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The Macro-Economic Benefits of Gender Equality

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European Commission
Directorate-General for Economic and Financial Affairs

The Macro-Economic Benefits of Gender Equality

By Anne Kingma and Anneleen Vandeplas

Abstract

While there is a strong moral imperative for promoting equal opportunities for women in the labour market, this economic brief discusses the business case for doing so, which is strong as well. Even if sizeable progress has been made over the last decades, women in the EU still report significantly fewer hours of paid work than men. At the same time, there are stark differences between countries with respect to gender gaps in labour market outcomes. Addressing gender gaps can contribute to growth by expanding labour supply as well as through likely positive impacts on productivity. Bringing gender gaps in full-time equivalent employment rates in line with the Swedish case (the best performer in EIGE's gender equality index) could increase labour supply by 4 pps in the EU27; fully closing them would increase it by 9 pps. The economic dividends of more gender equality are especially welcome in the aftermath of the Covid-19 pandemic, and in view of the demographic transition, where EU Member States invariably face a decline in the proportion of the population at working age. Policy measures addressing barriers that fall disproportionally on women often have the potential to support other vulnerable groups and make growth more inclusive in general.

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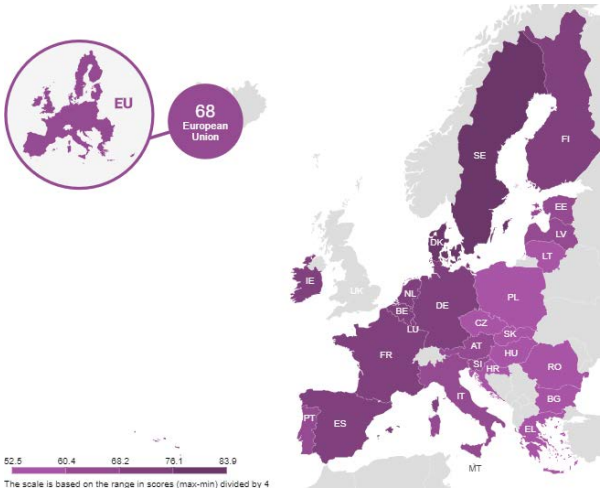
Introduction

Equality between women and men in all areas is a fundamental right laid down in the Charter of Fundamental Rights of the European Union.[1] Women's right to equal opportunities in the labour market and to equal pay for equal work is also enshrined in the EU Treaties.[2] More recently, equality of treatment and opportunities and the right to equal pay for work of equal value between women and men were also included among the 20 principles of the European Pillar of Social Rights.[3] Hence, there is a strong moral imperative to strive for equal opportunities for women in the labour market. This Economic Brief will argue that there are important economic arguments in addition.

Graph 1: **Gender equality index across EU Member States**



Note: Lighter colours represent wider gender gaps.
Source: EIGE (2021).

The Gender Equality index, a composite index that is released regularly by the European Institute for Gender Equality, captures gender inequalities in the domains of work, money, knowledge, time, power and health. In 2021, it stood at 68 (out of 100) for the EU as a whole, with scores ranging from 52.5 in Greece to 83.9 in Sweden.

Even if substantial progress has been made over the past decades, women in the EU still perform less paid work and earn significantly less than men do. The impact of the Covid-19 pandemic on employment in the EU has been more similar across gender and less skewed towards male workers than previous recessions (Croitorov et al., 2021).[4] Yet, in most EU Member States, employed women reduced their working hours to a greater extent than men during the Covid-19 pandemic (Eurostat, 2021a), often in order to take up childcare and long term care responsibilities. The disproportional burden on women of care responsibilities during school, formal care and service closures may affect their career progression going forward.[5]

This paper discusses the potential contributions of gender equality to growth in the EU.[6] While in the past the emphasis has been heavily on increasing output levels by expanding the labour force, recent studies are increasingly making the point that a more diverse workforce also holds potential to raise aggregate productivity by bringing different and often complementary sets of skills and experiences to the workplace. In addition to its impacts on output levels, further increasing women's participation in the workforce can be beneficial for social cohesion and poverty reduction (particularly in old age), public finance sustainability (by mitigating the impact of ageing on a shrinking labour force), and socio-economic resilience to shocks. Gender equality may also have beneficial impacts on economies' resilience to structural changes, such as the green and digital transitions. Some suggestions pointers are also provided on what policy makers can do to further promote gender equality.

Women work fewer paid hours

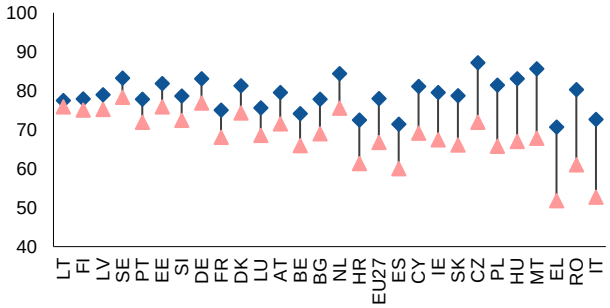
The female employment rate (age group 20-64) in Europe has been rising steadily, from 57% in 2000 to 67% in 2020 – an increase of 10 pps. Rising educational attainment, the expansion of the service sector,[7] and changing gender norms have all contributed to this trend. The male employment rate grew by around 3 pps over the same period, from 75% to 78%.[8] At the same time, this means that a significant gap remains: the EU gender employment gap stood at 11ppt or 14% of the male employment rate in 2020 (see Graph 2). This was somewhat mitigated by the Covid-19 pandemic, which reduced the male employment rate by almost 1 ppt, and the female employment rate by roughly half of that. The country-specific gender gaps in employment rates varied from 20 pps (27%) in Italy to less than 2 pps (2%) in Lithuania in 2020, highlighting the strong cross-country variation.[9]

