

Review of Income and Wealth Series 69, Number 3, September 2023 DOI: 10.1111/roiw.12601

YOU CAN'T BE WHAT YOU CAN'T SEE: THE ROLE OF GENDER IN THE INTERGENERATIONAL TRANSMISSION OF ENTREPRENEURSHIP

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In this paper, we investigate how the intergenerational transmission of entrepreneurship varies between sons and daughters and whether such a process depends on living in a country characterized by a high gender gap. Using the Survey of Health, Ageing, and Retirement in Europe data set, we find that the effect on daughters' entrepreneurial choices of having an entrepreneur as father is lower than the one on sons only in countries with a high gender gap. Moreover, it is just in countries with high gender inequality that the effect of having an entrepreneurial mother is different between sons and daughters, with the impact being positive for daughters only. We also develop an individual-level indicator of gender gap within countries that corroborates our findings, which we interpret as evidence of the presence of a role-modeling mechanism. However, we find evidence of convergence across time of the intergenerational transmission process to the gender-independent transfer typical of more gender-equal countries.

JEL Codes: J16, J24, L26

Keywords: entrepreneurship, gender, intergenerational transmission, parents

1. INTRODUCTION

What affects selection into entrepreneurship? As enterprises have a positive impact on both new job creation and innovation, a wide strand of literature has

Note: Davide Vannoni and Francesco Devicienti gratefully acknowledge the financial support of MIUR—Ministry of Education, University and Research (Financing Fund for Departments of Excellence), Italy. The opinions expressed in this article are the authors' own and do not reflect the view of Commissione di Vigilanza sui Fondi Pensione. Open Access Funding provided by Universita degli Studi di Torino within the CRUI-CARE Agreement.

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investigated the factors influencing the decision to become an entrepreneur. Having parents who were entrepreneurs themselves is certainly a crucial one, but children's gender can strengthen or weaken this relationship. Indeed, the effect of having entrepreneurial parents may not be the same for all children.

In this paper, we investigate the intergenerational transmission of entrepreneurship and the extent to which it is affected by the environment where an individual was born and grows up. We first study the impact of having entrepreneurial fathers and mothers on children's probability of being entrepreneurs themselves and how it varies between daughters and sons. Second, we test whether this effect is similar across countries or whether it depends on being born and living in a country with high or low gender inequality. The few previous studies that touched on gender differences in the intergenerational transmission process focused on only one country. To the best of our knowledge, we are the first to exploit cross-country data.

We address these questions using more than one data set. The most important one is the Survey of Health, Ageing, and Retirement in Europe (SHARE), a representative sample of individuals aged more than 50 years living in 12 countries. Besides including information on a rich set of sociodemographics, this survey contains unique data on both respondents and their parents' occupations. To add country-level information on the gap between women and men in their access to opportunities, we also collect macroeconomic data. In particular, we use data on the Gender Inequality Index, on the dates women were first granted suffrage, and on female labor force participation to account for the presence of gender inequality in the several countries covered by this study. The Gender Inequality Index is a time series provided by the International Monetary Fund aiming at capturing the size of the gap between women and men in different crucial areas. While this gender gap index allows us to go back in time up to 1990, the dates women were first granted suffrage range from 1915 to 1971 for the countries in our sample. Finally, the information on female labor force participation is available for the 1960s for several countries.

Our cross-country estimates show a strong same-sex parental transmission of entrepreneurship. We find that children of entrepreneurs are substantially more likely than other children to enter entrepreneurship, but the effect is gender dependent. In particular, when considering several countries together, the overall effect of having an entrepreneurial father is positive for both sons and daughters, but the impact is significantly greater for sons than daughters. On the contrary, having an entrepreneurial mother increases the probability of daughters becoming entrepreneurs, while it does not affect the choices of sons.

However, the aforementioned finding does not hold for all the countries analyzed. The effect of fathers on daughters is lower than that on sons only in countries where a high gender gap persists, while it is the same in more gender-equal countries. Furthermore, in countries with low gender inequality, having an entrepreneur as a mother has the same (null) effect on the probability to be entrepreneurs of both sons and daughters. It is just in countries with high gender inequality that the effect of having an entrepreneurial mother is different between sons and daughters, with the impact being positive for daughters only. We interpret this result as evidence of the role model that mothers play in countries where the gap between

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women and men in having access to resources and opportunities is extremely large.

Finally, we develop an individual-level indicator of the gender gap *within* countries that corroborates our findings. We indeed show that women who experienced a higher gender gap in their country, being born before or immediately after the year female voting was granted, are more affected by mothers and less affected by fathers in their entrepreneurial choices. Also, we find evidence of a convergence of the intergenerational transmission process toward the transfer typical of less unequal countries. Indeed, for younger individuals in more unequal countries, a strong same-sex parental transmission is not in place anymore.

The rest of the paper is organized as follows. Section 2 discusses the background literature, and Section 3 introduces the data and provides some relevant descriptive statistics. Section 4 describes the estimation strategy, and Section 5 presents the main estimation results. Section 6 adds on robustness and the convergence process of intergenerational transmission. Section 7 concludes the paper.

2. LITERATURE REVIEW

As it seems to be frequent that children follow in their parents' footsteps, several studies have investigated the intergenerational transfer of occupations. While some authors interpreted occupational inheritance as the result of the existence of cultural barriers to occupational entry and exit (DeJong *et al.*, 1971), others argued that children choose voluntarily to remain in their parents' occupations (Laband and Lentz, 1983). Following this occupational inheritance debate, a growing strand of the literature has focused on the family background of entrepreneurs and self-employed individuals. Hout (1984) was the first to prove that men whose fathers were entrepreneurs are more likely to be in positions that provide autonomy. Several studies have then shown that having a parent who is a business owner or self-employed is associated with a higher probability of children becoming self-employed or entrepreneurs themselves (Lentz and Laband, 1990; Fairlie, 1999; Dunn and Holtz-Eakin, 2000; Hout and Rosen, 2000; Colombier and Masclet, 2008).

