Cavapozzi et al (2021) at 3.8 percentage points. However, it is not just mothers of young children who bear these costs: similar effects of conservative gender norms are observed for married women with no children.

Our results also highlight the sizeable economic from shifting gender norms to be more egalitarian. We find that making gender norms one standard deviation more egalitarian (a little higher to the difference in average gender norms between women with a university-level education and those

with no post-school education) could eliminate around three-quarters of the gender gap in employment, unlocking an additional 190,632 female workers each year, and reduce the gender pay gap by up to two-thirds, boosting annual female incomes by around 9.0%. More egalitarian gender norms are also associated with a less segregated workforce, thereby allowing workers to choose the jobs that best suit their interests and abilities. Our estimated overall participation and earnings effects from a one standard deviation shift in gender norms are also larger than those implied by a one standard deviation increase in the likelihood that a wife earns more than her husband in the United States (Bertrand et al, 2015).

Shifting gender norms to be more egalitarian would also be associated with a more equitable division of unpaid domestic work and higher self-reported life satisfaction among Australian women. This suggests that gender norms have a binding effect on individual identities and decision-making, with more conservative peer attitudes associated with lower overall utility and life satisfaction. More egalitarian gender norms would free up Australian women to make choices that are more directly aligned to their own preferences, whether that is staying home to raise children or participating full-time in the labour force. As other Australian studies have shown, more egalitarian social norms may also be associated with higher levels of marital satisfaction (Foster & Stratton, 2021) and lower incidence of domestic violence (Zhang & Bruenig, 2022).

For too long, Australia's institutional policy settings have reinforced conservative attitudes towards the role of women in society. For instance, policies within the tax and welfare system that financially penalise women who return to full-time paid work after having children reinforce the notion that fathers should be responsible for paid employment while mothers stay home to look after children. Recent Australian research estimates that the cost of childcare imposes an effective tax rate as high as 70% on a second-earner wanting to work a fourth or fifth day per week (Stewart, Jackson & Risse, 2022). In 2023, a quarter of Australian women reported childcare as a barrier to increasing their labour force participation. Around a third of this figure was due to childcare either being too expensive or not available.[6] Policies that promote accessible and affordable childcare will become more important in an economy where couples increasingly both work full-time. Australia can continue boosting the childcare workforce through increasing the intake of skilled migration.

While government policy and institutions have embedded conservative gender norms and roles into society, they can also be used as a powerful tool to drive cultural change and shift gender norms. Governments and workplaces can shift attitudes through policies that normalise men's role as active fathers, including making it more attractive for men to take Paid Parental Leave and increasing options and take-up of flexible work. The design of Australia's parental leave schemes is at odds with international best practice, which is to provide fathers with longer, non-transferrable parental leave on a use it or lose it basis at a generous income replacement rate. For example, in Norway each parent is entitled to 15 weeks of non-transferable leave paid at 100% of their wage or 19 weeks paid at 80% of their wage.[7] This contrasts with current policy settings in Australia, where spouses are collectively

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[6] ABS. (2023). Barriers and Incentives to Labour Force Participation. Retrieved from <https://www.abs.gov.au/statistics/labour/employment-and-unemployment/barriers-and-incentives-labour-force-participation-australia/latest-release>.
[7] OECD (2023). OECD Family Database. Retrieved from <https://www.oecd.org/els/family/database.htm>.

offered 26 weeks at minimum pay – an equivalent of 12 weeks at full-time average earnings. Within Australia, the take-up of leave is extremely gendered: in 2021-22 just 12% of primary carer's leave was utilised by men.[8] Policies that encourage fathers to be more involved in the early years of a child's life result in them continuing to be more involved in years to come, improving long-run equality in the spousal division of unpaid work and supporting female participation in paid work (Adema et al., 2015).

In the absence of such policies, gender inequality is likely to remain an immovable and pervasive characteristic of Australian society. It is also important that policies seeking to shift gender norms are well-targeted, including promoting take-up by women with lower levels of education and their spouses. In the absence of efforts to ensure policies make gender norms more egalitarian across the entire distribution, policies may increase cross-sectional inequality by favouring women with relatively more egalitarian attitudes, higher levels of education and higher household incomes. By leading cultural change through effective policy design and targeting, the Australian government and business organisations can make Australia fairer and more prosperous for current and future generations.

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Appendix A: Peer gender norms

Table A1: Index of gender norms by categories
By birth cohort

	mean	p25	p50	p75	p90
1965 earlier	-0.475	-1.16	-0.757	-0.352	1.390
1966/1970	-0.070	-0.540	-0.294	1.180	1.191
1971-1975	0.315	-0.279	0.396	1.070	1.075

	mean	p25	p50	p75	p90
1976/1980	0.485	0.012	0.243	1.512	1.516
1981-1985	0.899	0.492	0.711	1.603	1.609
1986 or later	1.414	1.106	1.141	2.080	2.085
Total	0.335	-0.537	0.397	1.178	1.522

By education

	mean	p25	p50	p75	p90
Below Year 12	-0.437	-1.150	-0.535	0.008	0.502
Diploma	0.220	-0.026	0.248	0.705	1.101
University	1.120	1.071	1.353	1.598	2.079
Total	0.335	-0.537	0.397	1.177	1.522

By states

	mean	p25	p50	p75	p90
[1] NSW	0.285	-0.540	0.258	1.156	1.598
[2] VIC	0.383	-0.538	0.409	1.197	1.602
[3] QLD	0.362	-0.331	0.400	1.143	1.516
[4] SA	0.340	-0.536	0.394	1.142	1.518
[5] WA	0.234	-0.539	0.238	1.112	1.514
[6] TAS	0.288	-0.455	0.392	1.115	1.242
[7] NT	0.639	-0.064	1.107	1.509	1.605
[8] ACT	0.518	-0.281	0.701	1.182	1.612
Total	0.335	-0.537	0.397	1.178	1.522