The gender gap in employment rates understates the true gap in paid work, as women are considerably more likely to work part-time. Graph 3 presents the gaps in weekly working hours between men and women across different countries and shows that on average in the EU, women in employment work 6 hours a week less than men. A typical working week for men consists of 40 hours, one for women counts

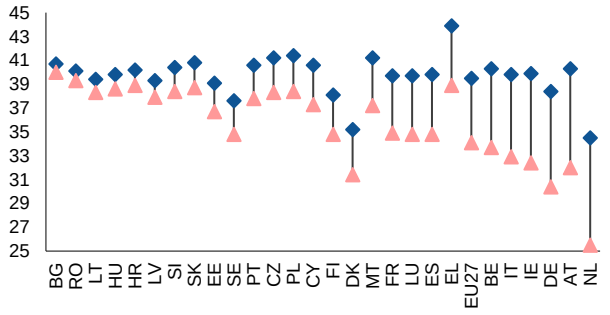
only 34. Again, there are pronounced differences between countries: the largest gaps in working hours are observed in the Netherlands and Austria, where working women work around 9-10 hours a week less than men; while in Bulgaria the gap is less than 1 hour a week.

These two metrics can be combined to arrive at the employment rate in full-time equivalents (FTE).[10] As Graph 4 shows, on average, the gender gap in FTE employment in the EU stood at 17 pps in 2020; but it varied between 3 (in Lithuania) and 24 pps (in Italy and the Netherlands).

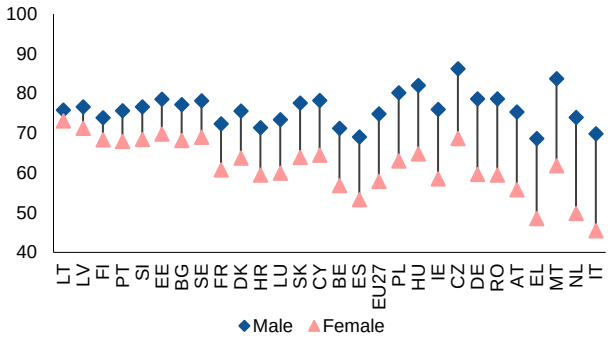
Graph 2: **Gender gaps in employment rates**



Graph 3: **Gender gaps in weekly working hours of employed persons**



Graph 4: **Gender gaps in FTE employment rates**



Note: Figures refer to age group 20-64. See endnote 10 for details on how the gap in FTE employment rates is measured.
Source: Authors' own calculations based on 2020 LFS.

The lowest FTE employment rates for women are observed in Italy, Greece, and the Netherlands. Greece and Italy are among the countries with the lowest FTE employment rates for men too, and low FTE employment rates mainly reflect low employment rates. In the Netherlands, employment rates are rather high (above the EU average for women and men), but average working hours are low for men and women alike.

While in the past, traditional gender norms often prevented women, especially after marriage, from participating in the labour market, at present, gender gaps mostly originate around the time of the birth of the first child (Fitzenberger et al. 2013; Cortés and Pan, 2020; Kleven et al., 2019). On average in the EU, employment rates of mothers of one (or more) child(ren) below the age of 6 are 12 pps below those of women without children in the same age group (25-49). However, this gap surges to more than 40 pps in countries such as Czechia, Hungary, and Slovakia. The smallest gap is found in Croatia, Portugal, Sweden, Denmark and the Netherlands, where it hovers around 0.

Women are taking up a disproportionate share of childcare responsibilities and household chores compared to men. Faced with these work-life balance conflicts, women are more likely to choose and adjust their careers to make their job more compatible with additional family responsibilities (Cortés and Pan, 2020). These adjustments can take different forms, ranging from switching to part-time work, to changing to different occupations with lower pay and less career prospects. Also when it comes to care for elderly and other dependent family members, women are more likely to adjust their careers (see e.g. Haberkern et al., 2015). In 2019, women aged 20-64 were almost 25 times more likely to be inactive due to care responsibilities for children or adults with disabilities than were men.[11] Furthermore, Backhaus and Barslund (2019) find that being a grandparent has a negative effect on the labour force participation for women between 55-64 years old, whereas it has no effect on male employment rates.

One of the reasons why women are making these choices more often than men (who typically experience a positive impact of parenthood on employment) relates to the fact that women are likely to earn less than their male partners, so that their opportunity cost of career interruptions tends to be lower. Another major reason, as pointed out by Bertrand (2020), relates to the presence of sticky stereotypes about gender-specific skills and roles.

Box 1: **GENDER EQUALITY AND LABOUR SUPPLY**

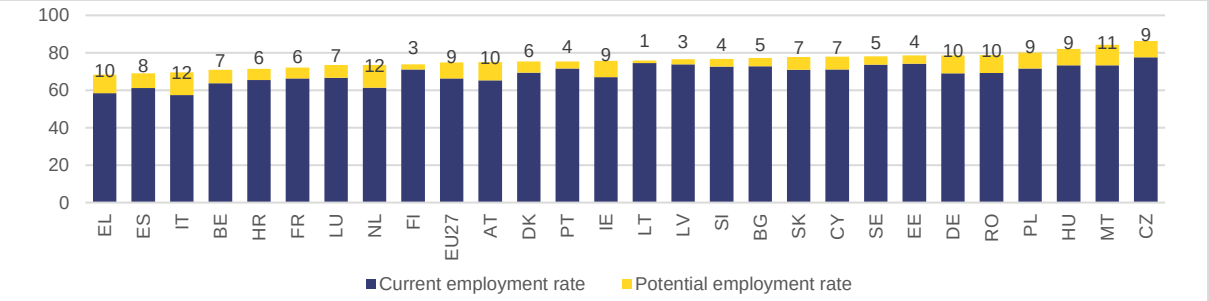
This box shows two simple simulations of how closing gender gaps could raise labour force participation rates and help mitigate the impact of population ageing on the labour force. As the first best scenario (closing gender gaps in full-time equivalent (FTE) employment rates) may not be easy to implement in the short term, a second scenario is proposed which implies bringing gender gaps in line with Sweden's current gender gap.