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While the earliest studies just focused on the intergenerational transfer of self-employment (only a few focused specifically on entrepreneurship) from fathers to sons, some more recent research studies have considered the gender dimension. In particular, Lindquist *et al.* (2015) and Hoffmann *et al.* (2015) found some same-sex associations in the intergenerational transfer of entrepreneurship and self-employment. However, while these studies were a first attempt to understand whether entrepreneurship is transmitted more strongly from parents to children of the same gender, they just considered one country at a time, Sweden and then Denmark. Moreover, they focused their analysis on restricted samples: adopted children (Lindquist *et al.*, 2015) and young individuals (Hoffmann *et al.*, 2015). Focusing instead on the United States, Mishkin (2021) investigated the transmission of self-employment from fathers to daughters when there are other siblings in the family. Considering only father-daughter pairs, the author found

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that the intergenerational transfer is reduced when there are sons in the family, but she did not investigate the effect of mothers. Along this line, Oguzoglu and Ozbeklik (2016) focused on American youth aged between 14 and 22 years and suggested that fathers are more likely to transmit occupation-specific tastes to their daughters in the absence of a son. Other studies have highlighted the importance of gender in the transmission of entrepreneurship across generations, yet focusing only on subgroups of the populations, such as immigrants (Andersson and Hammarstedt, 2011).

Some research focused on the gender perspective but only on part of the story. No study has investigated the relevance of gender in the transmission of entrepreneurship using nationally representative data nor were exploited international data to eventually detect differences across countries. Moreover, several studies limited their analysis to the self-employed and, differently than us, they did not specifically focus on entrepreneurs (e.g., Dunn and Holtz-Eakin, 2000; Hoffmann *et al.*, 2015). In addition, the aforementioned papers focused only on the transition from wage employment to self-employment of young people: the average age of individuals was 30 years in Hoffmann *et al.* (2015), while Dunn and Holtz-Eakin (2000) worked with a sample of men aged 14–24 years. We notice that focusing on only the youth can be misleading, as very young people are more easily influenced and are more likely to change their occupations later in life. Instead, if the intergenerational transmission is proved when focusing on adulthood and old age, it exhibits a strong and long-term persistence.

There is a consensus that the mechanism underlining the intergenerational transmission of entrepreneurship is role modeling. Using Swedish adoption data, Lindquist *et al.* (2015) found a strong influence of adoptive parents, while they did not find any evidence supporting the hypotheses of inheritance of the family business, access to cheap capital, and transfer of industry-specific skills or tastes. Similarly, Hoffmann *et al.* (2015) ruled out other possible explanations different from role modeling, as their results held after disregarding cases where the offspring inherit the family business and after controlling for work experience in the parents' firms. Along this line, Fairlie and Robb (2007) showed that the intergenerational link in self-employment is not primarily due to the acquisition of general and specific business human capital.

While the intergenerational transmission of entrepreneurship does not seem to be primarily related to human capital formation, Mishkin (2021) argued that human capital investments are likely to play an important role in the transmission of self-employment. Using American data drawn from the Panel Study of Income Dynamics, the author claimed that human capital transmission from fathers to daughters is crowded out by brothers. However, Lindquist *et al.* (2015) did not find evidence supporting the hypothesis that parents invest more in their children of the same gender and that the transmission is driven by differential parenting efforts.

While all the studies reviewed here focused on a single country at a time, the intergenerational transmission of entrepreneurship is not necessarily similar in different contexts. For example, studying university students' entrepreneurial intentions, Laspita *et al.* (2012) showed that the impact of parents is not the same in all countries, as the influences are particularly strong in cultures with high

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in-group collectivism such as Hungary, intended as cohesiveness in organizations or families. However, Laspita *et al.* (2012) focused only on the youth: the average age of their sample is 24 years. Value orientations of entrepreneurial parents could also play a role in the transmission process. Wyrwich (2015) showed that the children of self-employed parents who faced resistance in the socialist German Democratic Republic due to their self-employment are much more likely to run a business because of their taste for challenging existing conditions. Finally, it is worth mentioning that selection into entrepreneurship can be affected by the environment itself, besides the parental channel of transmission. For example, Niittykangas and Tervo (2005) analyzed the importance of the local environment for self-employment, and Guiso *et al.* (2021) showed that individuals who grew up in a location with a higher firm density are more likely to become entrepreneurs. Therefore, not only can parents serve as role models, but wider networks can also have this function.

3. Data

The microdata used in our empirical analysis is drawn from the SHARE), a data set that is representative of people aged 50 years and above in several countries. The survey was conducted for the first time in 2004 to collect comparable information on the socioeconomic and health status of European older individuals and their households. The 2004 baseline study covered 11 European countries representing different regions, ranging from Scandinavia (Denmark and Sweden) through Central Europe (Austria, Belgium, France, Germany, the Netherlands, and Switzerland) to Mediterranean countries like Spain, Italy, and Greece (Börsch-Supan *et al.* 2005). Also, Israel participated in the first wave of the SHARE.

In the 2004 wave, the questionnaire was asked to all household members born in 1954 or earlier, that is, older than 50 years. In addition, for households with at least a member older than 50 years, living-in partners were interviewed regardless of their age. A unique feature of the 2004 survey is that respondents were asked about their parents, allowing us to observe two generations simultaneously. More specifically, respondents reported the current job or the last job their mothers and fathers had. Therefore, in the first wave only, SHARE provides the classification of occupations for respondents and their parents; thus, we will exploit this wave. The classification used by SHARE is the 1988 International Standard Classification of Occupations (ISCO-88) by the International Labour Organization. As per this classification, we consider as entrepreneurs those who are identified as proprietors of small businesses that they themselves manage.¹ For respondents and their parents, our entrepreneurship variable is a dummy taking the value 1 if they are or have been (before they retired or became unemployed) entrepreneurs according to this ISCO-88 classification. Therefore, the

¹Tasks performed usually include planning, formulating, and implementing policies; managing daily operations and reviewing results; negotiating with suppliers, customers, and other enterprises; planning and controlling the use of resources and the selection of staff; and supervising other workers.