By waves

	Mean	p25	p50	p75	p90
1 (2001)	-0.314	-1.154	-0.540	0.396	1.285
5 (2005)	-0.026	-0.592	-0.272	1.073	1.392
8 (2008)	0.183	-0.538	0.018	1.078	1.508
11 (2011)	0.394	-0.279	0.405	1.178	1.516
15 (2015)	0.715	0.237	0.905	1.376	1.610
19 (2019)	0.987	0.483	1.107	1.600	2.081
Total	0.335	-0.537	0.397	1.178	1.522

Sample is drawn from HILDA Wave 1, 5, 8, 11, 15 and 19. Table reports weighted summary statistics as indicated by the column 1. We restrict sample to married women who co-reside with her partner aged 25-45 years old in each wave.

Appendix B: Descriptive statistics of sample

Table B1: Descriptive statistics, covariates

	(1) All female	(2) Married (0-4 kids)	(4) Married no kids
Age (last birthday)	35.39	33.51	32.12
	(5.897)	(4.686)	(5.976)
Age squared	1287.4	1144.7	1067.7
	(416.6)	(318.9)	(411.1)
Number of children aged 0-4 years	0.506	1.340	0
	(0.726)	(0.528)	(0)
Number of children aged 5-16 years	0.863	0.700	0
	(1.040)	(0.916)	(0)
Mother employed when aged 14	0.624	0.633	0.690
	(0.484)	(0.482)	(0.463)
Below year 12	0.357	0.344	0.253
	(0.479)	(0.475)	(0.435)
Has diploma degree	0.269	0.261	0.260
	(0.443)	(0.439)	(0.438)
Has university degree	0.375	0.395	0.488
	(0.484)	(0.489)	(0.500)
Observations	12425	4696	3156

Sample is drawn from HILDA Wave 1, 5, 8, 11, 15 and 19. Table reports weighted summary statistics as indicated by the column 1. We restrict sample to married women who co-reside with her partner aged 25-45 years old in each wave.

Table B2: Descriptive statistics, gender norm

Waves	(1) Married	(2) Married (0-4 kids)	(4) Married no kids
1	-0.314	-0.181	0.0497
5	-0.0264	0.132	0.331
8	0.183	0.315	0.586
11	0.394	0.480	0.682
15	0.715	0.814	1.061
19	0.987	1.102	1.273
Total	0.335	0.477	0.714
Observations	11088	4147	2838

Sample is drawn from HILDA Wave 1, 5, 8, 11, 15 and 19. Table reports weighted summary statistics as indicated by the column 1. We restrict sample to married women who co-reside with her partner aged 25-45 years old in each wave.

Table B3: Descriptive statistics, Outcomes

	(1) Married	(2) Married (0-4 kids)	(4) Married no kids
Participate in labour force	0.765 (0.424)	0.608 (0.488)	0.919 (0.273)
Employed (=0/1)	0.740 (0.438)	0.590 (0.492)	0.892 (0.310)
(Log) Weekly hours work	3.321 (0.598)	3.067 (0.683)	3.612 (0.390)
Earnings	33637.9 (37839.7)	25720.0 (38505.2)	49261.6 (36804.1)
Log hourly wage	3.250 (0.448)	3.340 (0.460)	3.254 (0.411)
Dual earner	0.714 (0.452)	0.577 (0.494)	0.853 (0.354)
Total couple hours	82.87 (21.37)	76.38 (20.25)	88.91 (20.89)
Relative hours work	0.378 (0.138)	0.328 (0.142)	0.447 (0.114)
Relative annual labour earnings	0.348 (0.283)	0.268 (0.279)	0.453 (0.238)
Household earnings	102980.6 (76921.7)	97375.1 (80403.1)	113596.2 (70245.2)
Partner earnings	72330.5 (61334.6)	76087.1 (64836.1)	66787.7 (49299.0)
Part-time (=0/1)	0.362 (0.481)	0.412 (0.492)	0.171 (0.376)
Partner satisfaction	8.204 (1.931)	8.132 (1.912)	8.655 (1.599)
Life satisfaction	7.998 (1.298)	8.046 (1.254)	7.975 (1.285)
Child care satisfaction	7.384 (2.253)	7.331 (2.235)	7.385 (2.593)
Housework satisfaction	6.947 (2.460)	6.836 (2.486)	7.220 (2.280)
Total domestic work	24.50 (16.64)	28.93 (17.53)	14.85 (11.09)
Relative domestic work	0.611 (0.195)	0.650 (0.189)	0.538 (0.187)
Total child-care	21.48 (24.15)	40.15 (25.33)	0.744 (4.996)
Relative child care	0.638 (0.237)	0.686 (0.192)	0.288 (0.377)
Observations	12425	4696	3156

Sample is drawn from HILDA Wave 1, 5, 8, 11, 15 and 19. Table reports weighted summary stastitics as indicated by the column 1. We restrict sample to married women who co-reside with her partner aged 25-45 years old in each wave.