Sweden is chosen as a benchmark for the *second best scenario* as it is the best performing country in the EU on EIGE's Gender Equality Index. Its gender gap in FTE employment, calculated as the difference between the average male and female FTE employment rates and expressed as a % of the male FTE employment rate is 12%. Several EU countries have a lower gender employment gap (LT, LV, FI, PT, SI, EE, BG), but this might result from a strong gender gap in tertiary attainment in favour of women, rather than from more gender-equal employment conditions. For these countries, no change is assumed in the second best scenario.

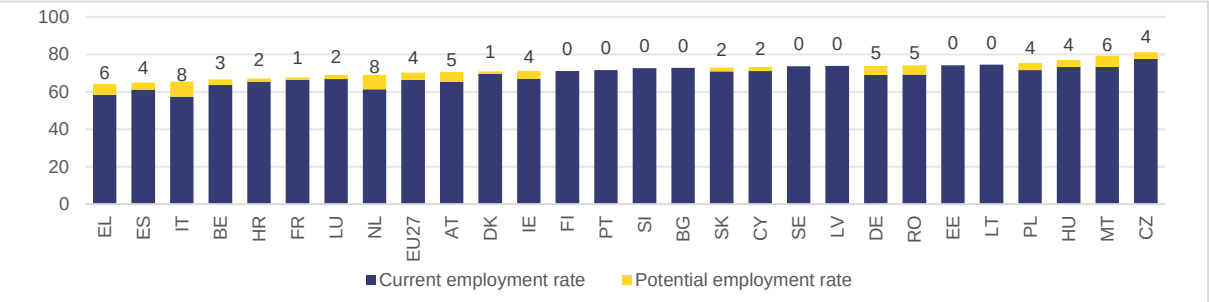
Closing gender gaps in FTE employment rates (*first best scenario*) would increase total labour supply by 9 ppt or around 13% on average in the EU27 (Graph 5). Bringing gender gaps in line with Sweden's current gender gap (*second best scenario*) would increase labour supply in the EU27 by 4 ppt (6%) (Graph 6). To put this into perspective, the proportion of the population at working age is expected to decline from 59% in 2020 to 58% in 2025 and 57% in 2030 in the EU, according to the Eurostat population projections (EUROPOP).

Some countries that are projected to see a larger decline in the working age population (as a proportion of the total population) could particularly benefit from closing gender gaps – even under the second-best scenario. Notable examples include Germany, Austria, and Poland, and to a lesser extent Slovakia and Croatia. Other countries facing a strong decline in the working age population (LV, LT, SI) already have small gender gaps.

Graph 5: **Impact on employment rates in FTE of closing fully the gender employment gap**



Graph 6: **Impact on employment rates in FTE of reducing the gender employment gap to the SE level**



Source: Own calculations based on 2020 LFS data (Eurostat).
Note: The figures shown reflect current and potential FTE employment rates of individuals in age group 20-64, assuming female FTE employment rates are either brought in line with male FTE employment rates (Graph 4) or raised to a level where gender gaps in FTE align with those observed in SE. For countries that already have a smaller gap than SE, no change is assumed.

Some have argued that maternal employment during childhood years negatively affect children's outcomes. Yet, research largely fails to support such beliefs (McGinn et al., 2018).

Several studies have highlighted the correlation between gender-role attitudes and female labour market participation (OECD 2012; Fortin 2015). To some extent, these attitudes may also reflect genuine differences in gender-specific skills and preferences, but these can also be shaped by relevant stereotypes and the broader social and institutional context. As a result preferences and attitudes are simultaneously determined, making it difficult to isolate the two from each other.

Nevertheless, policies and measures that address the barriers to employment faced by women and promote work-life balance and gender equality can have a positive impact on shifting cultural norms and closing gender employment gaps (see further, in the section on Policy implications).

As set out in the analysis in Box 1, addressing gender employment gaps – for instance by promoting convergence to the situation of the best performing member state, could contribute significantly to expanding labour supply in the EU, mitigating the impact on labour supply of ongoing and projected declines in working age population.

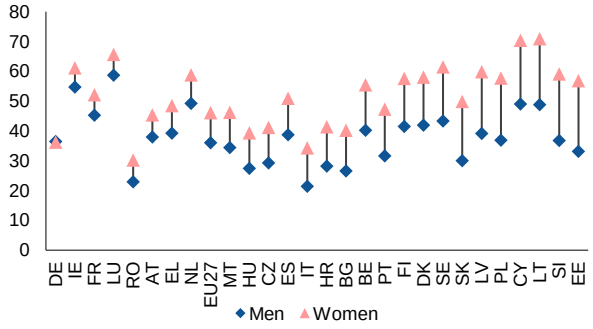
Gender equality and productivity

While several studies have highlighted the potential contribution increased female labour market participation could bring to growth through its positive impact on the labour force (e.g. OECD 2012, OECD 2018, as discussed further in the section on Gender equality and growth), an emerging strand of literature examines the channels through which gender equality is likely to strengthen productivity as well.

A first channel is that removing barriers and frictions to individuals' labour market choices promotes allocative efficiency. From this perspective, obstacles to women's labour market participation (be it as an employee or as an entrepreneur) impedes the optimal allocation of labour market agents and therefore reduces productivity (Cuberes and Teignier, 2016). Some of the possible obstacles will be discussed in more detail in the section on Policy implications.