Variable	Description
Female	Dummy variable: 1 if female, 0 if male
Age	Discrete variable: age
Lower secondary education	Dummy variable: 1 if the respondent's educational attainment corresponds to the educational level ISCED 2 (lower secondary level of education), 0 otherwise
Upper secondary education	Dummy variable: 1 if the respondent's educational attainment corresponds to the educational level ISCED 3 (upper secondary level of education) or ISCED 4 (postsecondary, nontertiary education), 0 otherwise
Tertiary education	Dummy variable: 1 if the respondent's educational attainment corresponds to the educational level ISCED 5 (first stage of tertiary education) or ISCED 6 (second stage of tertiary education, leading to an advanced research qualification), 0 otherwise
Entrepreneur father	Dummy variable: 1 if the respondent's father is or was (in his last job) the owner of a small business, 0 otherwise
Entrepreneur mother	Dummy variable: 1 if the respondent's mother is or was (in her last job) the owner of a small business, 0 otherwise
Entrepreneur	Dummy variable: 1 if the respondent is or was (before retirement or unemployment) the owner of a small business, 0 otherwise

TABLE 1
VARIABLE DESCRIPTIONS

Note: ISCED, International Standard Classification of Education.

definition of parental entrepreneurship is the same as that used for offspring's entrepreneurship, that is, being owners of small enterprises. Our final sample includes 24,252 respondents for whom we have complete information on both their parents' occupations.

The variables used in the empirical analysis are defined in Table 1.

Panel A of Table 2 summarizes the descriptive statistics for our sample of adult children. The sample is gender balanced, with 51 percent of female respondents, and the average sample age is 64 years. Concerning educational attainment, SHARE harmonizes internationally different levels using the International Standard Classification of Education (ISCED-97). According to this classification, 18 percent of respondents report a lower secondary level of education, almost one-third (31 percent) hold an upper secondary level of education, and one-fifth (20 percent) exhibit tertiary education. Panel A of Table 2 also shows that 6 percent of respondents have a father who was an entrepreneur compared to 2 percent of respondents' mothers. Finally, 5 percent of adult children in our sample are entrepreneurs. Panel B of Table 2 shows the composition of respondents by country of residence. The countries with more parental entrepreneurship are Denmark (entrepreneurial fathers), Belgium, and France (entrepreneurial mothers). Israel, Austria, and Sweden are the countries with the lowest shares of respondents who declare to be entrepreneurs. Overall, however, we do not observe remarkable differences across countries.

			Ι	DESCRIPTIVE S	STATISTICS							
			Panel A: F	ull Sample	of Adult Chil	dren						
			Mean		Std.Dev			Min				Max
Female			0.51		0.50			0				
Age			63.77		10.41			25				103
Lower secondary education			0.18		0.38			0				1
Upper secondary education			0.31		0.46			0				-
Tertiary education			0.20		0.40			0				1
Entrepreneur father			0.06		0.23			0				-
Entrepreneur mother			0.02		0.14			0				-
Entrepreneur			0.05		0.21			0				-
			Panel B: Brea	kdown of t	he Sample by	Country						
	Sweden	Denmark	Netherlands	Germany	Switzerland	Belgium	Austria	Greece	France	Italy	Spain	Israel
Female	0.54	0.55	0.51	0.52	0.54	0.50	0.56	0.46	0.58	0.47	0.45	0.50
Age	64.56	63.17	62.31	63.48	64.47	63.11	64.41	63.15	64.95	64.06	65.68	63.46
Lower secondary education	0.17	0.08	0.40	0.15	0.31	0.24	0.11	0.09	0.08	0.19	0.18	0.08
Upper secondary education	0.26	0.44	0.24	0.57	0.39	0.26	0.51	0.24	0.28	0.19	0.09	0.36
Tertiary education	0.21	0.32	0.21	0.27	0.08	0.24	0.20	0.18	0.19	0.06	0.08	0.28
Entrepreneur father	0.06	0.12	0.05	0.02	0.08	0.07	0.02	0.08	0.06	0.08	0.05	0.02
Entrepreneur mother	0.02	0.02	0.02	0.01	0.03	0.05	0.01	0.01	0.05	0.02	0.01	0.003
Entrepreneur	0.02	0.03	0.05	0.03	0.06	0.06	0.02	0.12	0.03	0.06	0.07	0.01
<i>Notes</i> : Descriptive statistics	for our sa	mple of 24,25	52 observations.	Data are dra	wn from the 200	04 SHARE.	Panel A re	efers to the	e full samj	ple, and	Panel B 1	eports
mean values by country.												
SHARE, Survey of Health, <i>⊢</i>	Ageing, ar	nd Retiremen	t in Europe.									

TABLE 2

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4. Estimation Strategy

Our estimation strategy aims at exploring parents' transmission of entrepreneurship and the extent to which it depends on the gender of their children. To do so, we assume that being an entrepreneur is a linear function of sociodemographic characteristics. Therefore, we regress our measure of children's entrepreneurship on the entrepreneurship status of both parents, which are our explanatory variables of interest. Using individual-level data, we estimate the following regression model:

 $Entrepreneur_{i} = \beta_{0} + \beta_{1}X_{i} + \beta_{2} Entrepreneur father_{i} + \beta_{3} Entrepreneur mother_{i}$ $+ \beta_{4} female_{i} \times Entrepreneur father_{i} + \beta_{5} Female_{i}$ $\times Entrepreneur mother_{i} + \epsilon_{i}$

where *i* is the individual identifier. *Entrepreneur* is our dichotomous measure of entrepreneurship, and it is defined similarly for our unit of analysis and his or her parents (i.e., the variables *Entrepreneur mother* and *Entrepreneur father* are defined similarly). X_i is a set of controls for individual *i*, including a gender dummy, age, and educational dummies; ε_i is an idiosyncratic error term.