Appendix C: Regression results

Table C1: First stage: peer gender norms and peer mother work

	(1) Overall	(2) Married 0-4 kids	(4) Married no kids
Peer mother employment	3.684***	4.325***	3.960***
(1)	(0.840)	(0.780)	(0.737)
Obs	10,997	4,001	2,695
R2	0.686	0.674	0.732
Mean	0.497	0.497	0.497
Covariates	No	No	Yes
Clustered S.E	Peer	Peer	Peer

Standard errors in parentheses.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard error clustered at peer group level. Sample is drawn from HILDA Wave 1, 5, 8, 11, 15 and 19. Table reports first stage regression of equation in Section 5.2 Dependent variable is focal women peer gender norms for each corresponding group of sample indicated byt the column title. We restrict sample to married women who co-reside with her partner aged 25-45 years old in each wave. We use peer's mother's employment status as instrument to focal peer gender norm. The table presents the estimated coefficients of peer gender norms on outcomes from second stage estimation. Regressions control for focal women covariates including age, square age, education level dummies, total number of children, number of children aged 0-4 years old and number of children aged 5-16 years old. Model also includes survey year fixed effect and state fixed effect.

Table C2: 2SLS Results: Peer gender norms and individual labour supply

	(1)	(2)	(4)
	Overall	Married 0-4 kids	Married no kids
Participation in labour force (=0/1)			
Peer gender norm	0.062***	0.084***	0.051***
	(0.014)	(0.022)	(0.016)
Kleibergen-Paap F-stat	18.881	30.744	28.846
Kleibergen-Paap rk LM-stat	11.105	11.015	12.308
p-val	0.001	0.001	0.000
Obs	10,676	4,001	2,695
R2	0.149	0.098	0.048
Mean	0.769	0.610	0.922
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer
Employed (=0/1)			
Peer gender norm	0.074***	0.099***	0.058***
	(0.016)	(0.023)	(0.021)
Kleibergen-Paap F-stat	18.881	30.744	28.846
Kleibergen-Paap rk LM-stat	11.105	11.015	12.308
p-val	0.001	0.001	0.000
Obs	10,676	4,001	2,695
R2	0.144	0.105	0.056
Mean	0.745	0.592	0.897
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer
Part-time (=0/1)			
Peer gender norm	0.064***	0.116***	-0.032
	(0.018)	(0.021)	(0.024)
Kleibergen-Paap F-stat	18.639	29.974	28.829
Kleibergen-Paap rk LM-stat	10.992	10.814	12.305
p-val	0.001	0.001	0.000
Obs	10,668	3,998	2,693
R2	0.046	0.048	0.023
Mean	0.370	0.419	0.172
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer
(Log) Weekly hours work			
Peer gender norm	-0.052	-0.184***	0.034
	(0.032)	(0.051)	(0.027)
Kleibergen-Paap F-stat	11.795	18.451	25.537
Kleibergen-Paap rk LM-stat	8.702	8.269	11.969
p-val	0.003	0.004	0.001
Obs	7,942	2,364	2,415
R2	0.168	0.066	0.030
Mean	3.313	3.054	3.607
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer

Standard errors in parentheses.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard error clustered at peer group level. Sample is drawn from HILDA Wave 1, 5, 8, 11, 15 and 19. Dependent variable is indicated by the first row of each panel of table. We restrict sample to married women who co-reside with her partner aged 25-45 years old in each wave. We use peer's mother's employment status as instrument to focal peer gender norm. The table presents the estimated coefficients of peer gender norms on outcomes from second stage estimation. Regressions control for focal women covariates including age, square age, education level dummies, total number of children, number of children aged 0-4 years old, and number of children aged 5-16 years old. Model also includes survey year fixed effects and state fixed effects.

Table C3: 2SLS Results: Peer gender norms and individual earnings

	(1)	(2)	(4)
	Overall	Married 0-4 kids	Married no kids
Log of annual earnings, full-time employees			
Peer gender norm	0.094**	0.004	0.169***
	(0.040)	(0.059)	(0.053)
Kleibergen-Paap F-stat	14.951	39.016	23.811
Kleibergen-Paap rk LM-stat	9.940	11.182	11.570
p-val	0.002	0.001	0.001
Obs	3,749	629	1,867
R2	0.259	0.256	0.222
Mean	10.840	10.805	10.881
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer
Log hourly wage			
Peer gender norm	0.064***	0.072**	0.085***
	(0.022)	(0.036)	(0.026)
Kleibergen-Paap F-stat	11.305	18.333	24.320
Kleibergen-Paap rk LM-stat	8.732	8.930	11.390
p-val	0.003	0.003	0.001
Obs	7,122	2,048	2,254
R2	0.363	0.334	0.349
Mean	3.247	3.337	3.249
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer

Standard errors in parentheses.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard error clustered at peer group level. Sample is drawn from HILDA Wave 1, 5, 8, 11, 15 and 19. Dependent variable is indicated by the first row of each panel of table. We re-strict sample to married women who co-reside with her partner aged 25-45 years old in each wave. We use peer's mother's employment status as instrument to focal peer gender norm. The table presents the estimated coefficients of peer gender norms on outcomes from second stage estimation. Regressions control for focal women covariates including age, square age, education level dummies, total number of children, number of children aged 0-4 years old, and number of children aged 5-16 years old. Model also includes survey year fixed effects and state fixed effects.