This argument is reinforced by the observation that productivity is positively correlated with educational attainment, and that women are increasingly getting more education than man in the EU. In 2002 the proportion of women aged 30-34 with tertiary education was 2 pps higher than that of men. This gap in favor of women has grown to more than 10 pps: in 2020, 46% of women aged 30-34 held a tertiary degree, as compared to 36% of men (Graph 7). A study by CPB (2017) finds a positive impact of the share of female workers on productivity growth in the Netherlands, and assumes this may result from their higher average educational attainment or from more efficient resource allocation.

Graph 7: **Gender gaps in tertiary educational attainment rate, age group 30-34 (2020)**



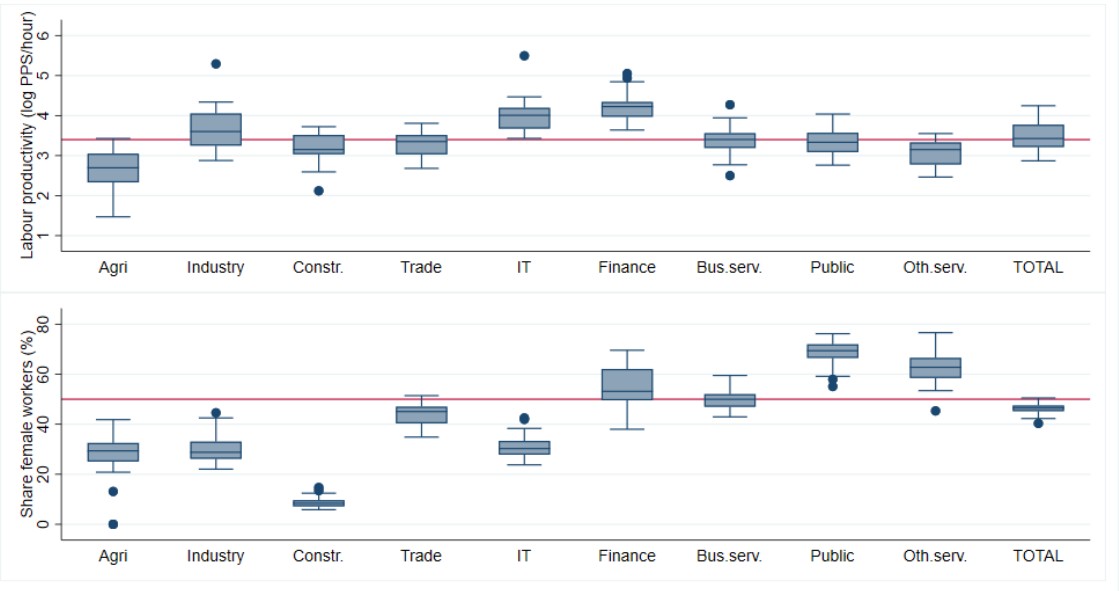
Source: Own calculations based on LFS (Eurostat).

Nevertheless, women tend to choose different study and research disciplines. In spite of being overrepresented among tertiary graduates, women are underrepresented in science, technology, engineering and math (STEM) education and research in Europe. They are underrepresented among employed scientists and engineers (41%) and even more so among self-employed professionals in science, engineering and ITC (25%) (European Commission, 2021a). Although the evidence is sometimes ambiguous, some studies have found that STEM skills are positively correlated with productivity measures (e.g. Cammeraat et al., 2021). Addressing gender gaps in education by strengthening educational outcomes for men or by addressing differences in study fields between women and men could thus have a positive impact on productivity. Bringing more women into STEM jobs might also require adjustments in workplace culture (Servon and Visser, 2010; Makarem and Wang, 2019).

Box 2: **GENDER EQUALITY AND PRODUCTIVITY**

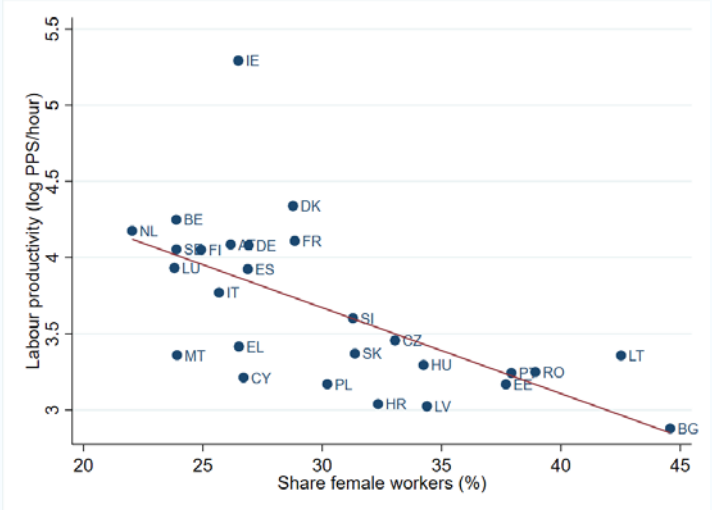
A cross-sector and cross-country comparison of labour productivity levels and female worker shares across the EU suggests that the highest productivity sectors are Finance, IT and, to a lesser extent, industry. While finance is relatively gender balanced, IT and industry are male dominated sectors. Lower productivity sectors are agriculture, construction, and other services (NACE-sectors R-U: Arts, entertainment, other personal services). While the former two are male-dominated; the latter one is female-dominated. Women are more likely to work in service sectors across the productivity spectrum: lower productivity (R-U), median productivity (Public sector) and higher productivity sectors (Finance) (Graph 8).