Coefficients β_2 and β_3 account for paternal and maternal transmission in entrepreneurship, but β_4 and β_5 measure what we are interested in, that is, whether the transmission is different for female children compared to male offspring. We estimate linear probability models, as a nonzero coefficient on product terms is not necessary for meaningful interaction to be present in a binary logit or probit model (Berry *et al.*, 2010). However, in Appendix B we redo all our estimates through probit models for robustness. We adjust standard errors for clustering at the household level.

Then, we test whether fathers' and mothers' entrepreneurial transmission is different depending on the country where an individual was born and lives. Therefore, we split up the countries covered by our data set according to their ranking in indicators of gender inequality. We first consider a comprehensive index that allows us to specifically quantify the gender gap within critical areas like economics, politics, education, and health. Even though this indicator is based on 1990 data and the transmission process likely occurred during the childhood or adolescence of our respondents, this does not represent a problem as the gender gap is persistent and processes of change occur very slowly. We then exploit a second and innovative indicator that allows us to go back several years from the time of sampling of the respondents, that is, the year when all women in a country obtained the right to vote in a major election. Finally, we consider the labor force participation rate of women, computed with reference to the female population older than 15 years in each country during the 1960s.

5. Results

The results of our baseline regression are provided in Table 3. In the first column, we include only sociodemographics, and we notice that women are less likely to be entrepreneurs even after controlling for age and education, which is consistent with the literature (e.g., Gneezy *et al.*, 2009; Shurchkov and Eckel, 2018; Oggero

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	Entrepreneur	Entrepreneur	Entrepreneur
Female	-0.016***	-0.017***	-0.014***
	(0.003)	(0.003)	(0.003)
Age	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)
Lower secondary education	0.012***	0.009**	0.009*
	(0.005)	(0.005)	(0.005)
Upper secondary education	0.016***	0.013***	0.013***
	(0.004)	(0.004)	(0.004)
Tertiary education	0.001	-0.005	-0.005
	(0.004)	(0.004)	(0.004)
Entrepreneur father		0.079***	0.121***
		(0.009)	(0.015)
Entrepreneur mother		0.033**	-0.010
		(0.014)	(0.020)
Female × Entrepreneur father			-0.083***
			(0.018)
Female × Entrepreneur mother			0.081***
			(0.028)
Constant	0.068***	0.066***	0.065***
	(0.013)	(0.013)	(0.013)
Observations	24,252	24,252	24,252

 TABLE 3

 Multivariate Regression Model of Being an Entrepreneur

Notes: Coefficient estimates are from ordinary least squares regressions; robust standard errors are in parentheses. Controls include country dummies. Data are from the 2004 SHARE. *p < 0.10. **p < 0.05. ***p < 0.01. SHARE, Survey of Health, Ageing, and Retirement in Europe.

et al., 2020). In the second column of Table 3, we introduce the explanatory variables of interest that indicate whether parents are or have been entrepreneurs. We find evidence of the intergenerational transfer of entrepreneurship, but the estimates also show that the impact of fathers is greater than that of mothers.

It is in the third column of Table 3 that we investigate the potentially different impact of the family background on men's and women's probability of being an entrepreneur. Indeed, we allow the effects of parental entrepreneurship to vary between sons and daughters. Our estimates show that the fathers' entrepreneurship increases the likelihood that the offspring become entrepreneurs, but the effect is significantly greater for sons. This finding is consistent with Niittykangas and Tervo (2005), who, nevertheless, focused only on self-employment in Finland. Conversely, having an entrepreneur as a mother increases the likelihood that daughters are entrepreneurs, while it does not affect the probability of sons experiencing entrepreneurship.² This is in line with Lindquist *et al.* (2015), who found that in Sweden the effect of the mother is significantly greater for daughters. Yet we do not find evidence of a positive effect of mothers on sons.

In Table A1, we also performed a multivariate regression analysis, including the information on whether a respondent has any brother or sister still alive. In contrast with Mishkin (2021) who considered father-daughter pairs only in

²The main results do not change when including a proxy for income, even though we lose many observations because of several missing values.

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the United States, we do not find evidence that the presence of brothers reduces the intergenerational transmission of entrepreneurship from fathers to daughters. We, however, recognize that our result could be affected by the fact that we have information only on brothers alive. In another specification, we also observe that for daughters, the increase in probability due to the fathers' entrepreneurship is even lower for the last born.³ Moreover, to investigate what happens in households with only daughters,⁴ in the first two columns of Table A2 we focus on women who do not have any brothers (still alive). However, we do not observe relevant differences from our previous specification considering the full sample (Table 3). Indeed, the second column of Table A2 shows that, in households with only daughters, having an entrepreneur as a mother increases the likelihood that daughters are entrepreneurs, and the effect is similar in magnitude to the one estimated in Table 3. On the contrary, although some previous literature has shown that fathers of daughters are altruistic toward their daughters (Doepke and Tertilt, 2009) and have positive gender attitudes (Ronchi and Smith, 2021), the effect of having an entrepreneurial father is not relevant in families with daughters only. For comparison, in the last two columns of Table A2, we focus on men who do not have any sisters (alive). Once again, as already observed in the full sample analyzed in Table 3, the estimates show that the fathers' entrepreneurship increases the likelihood that sons become entrepreneurs, while having an entrepreneurial mother does not affect the probability of sons experiencing entrepreneurship.