Table C4: 2SLS Results: Peer gender norms and household labour supply

	(1) Overall	(2) Married 0-4 kids	(4) Married no kids
Dual earner (=0/1)			
Peer gender norm	0.088***	0.111***	0.063**
	(0.016)	(0.027)	(0.026)
Kleibergen-Paap F-stat	30.323	44.370	34.565
Kleibergen-Paap rk LM-stat	11.980	10.644	12.231
p-val	0.001	0.001	0.000
Obs	8,208	3,146	2,119
R2	0.131	0.105	0.090
Mean	0.720	0.580	0.859
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer
Total couple hours			
Peer gender norm	1.341	-1.347	4.012***
	(0.907)	(0.954)	(1.240)
Kleibergen-Paap F-stat	11.590	17.932	24.979
Kleibergen-Paap rk LM-stat	8.620	7.569	11.958
p-val	0.003	0.006	0.001
Obs	7,298	2,199	2,204
R2	0.457	0.419	0.447
Mean	82.922	76.248	89.133
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer
Female share of couple hours			
Peer gender norm	-0.018**	-0.044***	-0.000
	(0.009)	(0.009)	(0.009)
Kleibergen-Paap F-stat	11.590	17.932	24.979
Kleibergen-Paap rk LM-stat	8.620	7.569	11.958
p-val	0.003	0.006	0.001
Obs	7,298	2,199	2,204
R2	0.301	0.177	0.272
Mean	0.376	0.325	0.446
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer

Standard errors in parentheses.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard error clustered at peer group level. Sample is drawn from HILDA Wave 1, 5, 8, 11, 15 and 19. Dependent variable is indicated by the first row of each panel of table. We restrict sample to married women who co-reside with her partner aged 25-45 years old in each wave. We use peer's mother's employment status as instrument to focal peer gender norm. The table presents the estimated coefficients of peer gender norms on outcomes from second stage estimation. Regressions control for focal women covariates including age, square age, education level dummies, total number of children, number of children aged 0-4 years old, and number of children aged 5-16 years old. Model also includes survey year fixed effects and state fixed effects.

Table C5: 2SLS Results: Peer gender norms and household earnings

	(1) Overall	(2) Married 0-4 kids	(4) Married no kids
Log of couple earnings			
Peer gender norm	0.171***	0.189***	0.147***
	(0.040)	(0.050)	(0.037)
Kleibergen-Paap F-stat	16.623	26.996	27.785
Kleibergen-Paap rk LM-stat	10.114	9.877	12.469
p-val	0.001	0.002	0.000
Obs	9,995	3,691	2,583
R2	0.215	0.238	0.196
Mean	11.362	11.285	11.494
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer
Log of partner earnings			
Peer gender norm	0.126***	0.137***	0.084**
	(0.037)	(0.047)	(0.038)
Kleibergen-Paap F-stat	27.491	46.467	31.948
Kleibergen-Paap rk LM-stat	11.257	10.520	11.986
p-val	0.001	0.001	0.001
Obs	7,450	2,828	2,016
R2	0.100	0.148	0.080
Mean	11.099	11.121	11.041
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer
Female share of relative earnings			
Peer gender norm	0.019*	0.027**	0.029**
	(0.010)	(0.011)	(0.013)
Kleibergen-Paap F-stat	27.020	44.429	31.538
Kleibergen-Paap rk LM-stat	11.101	10.334	11.747
p-val	0.001	0.001	0.001
Obs	7,585	2,893	2,031
R2	0.192	0.125	0.042
Mean	0.296	0.221	0.415
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer

Standard errors in parentheses.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard error clustered at peer group level. Sample is drawn from HILDA Wave 1, 5, 8, 11, 15 and 19. Dependent variable is indicated by the first row of each panel of table. We restrict sample to married women who co-reside with her partner aged 25-45 years old in each wave. We use peer's mother's employment status as instrument to focal peer gender norm. The table presents the estimated coefficients of peer gender norms on outcomes from second stage estimation. Regressions control for focal women covariates including age, square age, education level dummies, total number of children, number of children aged 0-4 years old, and number of children aged 5-16 years old. Model also includes survey year fixed effects and state fixed effects.

Table C6: 2SLS Results: Peer gender norms and life satisfaction

	(1) Overall	(2) Married 0-4 kids	(3) Married no kids
Life satisfaction			
Peer gender norm	0.253***	0.233**	0.334***
	(0.074)	(0.092)	(0.094)
Kleibergen-Paap F-stat	18.893	30.789	28.846
Kleibergen-Paap rk LM-stat	11.107	11.017	12.308
p-val	0.001	0.001	0.000
Obs	10,672	3,998	2,694
R2	0.005	0.014	0.020
Mean	8.006	8.058	7.976
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer

Standard errors in parentheses.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard error clustered at peer group level. Sample is drawn from HILDA Wave 1, 5, 8, 11, 15 and 19. Dependent variable is indicated by the first row of each panel of table. We restrict sample to married women who co-reside with her partner aged 25-45 years old in each wave. We use peer's mother's employment status as instrument to focal peer gender norm. The table presents the estimated coefficients of peer gender norms on outcomes from second stage estimation. Regressions control for focal women covariates including age, square age, education level dummies, total number of children, number of children aged 0-4 years old, and number of children aged 5-16 years old. Model also includes survey year fixed effects and state fixed effects.

Table C7: 2SLS Results: Peer gender norms and household division of labour

	(1) Overall	(2) Married 0-4 kids	(3) Married 5-16 kids
Total domestic work			
Peer gender norm	-1.430**	-1.230*	-0.864
	(0.589)	(0.699)	(1.085)
Kleibergen-Paap F-stat	27.472	41.988	10.655
Kleibergen-Paap rk LM-stat	11.590	10.611	7.602
p-val	0.001	0.001	0.006
Obs	8,234	3,090	2,777
R2	0.177	0.083	0.058
Mean	24.508	28.861	27.375
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer
Relative domestic work			
Peer gender norm	-0.006	0.004	-0.014
	(0.006)	(0.008)	(0.014)
Kleibergen-Paap F-stat	29.762	41.936	12.607
Kleibergen-Paap rk LM-stat	11.782	10.145	8.321
p-val	0.001	0.001	0.004
Obs	7,243	2,750	2,448
R2	0.070	0.029	0.031
Mean	0.611	0.650	0.627
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer
Total child-care			
Peer gender norm	2.678***	6.740***	0.604
	(0.638)	(1.030)	(1.122)
Kleibergen-Paap F-stat	27.820	44.242	10.854
Kleibergen-Paap rk LM-stat	11.659	10.819	7.667
p-val	0.001	0.001	0.006
Obs	8,292	3,168	2,858
R2	0.386	0.074	0.091
Mean	21.718	40.506	17.313
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer
Relative child care			
Peer gender norm	0.042***	0.035***	0.046***
	(0.011)	(0.008)	(0.018)
Kleibergen-Paap F-stat	26.201	45.165	12.653
Kleibergen-Paap rk LM-stat	10.979	10.699	8.108
p-val	0.001	0.001	0.004
Obs	5,718	2,868	2,543
R2	0.054	0.020	0.012
Mean	0.639	0.687	0.618
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer

Standard errors in parentheses.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard error clustered at peer group level. Sample is drawn from HILDA Wave 1, 5, 8, 11, 15 and 19. Dependent variable is indicated by the first row of each panel of table. We restrict sample to married women who co-reside with her partner aged 25-45 years old in each wave. We use peer's mother's employment status as instrument to focal peer gender norm. The table presents the estimated coefficients of peer gender norms on outcomes from second stage estimation. Regressions control for focal women covariates including age, square age, education level dummies, total number of children, number of children aged 0-4 years old, and number of children aged 5-16 years old. Model also includes survey year fixed effects and state fixed effects.

Table C8: Robustness: Peer gender norms and individual labour supply

	(1)	(2)	(3)
	Married men (wife's peer norm)	Married women (husband's peer norm)	Married women (alternative gender norm)
Participate in labour force (=0/1)			
Peer gender norm	-0.001	0.013	0.013
	(0.004)	(0.009)	(0.008)
Obs	9,063	7,916	7,931
R2	0.012	0.153	0.153
Mean	0.962	0.766	0.766
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer
Employed (=0/1)			
Peer gender norm	0.000	0.019*	0.021**
	(0.006)	(0.010)	(0.009)
Obs	9,063	7,916	7,931
R2	0.020	0.148	0.149
Mean	0.938	0.743	0.743
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer

Standard errors in parentheses.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard error clustered at peer group level. Sample is drawn from HILDA Wave 1, 5, 8, 11, 15 and 19. Dependent variable is indicated by the first row of each panel of table. We restrict sample to married women who co-reside with her partner aged 25-45 years old in each wave. In column (1) we use a wife's peer's gender norms to examine her husband's outcomes. In column (2), we use husband's peer gender norm. In column (3), we use alternative set of proxies of peer gender norm as detailed in Section 4.4. Regressions control for focal women covariates including age, square age, education level dummies, total number of children, number of children aged 0-4 years old, and number of children aged 5-16 years old. Model also includes survey year fixed effects and state fixed effects.

Table C9: Robustness: Peer gender norms and individual earnings

	(2) Married women (husband's peer norm)	(3) Married women (alternative gender norm)
Log annual earnings, full-time employees		
Peer gender norm	0.048***	0.047***
	(0.017)	(0.015)
Obs	2,764	2,768
R2	0.248	0.249
Mean	10.846	10.847
Covariates	Yes	Yes
Clustered S.E	Peer	Peer
Log hourly wage		
Peer gender norm	0.041***	0.041***
	(0.009)	(0.008)
Obs	5,282	5,290
R2	0.361	0.362
Mean	3.258	3.259
Covariates	Yes	Yes
Clustered S.E	Peer	Peer

Standard errors in parentheses.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard error clustered at peer group level. Sample is drawn from HILDA Wave 1, 5, 8, 11, 15 and 19. Dependent variable is indicated by the first row of each panel of table. We restrict sample to married women who co-reside with her partner aged 25-45 years old in each wave. In column (1), we use husband's peer gender norm. In column (2), we use alternative set of proxies of peer gender norm as detailed in Section 4.4. Regressions control for focal women covariates including age, square age, education level dummies, total number of children, number of children aged 0-4 years old, and number of children aged 5-16 years old. Model also includes survey year fixed effects and state fixed effects.

Table C10: Robustness: Peer gender norms and household earnings

	(1)	(2)	(3)
	Married men (wife's peer norm)	Married women (husband's peer norm)	Married women (alternative gender norm)
Dual earner (=0/1)			
Peer gender norm	0.042***	0.022**	0.027***
	(0.010)	(0.009)	(0.008)
Obs	7,202	6,408	6,421
R2	0.101	0.138	0.139
Mean	0.721	0.726	0.726
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer
Total couple hours			
Peer gender norm	0.564	-0.133	-0.206
	(0.348)	(0.413)	(0.361)
Obs	6,770	5,678	5,685
R2	0.660	0.453	0.454
Mean	88.344	82.553	82.549
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer
Female share of couple hours			
Peer gender norm	-0.011***	-0.010***	-0.012***
	(0.004)	(0.003)	(0.003)
Obs	8,350	5,871	5,880
R2	0.429	0.217	0.217
Mean	0.628	0.396	0.396
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer

Standard errors in parentheses.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard error clustered at peer group level. Sample is drawn from HILDA Wave 1, 5, 8, 11, 15 and 19. Dependent variable is indicated by the first row of each panel of table. We restrict sample to married women who co-reside with her partner aged 25-45 years old in each wave. In column (1) we use a wife's peer's gender norms to examine her husband's outcomes. In column (2), we use husband's peer gender norm. In column (3), we use alternative set of proxies of peer gender norm as detailed in Section 4.4. Regressions control for focal women covariates including age, square age, education level dummies, total number of children, number of children aged 0-4 years old, and number of children aged 5-16 years old. Model also includes survey year fixed effects and state fixed effects.