Graph 8: Cross-country distribution of labour productivity and the share of female workers, by sector



Note: The box plots present the cross-country distribution of productivity levels (in log Purchasing Power Standards). They show the minimum, the first quartile, the median, the third quartile and the maximum observations. The dots present data outliers. The considered sectors are: NACE 1D sectors A: Agriculture; B-E: Industry without construction; F: Construction; G-I: wholesale, retail, transport, restaurant & accommodation; J: Information & Communication; K: Finance & insurance; M_N: Professional & business support services; O-Q: Public administration, health, education, social work, defense; R-U: Arts, other services & household activities). Real Estate (L) was dropped from the analysis for being an outlier. The red line present average productivity in the upper panel, and gender equality (female share=0.5) in the lower panel.
Source: Own calculations based on 2019 data from national accounts and LFS (avaialble through EUROSTAT).

Graph 9: **Cross-country correlation between share of female workers and labour productivity in industry**



Source: Own calculations based on 2019 data from national accounts and LFS (avaialble through EUROSTAT).

Box 2: **GENDER EQUALITY AND PRODUCTIVITY (CONTINUED)**

When zooming in on within-sector productivity, for instance in the industry sector, the cross-country correlation between productivity and the share of female workers is negative (Graph 9). A possible explanation relates to the composition of industrial activities. For instance, some countries in the EU still have substantial low-value industrial production activities (e.g. wearing apparel) that often rely on female labour.

A regression analysis (Table 1) using country-sector level observations tentatively suggests that gender balanced sectors tend to be more productive than unbalanced sectors. The share of female workers has a non-significant relationship with labour productivity in the full sample, a weakly significant positive correlation in the sample with low-female share observations; a non-significant correlation in the sample with median female share observations, and a weakly significant negative correlation in the sample with high-female share observations. An alternative specification with the squared sectoral share confirms the non-linear relationship with the sectoral share of female workers. This analysis is based on a very simple approach and by no means intended as confirming the existence of a causal relationship between gender balance and labour productivity. Nevertheless, recent work by OECD (based on firm-level data) also found that firms with a more gender-balanced management were more productive, both in the manufacturing sector and in the service sector. For workers, they found a positive relationship between the share of women and productivity in services, but not in manufacturing (Criscuolo et al. 2021). Our analysis finds a negative *cross-country* correlation with the share of female workers in manufacturing (see above), but a positive (non-linear) *cross-sector* correlation.

Table 1: **Gender-balanced sectors seem more productive**

	(1)	(2)	(3)	(4)	(5)
VARIABLES	logLP	logLP	logLP	logLP	logLP
Sectoral share of female workers	0.167	1.959*	1.175	-1.451*	2.676***
	(0.107)	(1.022)	(1.286)	(0.773)	(0.625)
Squared sectoral share					-3.125***
					(0.803)
Constant	3.527***	3.503***	2.995***	4.391***	3.105***
	(0.047)	(0.202)	(0.588)	(0.487)	(0.105)
Country fixed effects	YES	YES	YES	YES	YES
All	X				
Low share women (≤ 0,31)		X			
Median share women			X		
High share women (≥ 0,50)				X	
Observations	240	79	81	80	240
R-squared	0.284	0.501	0.413	0.305	0.324

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Note: OLS reduced form regressions of 2019 country-sector observations on labour productivity. Country fixed effects are included, standard errors are clustered at the country level. (1) Full sample; (2) Sample of lowest tercile share female workers; (3) Sample of the middle tercile share female workers; (4) Sample of highest tercile share female workers; (5) full sample.
Source: Own calculations based on EUROSTAT data.

Insofar as productivity is hampered by the emergence of skills shortages (Vandeplas and Thum-Thysen, 2019), be it in STEM occupations, in health, or in education, bringing more women into employment and bringing more women into STEM occupations could help mitigate skills shortages and as a result have a positive impact on productivity (see e.g. WISE, 2021).

A second channel through which gender equality can strengthen productivity works through the economic benefits of diversity. Past econometric studies have found mixed impacts of gender diversity on productivity (Tsou and Yang, 2019). A number of studies find a negative coefficient on the share of female workers on firm-level productivity, yet very few of them attribute causality to this relationship

(see e.g. Pfeifer and Wagner, 2014). Other studies do not find a notable impact from gender diversity on productivity (e.g. Vandenberghe, 2016). Confounding factors are the fact that women more often work part-time (Haltiwanger et al. 1999; van Ours and Stoeldraijer, 2011) and are more likely to self-select into lower productive (low-pay) industries or workplaces (Ilmakunnas and Ilmakunnas, 2011).[12]

Other contextual factors may play a role as well: for instance, production technologies requiring greater physical strength could provide a comparative advantage to men (Galindo-Rueda and Haskel, 2005). Furthermore, in the absence of adequate support, care responsibilities are likely to have an impact on women's productivity (Gallen 2018).[13]

At the same time, an emerging strand of literature finds evidence that if well-managed, diversity in the workplace can have positive impacts on performance, productivity, and the quality of decision-making (Hunt et al., 2018; Hunt et al., 2020). Underrepresented groups have been found to innovate at a higher rate than majority groups (Hofstra et al., 2020), even if their contributions are less likely to be taken up by majority groups. Women bring different skills to the workplace as a result of social norms, upbringing, social interactions, differences in risk preferences (Croson & Gneezy 2009), differences in responses to incentives (Harbaugh et al. 2002) and reluctance to engage in competitive interactions (Gneezy et al., 2003; Neiderle and Vestelund, 2007). Women may also bring different views and priorities to the agenda (May et al. 2018). Garcia-Sanchez et al. (2013) find that for countries with a higher income level, gender diversity in public administrations improves government effectiveness.