Next, we exploit the cross-country dimension of our data set to investigate whether the intergenerational transfer of entrepreneurship happens in the way we described independently of the gender gap at the national level. To do so, we split up the countries according to their ranking in indicators of gender inequality. The first and most comprehensive measure of the gender gap we use is the Gender Inequality Index provided by the International Monetary Fund for more than 140 countries. The Gender Inequality Index is based on a rich set of indicators: the share of female seats in national parliaments, female educational attainment at secondary and tertiary levels, labor force participation rate, maternal mortality ratio, and adolescent fertility rate (Stotsky *et al.*, 2016).⁵

This time series dates back several years; therefore, it allows us to include in our analysis data collected well before the sampling of our respondents. While it is likely that the intergenerational transfer of entrepreneurship occurred when our respondents were young, the Gender Inequality Index dates back to 1990 only. Even though the parental transmission of entrepreneurship occurred many years before our sample was interviewed, we are confident of using the 1990 data as a proxy for older ones because processes to narrow the gender gap occur only in the long term.⁶

On the contrary, the Gender Inequality Index shows that some countries have a narrow gap. In particular, among the countries with low gender inequality, we find

 $^{^{3}}$ For brevity, results are not reported here in detail, but they are available from the authors on request.

⁴We are indebted to an anonymous referee for having suggested us to explore this issue.

⁵The Gender Inequality Index data are available at https://www.imf.org/external/datamapper/GII_TC@GD/gbtier_1/gbtier_2/gb_othersource.

⁶See Nifo and Vecchione (2014) for a similar argument.

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Sweden, Denmark, the Netherlands, Germany, and Switzerland.⁷ On the contrary, Belgium, Austria, Greece, France, Italy, Spain, and Israel have the lowest rankings in gender equality among the countries in our sample. Following this classification, in the first two columns of Table 4, we split the sample of respondents between low- and high gender-inequality countries. Also, we focus on individuals who were born in the country where they currently live (who are approximately 90 percent of the sample for 21,525 observations) so that we are certain that they faced that country-specific gender gap.

The estimates reported in the first two columns of Table 4 confirm that the fathers' entrepreneurship increases the likelihood that the offspring are entrepreneurs. However, only in countries where a high gender gap persists is the effect of the father on daughters lower than that on sons. When studying mothers' entrepreneurship, we find that, in countries with low gender inequality, having mothers as entrepreneurs does not affect the probability of both sons and daughters being entrepreneurs. Instead, in countries with high gender inequality, the effect of having an entrepreneurial mother is positive but only for daughters. Therefore, our evidence only partially confirms the results from Lindquist *et al.* (2015) and Hoffmann *et al.* (2015), since we show that stronger same-sex parental transmission of entrepreneurship is verified only in countries with high gender inequality. Moreover, we notice that Hoffmann *et al.* (2015) did not focus on entrepreneurs but on the self-employed and, specifically, on the transition to self-employment of young people.

When partitioning our sample of different countries, we notice another change as compared to Table 3, regarding educational attainment. In particular, tertiary education is negatively related to the probability of being an entrepreneur in countries characterized by high gender inequality. Along this line are the findings by Niittykangas and Tervo (2005), who reported that the likelihood increases if an individual has only basic education (or specific education in the field of commerce). Education is instead a predictor of entrepreneurship in more gender-equal states, where access to economic opportunities is greater for women and other minority or discriminated groups. A possible explanation is that, in more equal and inclusive societies, educated women and other highly educated members of disadvantaged groups might be more attracted by the private sector, as they do not have to turn to the public sector in search of equal opportunities.

Even though gender gaps are persistent and processes of change occur very slowly, we exploit an alternative indicator of gender disparities that dates back to the years when our respondents were very young or even before, namely the year women were first granted suffrage. Looking at when all women obtained the right to vote in a major election, local or national, we can distinguish between two major groups of countries. On the one hand, countries like Denmark, Austria, Germany, the Netherlands, and Sweden granted the right in the years around World War I (Denmark in 1915, Austria in 1918, and the others in 1919). On the other hand, other countries waited several years before doing so: Spain did it in 1931, even though women lost

⁷Germany's Gender Inequality Index refers to 1997, which is the first year for which data are available for this country.

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		T	ABLE 4			
Multivariate Regression Model o	of Being an Entrepre Were First Granted	NEUR, WITH A BREAKD Suffrage, and Fema	JOWN BY COUNTRY BAI ALE LABOR FORCE PAR	SED ON THE GENDER IN TICIPATION RATE IN TH	vequality Index (1990 e 1960s), THE YEAR WOMEN
	Gender Index (nequality (1990)	Year Wor First Grant	nen Were ed Suffrage	Female L Participation R	abor Force tate in the 1960s
	Low Gender- Inequality Countries Entrepreneur	High Gender- Inequality Countries Entrepreneur	Low Gender- Inequality Countries Entrepreneur	High Gender- Inequality Countries Entrepreneur	Low Gender- Inequality Countries Entrepreneur	High Gender- Inequality Countries Entrepreneur
Female	-0.021*** (0.004)	-0.008* (0.004)	-0.017*** (0.003)	-0.010** (0.004)	-0.008** (0.003)	-0.019*** (0.004)
Age	0000)	0.000)	0.000)	0.000)	0.000)	0000)
Lower secondary education	0.005 (0.006)	0.017** (0.008)	0.006 (0.005)	0.016^{**} (0.008)	0.002 (0.005)	0.011 (0.007)
Upper secondary education	0.016*** (0.006)	0.007 (0.006)	0.018*** (0.005)	0.007 (0.007)	0.011^{**} (0.005)	0.010 (0.007)
Tertiary education	0.011* (0.006)	-0.025*** (0.006)	0.015*** (0.005)	-0.031*** (0.007)	0.003	-0.018^{**} (0.007)
Entrepreneur father	0.061*** (0.020)	0.168*** (0.022)	0.062 *** (0.020)	0.165*** (0.022)	0.073*** (0.022)	0.149*** (0.020)
Entrepreneur mother	0.016 (0.038)	-0.025 (0.026)	0.025 0.040)	-0.026 (0.025)	0.028(0.038)	-0.022 (0.026)
Female \times <i>Entrepreneur father</i>	-0.038 (0.023)	-0.105*** (0.029)	-0.038 (0.024)	-0.104*** (0.029)	-0.059^{**} (0.025)	-0.084^{***} (0.027)
Female \times <i>Entrepreneur mother</i>	0.028 (0.048)	0.103*** (0.038)	0.014	0.105*** (0.037)	0.029	0.098**
Sweden	-0.039*** (0.010)		-0.001		-0.003 (0.005)	
Denmark	-0.030^{***} (0.011)		0.007		0.008 (0.007)	