Table C11: Robustness: Peer gender norms and non-market labour

	(1)	(2)	(2)
	Married men (wife's peer norm)	Married women (husband's peer norm)	Married women (alternative gender norm)
Total domestic work			
Peer gender norm	-0.449	-1.049***	-1.039***
	(0.369)	(0.327)	(0.288)
Obs	7,111	6,012	6,025
R2	0.028	0.188	0.188
Mean	14.254	24.074	24.079
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer
Relative domestic work			
Peer gender norm	0.004	-0.001	-0.002
	(0.005)	(0.004)	(0.003)
Obs	6,555	5,831	5,843
R2	0.073	0.076	0.076
Mean	0.391	0.611	0.611
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer
Total childcare			
Peer gender norm	0.282	1.969***	1.947***
	(0.284)	(0.499)	(0.458)
Obs	7,057	6,048	6,061
R2	0.234	0.383	0.383
Mean	10.046	23.493	23.502
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer
Relative childcare			
Peer gender norm	-0.013	0.017**	0.016***
	(0.008)	(0.007)	(0.005)
Obs	4,896	4,546	4,557
R2	0.051	0.064	0.064
Mean	0.360	0.643	0.643
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer

Standard errors in parentheses.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard error clustered at peer group level. Sample is drawn from HILDA Wave 1, 5, 8, 11, 15 and 19. Dependent variable is indicated by the first row of each panel of table. We restrict sample to married women who co-reside with her partner aged 25-45 years old in each wave. In column (1) we use a wife's peer's gender norms to examine her husband's outcomes. In column (2), we use husband's peer gender norm. In column (3), we use alternative set of proxies of peer gender norm as detailed in Section 4.4. Regressions control for focal women covariates including age, square age, education level dummies, total number of children, number of children aged 0-4 years old, and number of children aged 5-16 years old. Model also includes survey year fixed effects and state fixed effects.

Table C12: Robustness: Peer gender norms and life satisfaction

	(1) Married men (wife's peer norm)	(2) Married women (husband's peer norm)	(2) Married women (alternative gen- der norm)
Life satisfaction			
Peer gender norm	0.082*	0.092***	0.102***
	(0.044)	(0.027)	(0.025)
Obs	9,058	7,914	7,929
R2	0.011	0.012	0.013
Mean	7.906	8.046	8.047
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer

Standard errors in parentheses.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard error clustered at peer group level. Sample is drawn from HILDA Wave 1, 5, 8, 11, 15 and 19. Dependent variable is indicated by the first row of each panel of table. We restrict sample to married women who co-reside with her partner aged 25-45 years old in each wave. In column (1) we use a wife's peer's gender norms to examine her husband's outcomes. In column (2), we use husband's peer gender norm. In column (3), we use alternative set of proxies of peer gender norm as detailed in Section 4.4. Regressions control for focal women covariates including age, square age, education level dummies, total number of children, number of children aged 0-4 years old, and number of children aged 5-16 years old. Model also includes survey year fixed effects and state fixed effects.

Table C13: Robustness: 2SLS, Peer gender norms and individual labour supply

	(1) Married men (wife's peer norm)	(2) Married women (husband's peer norm)	(3) Married women (alternative gen- der norm)
Participate in labour force (=0/1)			
Peer gender norm	0.006	0.121***	0.085***
	(0.009)	(0.039)	(0.028)
Kleibergen-Paap F-stat	21.809	24.679	23.621
Kleibergen-Paap rk LM-stat	7.487	9.603	9.254
p-val	0.006	0.002	0.002
Obs	9,063	7,916	7,931
R2	0.011	0.128	0.139
Mean	0.962	0.766	0.766
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer
Employed (=0/1)			
Peer gender norm	-0.001	0.155***	0.109***
	(0.012)	(0.043)	(0.030)
Kleibergen-Paap F-stat	21.809	24.679	23.621
Kleibergen-Paap rk LM-stat	7.487	9.603	9.254
p-val	0.006	0.002	0.002
Obs	9,063	7,916	7,931
R2	0.020	0.110	0.129
Mean	0.938	0.743	0.743
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer

Standard errors in parentheses.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard error clustered at peer group level. Sample is drawn from HILDA Wave 1, 5, 8, 11, 15 and 19. Dependent variable is indicated by the first row of each panel of table. In column (1) and (2), we restrict sample to married women who co-reside with her partner aged 25-45 years old in each wave. In column (1), we use husband's peer gender norm. In column (2), we use alternative set of proxies of peer gender norm as detailed in Section 4.4. We use peer's mother's employment status as instrument to focal peer gender norm. The table presents the estimated coefficients of peer gender norms on outcomes from second stage estimation. Regressions control for focal women covariates including age, square age, education level dummies, total number of children, number of children aged 0-4 years old, and number of children aged 5-16 years old. Model also includes survey year fixed effects and state fixed effects.