Having access to a broader range of different perspectives can improve decision-making. A large body of literature has looked at the impacts of increased female representation on company boards. In 2019, only 18% of the executives of the largest listed companies in the EU were women, compared to 30% of non-executives. The share of female board members was somewhat higher, at 28% and has increased over time. The introduction of quotas for the share of women on board seats for publicly listed companies has contributed to this trend (EIGE, 2019). A meta-analysis by Post and Byron (2015) finds a positive impact on accounting returns but a near-zero impact on market performance. Contextual settings are shown to matter, however: they find that the impact on market performance is positive in countries with greater gender parity; and negative in countries with lower gender parity.

Sahay et al. (2018) find that while the share of women on boards of bank supervisory and regulatory agencies remains low, lower gender gaps in bank-leadership roles are associated with greater bank stability (e.g., higher capital buffers and lower nonperforming loans). Contributing reasons could be that women in general are more risk-averse (Borghans et al., 2009; Chobhthaigh, 2019; Olsen & Cox, 2001). Christiansen et al. (2016a) find that the correlation between the share of women on boards and firm performance is particularly strong in sectors characterised by a high share of female labour and in knowledge-intensive and high-tech sectors.

A study by Ostry et al. (2018) finds that male and female labour are complementary in production and therefore that a higher female labour market participation rate would have a positive effect on the average productivity of all by increasing the availability of the scarce factor (i.e. female labour).

A third channel is through the positive impact of morality on economic performance (Tabellini, 2007; Tabellini 2008). Perceptions of fairness increase trust and influence performance at work. Emotions interact with cognition, influence daily functioning at work and may lead to behaviour different from what would be consistent with a careful consideration of long-term costs and benefits (Löwenstein 2000; Camerer et al. 2005). Among minority groups, feelings of discrimination and exclusion reduces cognitive performance and impair self-regulation (Twenge et al. 2003; Baumeister et al. 2005; Cacioppo and Hawkley, 2009). The literature has argued that underrepresented individuals tend to be held to stricter standards for promotion opportunities than individuals from dominant groups, reducing equality of opportunity (Smith, 2005; Lyness & Heilman, 2006). In addition, studies have shown that work environments where all types of individuals feel included increase job satisfaction, commitment and creativity, and reduce stress and turnover intentions (Shore et al. 2011).

In those sectors and occupations where women are underrepresented, increasing the number of women can have a positive effect on the productivity of already working women by reducing workplace discrimination (Ostry et al., 2018). Moreover, women in leadership roles might raise productivity of women within the firm by serving as role models or implementing family-friendly corporate policies

which allow more people to achieve the best of their potential (Christiansen et al., 2017).

Representation matters for the optimisation of resource allocation. Recent research for instance suggests that male researchers are more likely to focus on the development of products serving the biomedical needs of men and products that are more likely to be bought by men in supermarkets; while female researchers are more likely to address the needs of women (Einiö et al., 2019; Koning et al., 2021). Hence, a gender imbalance among researchers is likely to lead to imbalances in the coverage of consumer demand.

Gender equality and growth

The benefits of gender equality have been highlighted by many studies in the context of developing countries, where women often remain underrepresented in education and training as well as on the labour market. For instance, Tzannatos (1999) has argued that both men and women lose out from gender inequalities; and that while growth usually promotes gender equality, public policy still has an important role to play in reducing inequalities. Drawing on an analysis of growth differences between global regions, Klasen and Lamanna (2009) find substantial economic costs of gender inequalities in education and employment, reflected in sizable negative impacts on growth (between 0.9-1.7 pps per year in the Middle East and North Africa, and between 0.1-1.6 pps in South Asia).

But even in the EU, there are many countries where gender inequalities continue to carry significant economic costs. Several studies have recently estimated the potential impact of increased gender equality on economic growth in the EU, accounting for different mechanisms.

First, OECD (2012) estimated the potential economic impact of closing the gender gap in labour force participation and found that fully closing the gender gap over the period 2010-30 would result in an increase of 0.6 pps in the annual growth rate of GDP per capita, and lead to an overall increase of 12% in the aggregate GDP of OECD member countries by 2030. In the EU, the highest gains were to be made in the Czech Republic, Greece, and Italy. A related study by Cuberes and Teignier (2016) estimated the GDP loss resulting from gender gaps to amount to 15% in the OECD, with almost half of this (40%) being due to gaps in entrepreneurship. A more recent OECD study finds that improvements in female employment rates have accounted for 10-20% of average annual growth in GDP per capita over the past 40-50 years in the Nordic countries (Denmark, Iceland, Norway and Sweden (OECD 2018).

Second, a study by McKinsey (2015) found that while women make up 47% of the labour force in Eastern Europe and Central Asia, and 46% in Western Europe, they only produce 41% and 38% of GDP respectively, as a result of fewer hours worked and their overrepresentation in lower-productivity service sectors. Bringing labour market participation, hours worked, and productivity of women in line with men could raise GDP by 2025 with 23%. Aligning gender gaps for all countries with those observed in the best performing countries in the region would raise it by 9%. In Western Europe, the main impact would come from closing the gap in hours worked; in Eastern Europe and Central Asia it would come mostly from raising labour market participation and from addressing gender imbalances in the sectoral distribution of labour. The study assumes that men's hours would not be affected by the increase in working hours for women.

Third, a study by Eurofound (2016) estimated the fiscal costs of gender inequality at 2.8% of EU-wide GDP. For their calculation, they drew on 2013 EU SILC microdata and took account of foregone earnings, unpaid taxes, unpaid social contributions, and additional demand for public finance transfers and welfare state benefits. The incidence of part-time work was taken as given. Country-specific costs ranged from 8.2% in Malta, 5.7% in Italy and 5% in Greece to 1% in Lithuania.