	Gender I Indev	nequality	Year Woi First Grant	men Were ted Suffrage	Female L Particination F	Labor Force Rate in the 1960s
					T IIO IIO IIO II	
	Low Gender- Inequality Countries	High Gender- Inequality Countries	Low Gender- Inequality Countries	High Gender- Inequality Countries	Low Gender- Inequality Countries	High Gender- Inequality Countries
Netherlands	-0.010		0.028***			0.034***
Germany	(0.010) -0.028***		(0.006) 0.009		0.011*	(0.000)
	(0.010)		(0.006)		(0.006)	
Switzerland	I			0.035***		0.040
	I			(0.010)		(0.010)
Belgium		0.042***		0.042***		0.045***
		(0.006)		(0.006)		(0.006)
Austria		0.010*	I		Ι	
		(0.006)	I		Ι	
Greece		0.107^{***}		0.106^{***}		0.109^{***}
		(0.00)		(0.009)		(0.00)
France		0.017***		0.017***	0.010	
Italv		(0.000) 0.040***		0.039***	(0000)	0,044***
		(0.007)		(0.007)		(0.007)
Spain		0.055***		0.054^{***}		0.060^{***}
T		(0.008)		(0.008)		(0.008)
Constant	0.065***	0.024	0.023*	0.030^{*}	0.012	0.039**
	(0.017)	(0.016)	(0.014)	(0.017)	(0.014)	(0.017)
Observations	9734	11,791	10,251	11,274	9129	12,396

the right from 1936 to 1976; France in 1944; Italy in 1945, Belgium and Israel in 1948; Greece in 1949; and Switzerland in 1971.⁸

Based on these historical data, in the third and fourth columns of Table 4, we divide the sample of respondents into two. Again, we focus on individuals who were born in the country where they currently live so that we can safely attribute them to the country-specific gender gap indicator. If we compare this partition with the one applied in the first two columns of Table 4, we notice that two countries moved from one grouping to the other. Indeed, when we consider the year women were first granted suffrage, Switzerland is classified among the high gender-inequality countries, while Austria is among the low gender-inequality countries. Notwithstanding these changes, our previous findings are thoroughly confirmed.

The results presented in the third and fourth columns of Table 4 corroborate the importance of fathers' entrepreneurial experience on their children, but fathers affect sons more strongly in countries with a large gender gap. In more gender-equal countries, we confirm that there is no difference between sons and daughters as a consequence of having a mother who is an entrepreneur. Most important, we still show that the effect of having mothers as entrepreneurs is different for sons and daughters only in countries with a high gender gap. In particular, in highly gender-unequal countries, the probability of daughters entering entrepreneurship significantly increases by having an entrepreneurial mother. Conversely, the probability of sons is not affected.

We next turn to a third and last indicator of the country-specific gender gap that measures women's economic participation. In particular, we consider the female labor force participation rate, computed as the percentage of the female population above 15 years in each country. This indicator, retrieved from the Gender Statistics database of the World Bank, dates back to 1960.⁹ However, the data are provided for 1960 only for four countries: Denmark, the Netherlands, Spain, and Switzerland. We have 1961 data for Austria, Belgium, and Italy and 1962 information for France. The first-available record dates back to 1965 for Sweden, 1972 for Israel, and 1983 for Germany. Given all these differences, the country subdivision according to this indicator may be less reliable as compared to the previous two.

Female labor force participation ranges from 36 to 45 percent in countries like Austria, Germany, Sweden, France, and Denmark and from 18 to 35 percent in Greece, Switzerland, Israel, Belgium, Italy, the Netherlands, and Spain. Based on female labor force participation across countries (mostly in the 1960s), in the last two columns of Table 4, we divide the sample of respondents into two groups.¹⁰ As compared to the previous partition, we now have France among the low gender-inequality countries, instead of the Netherlands. Once again, our main

⁸Data on when women were first granted suffrage were retrieved from https://www.europarl.europa .eu/enlargement/briefings/26a3_it.htm.

⁹Data are available at https://databank.worldbank.org/reports.aspx?source=global-financialdevelopment.

¹⁰Data on female labor force participation in Germany refer to West Germany and, based on this information, Germany is among the low gender-inequality countries. East Germany, due to its economic policies, was a very equal country. Therefore, if we had information on East Germany to match with the available data for West Germany, we believe that Germany would still end up belonging to this group of countries.

results are confirmed, with the only difference that in the last two columns of Table 4 the effect of the father on sons is greater than that on daughters, independently of the gender gap that persists in the country.

Finally, as a robustness check, we redo all our estimates in Tables 3 and 4 through probit models. All our findings are confirmed and reported in Tables B1 and B2. Thus, we have shown that in more gender-unequal countries, the probability of daughters entering entrepreneurship significantly increases by having an entrepreneurial mother (while the effect is not significant on sons). We interpret this result as evidence of the role-modeling mechanism: the presence and influence of role models are crucial for daughters when they live in contexts characterized by a big gap between women and men in their access to opportunities. As women are more likely to have female role models (Baskaran and Hessami, 2018), their mother is likely to serve as the main role model when deciding to become entrepreneurs in countries with high gender gaps.