Table C14: Robustness: 2SLS, Peer gender norms and individual earning

	(1) Married women (husband's peer norm)	(2) Married women (alternative gender norm)
Log of annual earnings, full-time employees		
Peer gender norm	0.211*	0.146*
	(0.120)	(0.085)
Kleibergen-Paap F-stat	16.047	15.773
Kleibergen-Paap rk LM-stat	8.183	8.149
p-val	0.004	0.004
Obs	2,764	2,768
R2	0.216	0.234
Mean	10.846	10.847
Covariates	Yes	Yes
Clustered S.E	Peer	Peer
Log hourly wage		
Peer gender norm	0.121**	0.086**
	(0.059)	(0.043)
Kleibergen-Paap F-stat	18.193	16.854
Kleibergen-Paap rk LM-stat	8.654	8.180
p-val	0.003	0.004
Obs	5,282	5,290
R2	0.348	0.357
Mean	3.258	3.259
Covariates	Yes	Yes
Clustered S.E	Peer	Peer

Standard errors in parentheses.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard error clustered at peer group level. Sample is drawn from HILDA Wave 1, 5, 8, 11, 15 and 19. Dependent variable is indicated by the first row of each panel of table. In column (1) and (2), we restrict sample to married women who co-reside with her partner aged 25-45 years old in each wave. In column (1), we use husband's peer gender norm. In column (2), we use alternative set of proxies of peer gender norm as detailed in Section 4.4. We use peer's mother's employment status as instrument to focal peer gender norm. The table presents the estimated coefficients of peer gender norms on outcomes from second stage estimation. Regressions control for focal women covariates including age, square age, education level dummies, total number of children, number of children aged 0-4 years old, and number of children aged 5-16 years old. Model also includes survey year fixed effects and state fixed effects.

Table C15: Robustness: 2SLS, Peer gender norms and household labor supply

	(1)	(2)	(3)
	Married men (wife's peer norm)	Married women (husband's peer norm)	Married women (alternative gender norm)
Deal earner (=0/1)			
Peer gender norm	0.058***	0.194***	0.138***
	(0.022)	(0.038)	(0.026)
Kleibergen-Paap F-stat	22.486	26.874	24.815
Kleibergen-Paap rk LM-stat	6.626	8.840	8.380
p-val	0.010	0.003	0.004
Obs	7,202	6,408	6,421
R2	0.100	0.077	0.107
Mean	0.721	0.726	0.726
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer
Total couple hours			
Peer gender norm	-0.086	3.102	2.230
	(0.832)	(2.188)	(1.537)
Kleibergen-Paap F-stat	21.544	17.919	16.718
Kleibergen-Paap rk LM-stat	7.967	8.761	8.267
p-val	0.005	0.003	0.004
Obs	6,770	5,678	5,685
R2	0.660	0.444	0.447
Mean	88.344	82.553	82.549
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer
Relative hours work			
Peer gender norm	0.006	-0.028*	-0.020*
	(0.008)	(0.015)	(0.011)
Kleibergen-Paap F-stat	21.544	17.919	16.718
Kleibergen-Paap rk LM-stat	7.967	8.761	8.267
p-val	0.005	0.003	0.004
Obs	6,770	5,678	5,685
R2	0.480	0.300	0.307
Mean	0.541	0.376	0.376
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer
Female share of couple hours			
Peer gender norm	-0.021**	-0.054***	-0.039***
	(0.011)	(0.017)	(0.013)
Kleibergen-Paap F-stat	22.099	18.091	16.820
Kleibergen-Paap rk LM-stat	7.545	8.602	8.126
p-val	0.006	0.003	0.004
Obs	8,350	5,871	5,880
R2	0.429	0.192	0.206
Mean	0.628	0.396	0.396
Covariates	Yes	Yes	Yes
Clustered S.E	Peer	Peer	Peer

Standard errors in parentheses.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard error clustered at peer group level. Sample is drawn from HILDA Wave 1, 5, 8, 11, 15 and 19. Dependent variable is indicated by the first row of each panel of table. In column (1) and (2), we restrict sample to married women who co-reside with her partner aged 25-45 years old in each wave. In column (1) we use a wife's peer's gender norms to examine outcomes for her husband. In column (2), we use husband's peer gender norm. In column (3), we use alternative set of proxies of peer gender norm as detailed in Section 4.4. We use peer's mother's employment status as instrument to focal peer gender norm. The table presents the estimated coefficients of peer gender norms on outcomes from second stage estimation. Regressions control for focal women covariates including age, square age, education level dummies, total number of children, number of children aged 0-4 years old, and number of children aged 5-16 years old. Model also includes survey year fixed effects and state fixed effects.

Table C16: Robustness: 2SLS, Peer gender norms and household earning

	(1)	(2)
	Married women (husband's peer norm)	Married women (alternative gender norm)
Log of couple earnings		
Peer gender norm	0.331***	0.237***
	(0.086)	(0.064)
Kleibergen-Paap F-stat	25.560	24.437
Kleibergen-Paap rk LM-stat	9.841	9.486
p-val	0.002	0.002
Obs	7,468	7,478
R2	0.221	0.235
Mean	11.376	11.376
Covariates	Yes	Yes
Clustered S.E	Peer	Peer
Log of partner earnings		
Peer gender norm	0.331***	0.237***
	(0.086)	(0.064)
Kleibergen-Paap F-stat	25.560	24.437
Kleibergen-Paap rk LM-stat	9.841	9.486
p-val	0.002	0.002
Obs	7,468	7,478
R2	0.221	0.235
Mean	11.376	11.376
Covariates	Yes	Yes
Clustered S.E	Peer	Peer

Standard errors in parentheses.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard error clustered at peer group level. Sample is drawn from HILDA Wave 1, 5, 8, 11, 15 and 19. Dependent variable is indicated by the first row of each panel of table. In column (1) and (2), we restrict sample to married women who co-reside with her partner aged 25-45 years old in each wave. In column (1), we use husband's peer gender norm. In column (2), we use alternative set of proxies of peer gender norm as detailed in Section 4.4. We use peer's mother's employment status as instrument to focal peer gender norm. The table presents the estimated coefficients of peer gender norms on outcomes from second stage estimation. Regressions control for focal women covariates including age, square age, education level dummies, total number of children, number of children aged 0-4 years old, and number of children aged 5-16 years old. Model also includes survey year fixed effects and state fixed effects.