Fourth, a study by EIGE (2017), drawing on the E3ME model, estimates that stepping up efforts to promote gender equality could yield an increase in EU GDP per capita of 1.5-2% by 2030 and of 6-10% by 2050 relative to a baseline, by increasing the share of female graduates in Science, Technology, Engineering and Mathematics, reducing (but not closing) gender gaps in labour market participation and in earnings, and by raising fertility rates through a more equal sharing of the burden of unpaid care work, resulting in an increased labour supply.[14] In their calculations, the strongest impact on growth would stem from the reduction in the gender gap in activity rates.

Finally, a 2018 IMF study estimates that eliminating barriers to female labour force participation in Europe and Central Asia could add 10-15% to GDP (Ostry et al. 2018). The estimated benefits do not

only result from increased female labour force participation, but also from important positive impacts of gender equality on productivity (as discussed earlier). With women bringing new skills to the workplace, that are complementary to men's skills, greater gender diversity is also expected to boost male incomes.

Other dividends from gender equality

Social cohesion and poverty reduction

Women are more likely to be poor than men. In the EU, 17.8% of women was at risk of poverty in 2020, as compared to 16.3% of men. This is mostly the result of major gaps in old age poverty, where the poverty rate of women aged 65 and over is 19.7% while that for men is 14.2%. Poverty is a concept that is defined at household level. After 65, the poverty gap widens mostly as a result of single female households experiencing much higher levels of poverty, not least because of a sizeable gap in lifetime earnings and therefore pension contributions (see e.g. Dessimirova & Bustamante, 2019). In 2019, the average gender pension gap in the EU was 29% (Eurostat, 2021b). As a result of growing female labour market participation, the gap is slowly narrowing over time.

However, also when working, women tend to have lower earnings than men, even when working the same amount of weekly hours. In 2018, 18% of women were low-wage earners in the EU, meaning that they earn less than two-thirds of national median gross hourly earnings, against 12.5% of men (see ESTAT variable earn_ses_pub1s). Average hourly earnings of women are 14% lower than men's. Several factors contribute to these gaps, including sectoral segregation (women work in different sectors and sub-sectors), occupational segregation (women are less like to hold managerial positions), gaps in work experience (women take more family-related leave), and pay discrimination. Where subjective assessments of performance and bilateral negotiations play a role in wage determination, women are also likely to be paid less for the same type of work performed (Blau and Kahn, 2017).

There is some evidence that women are more likely to end up into low-paying occupations. Once those occupations become female-dominated, a so-called 'devaluation effect' leads to average relative pay for those occupations being further eroded (Levanon et al., 2009; Murphy and Oesch, 2015).

Public finance sustainability

Expanding female labour supply supports sustainable and inclusive growth as well as the sustainability of public finances (Lutz et al., 2019; European Commission, 2021b), which is particularly important in view of the high projected cost of ageing, with increased expenditure needs, and rising old-age dependency ratios (defined as the number of people aged over 65/number of people at working age (20-64)). Moreover, public debt has increased significantly in the aftermath of the Covid-19 pandemic. Raising female labour market participation can help counteract the rise in old-age dependency ratios and relieve stress on the financing of pensions, health and long-term care (Rouzet et al., 2019). The 2016 study by Eurofound discussed above set out that closing gender gaps would have yielded EUR 370 billion in public revenues (almost 3% of EU GDP) in 2013. The major part of this is due to foregone tax and social contribution revenues, but also savings in welfare transfers and social benefits are accounted for.

Economic resilience

Promoting female labour market participation can help make economies more resilient. Dual earner families have a lower probability of being economically deprived and a higher probability of being able to build up a buffer of savings for bad times. Eurofound (2014) found indeed that dual earner households have a probability of 13% to be economically deprived whereas this probability rises to 22% for one-earner families in the EU. A study by Dotti Sani (2018) highlights the strong increase in female-breadwinner families (households with a single female earner) during the 2008/2009 economic downturn, helping to cushion household income losses during the crisis.[15]

Fostering gender equality can also facilitate the green and digital transitions. Currently, only around 19% of ICT specialists are female according to the Commission's 2021 Women in Digital Scoreboard. Raising girls' interest in taking up ICT subjects at school and university and ensuring an inclusive workplace culture could help address ICT specialist shortages in the EU, and contribute to innovation that better represents all consumer needs in the sector.

As for the green transition, several studies have suggested that women are more likely to adopt environmentally friendly behavior (see e.g. Zelezny et al., 2000; Hunter et al, 2004; Casaló and Escario, 2018; or OECD, 2021 for a review). Whereas intra-household gender inequalities may have a negative impact on green consumption (see e.g. Li et al., 2019), gender equality in the workplace may have a positive impact on corporate environmental performance (Liu, 2018; Glass et al., 2015). Yet, women remain underrepresented in industries that are key to the green transition such as the energy sector (OECD, 2021). In the EU27 in 2021, less than 1 out of 5 EU energy ministers were women (European Council, 2021).

Policy implications

Alongside the efforts already made by the EU economies to support gender equality in the labour market, there are still considerable gains to be made from closing the existing gender gaps. While many of the gender differences in the labour market result from private decisions, public policy can have a strong influence on these decisions and play a key role in promoting gender equality – in particular by removing barriers to labour market participation faced by many women.[16]

Since women tend to take up a disproportionate share of the care and domestic work burden in the household, policies that help women and men combine work and private life can encourage women to take up or remain in employment and/or increase hours of paid work.

Flexible work arrangements can help, and the major experiment with telework triggered by the Covid-19 pandemic is likely to have given a strong boost to it, with lasting impacts (Adrjan et al. 2021). Better regulatory frameworks for telework can help address newly arising work-life balance, health and safety challenges. Yet, care must be taken that uptake is balanced, such that teleworking does not exacerbate the uneven distribution of unpaid work (Tomei, 2021) or lead to a higher incidence of work-life conflicts for women.