6. ROBUSTNESS AND CONVERGENCE PROCESS OF INTERGENERATIONAL TRANSMISSION

In the previous section, we learned that the effect of having mothers as entrepreneurs is different for sons and daughters only in countries with a high gender gap, with the probability of daughters entering entrepreneurship being increased by having an entrepreneurial mother. We now go one step further and develop an indicator of the gender gap *within* countries to investigate whether our findings on inequalities still hold. In particular, we do not propose a breakdown by country but one based on an individual measure of "distance" to gender equality. We compute such a distance as the difference between the year of birth of the respondent and the year female voting was granted in the country of birth.

In this way, we can exploit a variation in the gender gap at the individual level, that is, within countries. Respondents born before the year of suffrage display a negative distance (e.g., if the respondent was born in 1940 and female voting in that country was granted in 1944, the distance is -4). Conversely, the distance is higher and positive for those born after the year of suffrage in their country. Therefore, we split the sample into two based on the magnitude of such distance. Respondents with a distance from gender equality (proxied by the year of female suffrage) higher than the median distance (seven years) are defined as "low gender-gap individuals" in the first column of Table 5, meaning they were born at least eight years after the suffrage; thus, they faced a lower gender inequality in the country where they were born and raised. On the contrary, the second column of Table 5 includes the respondents more distant from gender equality. Indeed, the sample analyzed in the second column is composed of individuals with a distance from gender equality lower than or equal to the median distance, that is, born before or only a few years after suffrage.¹¹

The results presented in Table 5 confirm our interpretation in the previous section. Indeed, the estimates show that a stronger same-sex parental transmission

¹¹The difference between the year of birth of the respondent and the year female voting was granted in the country of birth is computed with respect to 1931 for Spain. However, the main estimation results do not change if we consider the year 1976. Indeed, women's right to vote, initially earned in 1931, was subsequently constrained during the decades of Francoist Spain.

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	Low Gender-Gap Individuals Entrepreneur	High Gender-Gap Individuals Entrepreneur
Female	-0.016***	-0.012***
	(0.004)	(0.004)
Age	-0.000	-0.000
5	(0.000)	(0.000)
Lower secondary education	0.002	0.019**
·····	(0.006)	(0.007)
Upper secondary education	0.011*	0.013*
11 5	(0.005)	(0.007)
Tertiary education	0.008	-0.027***
2	(0.006)	(0.007)
Entrepreneur father	0.071***	0.161***
1 0	(0.021)	(0.022)
Entrepreneur mother	0.044	-0.033
1	(0.043)	(0.024)
Female × Entrepreneur father	-0.035	-0.111***
1 5	(0.025)	(0.028)
Female × Entrepreneur mother	-0.018	0.125***
1	(0.051)	(0.037)
Sweden	0.013***	0.003
	(0.005)	(0.009)
Denmark	0.020***	0.030
	(0.006)	(0.023)
Netherlands	0.044***	0.022
	(0.006)	(0.014)
Germany	0.028***	0.005
,	(0.006)	(0.011)
Belgium	0.096***	0.041***
	(0.032)	(0.006)
Austria	0.017***	0.002
	(0.006)	(0.011)
Greece	0.112***	0.107***
	(0.040)	(0.009)
France	0.018	0.019***
	(0.013)	(0.006)
Italy	0.045**	0.041***
	(0.020)	(0.007)
Spain	0.064***	0.064***
	(0.009)	(0.011)
Switzerland	()	0.035***
		(0.010)
Constant	0.012	0.029
	(0.014)	(0.018)
Observations	10.452	11.073

 TABLE 5

 Multivariate Regression Model of Being an Entrepreneur, with a Breakdown Based on the Distance between the Year of Birth and the Year of Female Voting

Notes: Coefficient estimates are from ordinary least squares regression; robust standard errors are in parentheses. Data are from the 2004 SHARE. Switzerland is omitted when considering "low gender-gap individuals" because all observations from Switzerland belong to the second column on "high gender-gap individuals." p < 0.10. **p < 0.05. ***p < 0.01. SHARE, Survey of Health, Ageing, and Retirement in Europe.

holds only for individuals who experienced in their life a greater gender gap, proxied by the difference between the year they were born and the year of female voting in their country. In particular, the effects of having entrepreneurial parents do not depend on the gender of the offspring when they experienced a lower gender gap in their country. Conversely, women who experienced a higher gender gap are more affected by mothers and less affected by fathers in their entrepreneurial choices.¹²

Finally, we focus in depth on age dimension. Until now, we have indeed not taken advantage of the great variability in terms of age that our data set provides. Since the age in our sample ranges from 25 (partners of people aged 50 years and above) to 103 years, we can investigate whether convergence over time is verified between high- and low gender-unequal countries. To do so, we perform our multivariate regression for high- and low-inequality countries on different subsamples based on three age groups: below 60, 60–69, and above 69 years. In Table 6 we report the estimates with a breakdown by country based on the Gender Inequality Index, but the results are confirmed when we use the other two indicators, namely the year women were first granted suffrage and the female labor force participation rate in the 1960s (the results are available on request).

As shown in Table 6, we find evidence of a convergence of the intergenerational transmission process in high gender-unequal countries toward the process typical of less unequal countries. Indeed, from columns 4 to 6 we notice that the coefficients on interaction terms not only are lower in magnitude for younger individuals but also progressively lose statistical significance. This means that for younger individuals in more gender-unequal countries, a stronger same-sex parental transmission does not exist anymore. We also highlight that this result cannot be driven by the number of observations, as the younger subgroup is the most numerous one. Also, the third column of Table 6 shows that, for the oldest women in more gender-equal countries, the asymmetry in the role of the father existed. Therefore, it seems that most gender-unequal countries are converging to the intergenerational transmission path of more equal countries.

7. Conclusions

Many studies have investigated the factors influencing the decision to become an entrepreneur, including having entrepreneurial parents. However, only a few focused on the different effects of both entrepreneurial parents on sons and daughters. In this paper, we study the intergenerational transmission of entrepreneurship and how the effect of having entrepreneurial fathers and mothers varies between women and men. As we are the first to exploit cross-country data, we investigate whether such impact depends on being born and living in a country characterized by a high or low gap between women and men.