Table C17: Robustness: 2SLS, Peer gender norms and life satisfaction

	(1) Married women (husband's peer norm)	(2) Married women (alternative gender norm)
Life satisfaction		
Peer gender norm	0.532***	0.374***
	(0.145)	(0.099)
Kleibergen-Paap F-stat	24.570	23.568
Kleibergen-Paap rk LM-stat	9.575	9.239
p-val	0.002	0.002
Obs	7,914	7,929
R2	-0.039	-0.011
Mean	8.046	8.047
Covariates	Yes	Yes
Clustered S.E	Peer	Peer

Standard errors in parentheses.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard error clustered at peer group level. Sample is drawn from HILDA Wave 1, 5, 8, 11, 15 and 19. Dependent variable is indicated by the first row of each panel of table. In column (1) and (2), we restrict sample to married women who co-reside with her partner aged 25-45 years old in each wave.. In column (1), we use husband's peer gender norm. In column (2), we use alternative set of proxies of peer gender norm as detailed in Section 4.4. We use peer's mother's employment status as instrument to focal peer gender norm. The table presents the estimated coefficients of peer gender norms on outcomes from second stage estimation. Regressions control for focal women covariates including age, square age, education level dummies, total number of children, number of children aged 0-4 years old, and number of children aged 5-16 years old. Model also includes survey year fixed effects and state fixed effects.

Table C18: Robustness: 2SLS, Peer gender norms and non-market labour

	(1) Married women (husband's peer norm)	(2) Married women (alternative gender norm)
Total domestic work		
Peer gender norm	-4.080**	-2.966**
	(1.659)	(1.168)
Kleibergen-Paap F-stat	26.872	25.174
Kleibergen-Paap rk LM-stat	8.966	8.591
p-val	0.003	0.003
Obs	6,012	6,025
R2	0.174	0.181
Mean	24.074	24.079
Covariates	Yes	Yes
Clustered S.E	Peer	Peer
Relative domestic work		
Peer gender norm	-0.022	-0.016
	(0.018)	(0.013)
Kleibergen-Paap F-stat	26.130	24.452
Kleibergen-Paap rk LM-stat	8.781	8.411
p-val	0.003	0.004
Obs	5,831	5,843
R2	0.071	0.073
Mean	0.611	0.611
Covariates	Yes	Yes
Clustered S.E	Peer	Peer
Total child-care		
Peer gender norm	6.188***	4.408***
	(1.887)	(1.336)
Kleibergen-Paap F-stat	27.742	26.148
Kleibergen-Paap rk LM-stat	9.054	8.690
p-val	0.003	0.003
Obs	6,048	6,061
R2	0.371	0.378
Mean	23.493	23.502
Covariates	Yes	Yes
Clustered S.E	Peer	Peer
Relative child care		
Peer gender norm	0.071***	0.050***
	(0.027)	(0.019)
Kleibergen-Paap F-stat	24.640	23.908
Kleibergen-Paap rk LM-stat	8.376	8.203
p-val	0.004	0.004
Obs	4,546	4,557
R2	0.043	0.053
Mean	0.643	0.643
Covariates	Yes	Yes
Clustered S.E	Peer	Peer

Standard errors in parentheses.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard error clustered at peer group level. Sample is drawn from HILDA Wave 1, 5, 8, 11, 15 and 19. Dependent variable is indicated by the first row of each panel of table. In column (1) and (2), we restrict sample to married women who co-reside with her partner aged 25-45 years old in each wave. In column (1), we use husband's peer gender norm. In column (2), we use alternative set of proxies of peer gender norm as detailed in Section 4.4. We use peer's mother's employment status as instrument to focal peer gender norm. The table presents the estimated coefficients of peer gender norms on outcomes from second stage estimation. Regressions control for focal women covariates including age, square age, education level dummies, total number of children, number of children aged 0-4 years old, and number of children aged 5-16 years old. Model also includes survey year fixed effects and state fixed effects.

Table C19: Robustness: Heckman model, Peer gender norms and income

	(1) Overall
Log of annual earnings, full-time employees	
Peer gender norm	0.069***
	(0.015)
Obs	10,410
Chi2	6605.830
Mean	10.383
Covariates	Yes
Clustered S.E	Peer
Log of hourly wage	
Peer gender norm	0.043***
	(0.009)
Obs	10,348
Chi2	7813.635
Mean	3.247
Covariates	Yes
Clustered S.E	Peer
Log couple earnings	
Peer gender norm	0.083***
	(0.013)
Obs	10,898
Chi2	3485.627
Mean	11.347
Covariates	Yes
Clustered S.E	Peer
Log partner earnings	
Peer gender norm	0.039***
	(0.011)
Obs	7,827
Chi2	1840.046
Mean	11.096
Covariates	Yes
Clustered S.E	Peer

Standard errors in parentheses.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard error clustered at peer group level. Sample is drawn from HILDA Wave 1, 5, 8, 11, 15 and 19. Dependent variable is indicated by the first row of each panel of table. We restrict sample to married women who co-reside with her partner aged 25-45 years old in each wave. The table presents the estimated coefficients of peer gender norms on outcomes from second stage estimation of Heckman selection model. At the first-sage, we estimate selection model of likelihood of being employed on covariates used in main model except for wave fixed effect. Regressions control for focal women covariates including age, square age, education level dummies, total number of children, number of children aged 0-4 years old, and number of children aged 5-16 years old. Model also includes survey year fixed effects and state fixed effects.