Using the SHARE data, we find that the effect of fathers on daughters is lower than that on sons only in countries with a high gender gap, while it is the same in more gender-equal countries. Moreover, it is just in countries with high gender

¹²Our results are confirmed by estimates through probit models (Table B3).

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MULTIVARIATE REGRESSION MODEL O	de Being an Entrepre	TA sneur, with a Breakd	BLE 6 own by Age Group an	ad Country (Based on	v the 1990 Gender In	equality Index)
	Low Go	ender-Inequality Co	untries	High G	ender-Inequality Co	untries
	Entrepreneur Age <60	Entrepreneur Age 60–69	Entrepreneur Age ≥70	Entrepreneur Age <60	Entrepreneur Age 60–69	Entrepreneur Age ≥70
Female	-0.031^{***}	-0.022***	-0.002	-0.017**	0.001	-0.004
	(0.006)	(0.006)	(0.006)	(0.007)	(0.008)	(0.007)
Age	-0.000	0.001	0.000	-0.001	-0.001	-0.000
•	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Lower secondary education	0.007	-0.001	0.010 (0.009)	-0.00/	0.029**	0.035**
Upper secondary education	0.024**	0.001	0.025**	-0.000	0.013	0.000
	(0.010)	(0.011)	(0.010)	(0.010)	(0.011)	(0.011)
Tertiary education	0.017*	-0.006	0.030***	-0.035***	-0.016	-0.030**
	(0.010)	(0.011)	(0.011)	(0.010)	(0.012)	(0.012)
Entrepreneur father	0.062*	0.032	0.082**	0.133 * * *	0.173***	0.219***
	(0.033)	(0.033)	(0.038)	(0.033)	(0.038)	(0.047)
Entrepreneur mother	-0.028	0.050	0.022	-0.024	-0.050	0.001
	(0.052)	(0.070)	(0.075)	(0.036)	(0.049)	(0.057)
Female \times <i>Entrepreneur father</i>	-0.025	0.020	-0.110^{***}	-0.065	-0.122^{**}	-0.156^{**}
	(0.037)	(0.043)	(0.040)	(0.043)	(0.052)	(0.061)
Female × Entrepreneur mother	0.061	-0.000	0.023	0.008	0.115*	0.265^{***}
Suradan	(0.066) 0.028**	(0.095)	(0.089)	(0.045)	(0.069)	(0.093)
2 W C U C I	(0.014)	(0.023)	(0.016)			
Denmark	-0.026^{*}	-0.053**	-0.012			
	(0.014)	(0.024)	(0.018)			
Netherlands	0.003	-0.027	-0.014			
	(0.014)	(0.024)	(0.017)			
Germany	-0.014	-0.046*	-0.032*			
	(0.014)	(0.024)	(0.017)			

	Low (Gender-Inequality Cou	intries	High (Jender-Inequality Cou	intries
	Entrepreneur Age <60	Entrepreneur Age 60–69	Entrepreneur Age ≥70	Entrepreneur Age <60	Entrepreneur Age 60–69	Entrepreneur Age ≥70
3elgium				0.037***	0.062***	0.026*
Austria				(0.009)	(0.009) 0.025***	(0.015) -0.010
				(0.00)	(0.008)	(0.014)
Greece				0.122 * * *	0.123 * * *	0.063 * * *
				(0.013)	(0.015)	(0.018)
Trance				0.005	0.028***	0.011
				(0.008)	(0.010)	(0.015)
taly				0.041^{***}	0.047***	0.030^{*}
				(0.011)	(0.00)	(0.016)
Spain				0.052***	0.073***	0.040
I				(0.013)	(0.014)	(0.017)
Constant	0.061	0.054	0.008	0.085	0.069	0.034
	(0.047)	(0.076)	(0.046)	(0.056)	(0.090)	(0.054)
Observations	3989	3036	2709	4733	3560	3498

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inequality that the effect of having an entrepreneurial mother is different between sons and daughters, with the impact being positive for daughters only. We also develop an individual-level indicator of the gender gap within countries that corroborates our findings. Finally, we find evidence of a convergence of the intergenerational transmission process in high gender-unequal countries toward the process that typically occurs in more gender-equal countries.

In this paper, we highlight the importance of parental role models for individuals' entrepreneurial choices. Indeed, we interpret our findings as evidence of the role-modeling mechanism: the presence and influence of role models are crucial for daughters when they live in contexts characterized by a big gap between women and men in their access to opportunities. Since women usually have female role models, their mothers are likely to play an important role in the choice of becoming an entrepreneur in countries with high gender gaps.

Our findings also suggest that women are more likely to be left behind when it comes to entrepreneurship. Not only are women less likely to be entrepreneurs, but they are also less likely to be influenced by their fathers' entrepreneurial status in countries where the gap between women and men in their access to resources and opportunities is extremely large. Even though entrepreneurial mothers have an impact on daughters' choice of becoming an entrepreneur in such countries, we recall that the percentage of entrepreneurial mothers is still relatively low. However, it seems that this asymmetry in the intergenerational transfer of entrepreneurship is disappearing over time and pointing to convergence to the gender-independent process typical of more gender-equal countries.

Our findings provide important implications for policymakers who aim at adopting measures to stimulate entrepreneurship. If women are less likely to become entrepreneurs because they are not exposed to role models, then they should become aware of this possible occupational choice in school. Women's interest in entrepreneurship could be strengthened from the early levels of education to university courses, by teaching entrepreneurial concepts and providing practice-oriented training. A better understanding of the different factors related to the gender gap in that entrepreneurship can move the discussion forward and foster the knowledge on women's selection into entrepreneurship to eventually reduce the gap in the long run.

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SUPPORTING INFORMATION

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Appendix S1 Tables