Part-time work opportunities are a valuable work-life balance measure to help parents combine work and domestic responsibilities, and they can support labour market participation of women significantly. However, if the take-up is strongly skewed towards women, women may as well feel pressure to reduce working hours and career aspirations and part-time work may reinforce gender stereotypes. Also, part-time work might lead to lower life-time earnings and pension entitlements for women, resulting in financial dependence. The same risk may apply to parental leave provisions: they allow parents to find a better work-life balance, but when overly generous in duration and uptake is predominantly by women, they carry the risk of reinforcing gender gaps in the labour market.[17] In this regard, the EU's Work-Life Balance Directive, which entered into force in 2019, supports a better work-life balance for parents and carers and encourages a more equal sharing of parental leave between men and women.[18]

There is evidence that female labour supply is responsive to changes in financial incentives. For instance, higher-earning women are less likely to reduce their labour supply at child-birth than low earners (Schoonbroodt, 2018) and mothers are also more likely to work if quality childcare becomes cheaper (Cortés and Pan, 2020). This suggests that tackling the root drivers of gender wage gaps can help increasing female labour supply (Blau and Kahn, 2017).[19] Ensuring adequate minimum wages can play an important role. Certain design features of tax-benefits systems also create financial disincentives for second earners, mostly women, to enter the labour market. For instance, an increase in the marginal tax rate for second earners and higher out-of-pocket costs for childcare have a negative impact on female employment rates (Christiansen et al., 2016b; Thévenon, 2013). Reforming taxes, for instance by replacing family taxation with individual taxation and providing tax credits to incentivise labour force participation among low-income earners can help (Elborgh-Woytek et al., 2013; Bach et al., 2020; Schratzenstaller and Dellinger, 2017; OECD, 2022).

Insofar as social norms play a role in holding female labour market participation back, these have been found to be influenced by history (e.g. shocks like World War II, where women replaced men in factories; or like the Covid-19 pandemic, during which men have engaged more actively in childcare than before), learning and peer effects (see e.g. Alon et al. (2020) for a discussion) and should therefore not be considered as static or exogenous.

Introducing minimum thresholds on female representation on company boards, as several EU Member States have done by now, can speed up upward convergence to more equal representation and have positive economic and non-economic impacts. Gender smart financing strategies can also help address gender imbalances in investment (Skonieczna and Castellano, 2020).[20] More broadly,

policies tackling discrimination and unconscious bias in the workplace can also create more inclusive workplaces and mitigate gender gaps (Bertrand et al. 2005). Holzer and Neumark (2000) set out that affirmative action policies can to some extent redress disadvantages faced by women and minorities in the workplace, without having notable impacts on efficiency.

Strengthening adequacy and sustainability of pension systems can help tackle the gender gap in poverty.

Other than supporting women, there are also areas in which promoting gender equality would imply supporting men. A notable example is education, where boys have fallen behind girls in education outcomes as well as attainment, as discussed earlier (Graph 7). Discovering the challenges and barriers specifically faced by boys and addressing these is likely to have sizeable economic benefits.

In those cases where underrepresentation in certain study fields results from gender-related stereotypes, biases and gaps in self-efficacy and ability beliefs, and/or workplace conditions or culture, policy efforts can help improve diversity (Wang and Degol, 2017). For example, investment in women in STEM areas from an early age and peer mentoring have been shown to help break down gender stereotyping (Brussevich et al., 2018).

The use of impact assessments that look specifically at the impact on women or on vulnerable groups can help prevent negative outcomes,[21] or identify ways to tackle existing biases in policy and foster steps towards equality (e.g. Alonso-Albarran et al., 2021). Gender impact assessments are one example among several instruments that can be used to implement *gender budgeting* in practice. In the EU, several Member States have already introduced gender budgeting (e.g. AT, BE, FI, FR, DE, IT, PT, ES, SE). The EU also promotes the use of gender impact assessments across all policy areas as a good regulatory practice.[22]

Most of the channels through which positive growth impacts are achieved are also relevant for the labour market integration of other underrepresented groups, such as migrants, ethnic minorities, older workers, people with disabilities and so on. Eliminating barriers faced in particular by underrepresented groups may benefit all workers. Policies addressing key challenges faced by women (adequacy of minimum wages, pensions, work life balance measures) need not concern women alone: some policies addressing problems that tend to fall more heavily on women, can also support other vulnerable groups and make growth more inclusive in general.

Conclusion

This Economic Brief discusses the macro-economic benefits from gender equality. It highlights the growth potential from expanding female labour supply, but also from raising productivity through a more diverse workforce. An extensive literature review underscores that more diversity can promote a better use of resources, a more balanced coverage of people's needs, and richer perspectives for decision-makers in policy, research and businesses. These findings are important for policymakers, in view of their relevance to promote a sustainable, fair and inclusive recovery, while making the economy more resilient to future shocks, and pursuing successful green and digital transitions.

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[1] See https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A12012P%2FTXT.

[2] Treaty on the Functioning of the EU, Art. 153, 157.

[3] The European Pillar of Social Rights, jointly proclaimed by the European Parliament, the Council and the Commission at the Gothenburg Summit in 2017, provides a compass for social progress and renewed socio-economic convergence in the EU. Principle 2 of the Pillar calls for equality of treatment and opportunities between women and men in the labour market, terms and conditions of employment, in career progression and the right to equal pay (see https://ec.europa.eu/info/strategy/priorities-2019-2024/economy-works-people/jobs-growth-and-investment/european-pillar-social-rights_en). In the 2021 European Pillar of Social Rights Action Plan, the EU reaffirmed its commitment to an inclusive high employment rate and set a new headline target for an EU-level employment rate (age group 20-64) of 78% by 2030. To achieve this employment target and make progress on gender equality, the Action Plan proposes to halve the gender employment gap compared to 2019 (see https://ec.europa.eu/social/BlobServlet?docId=23696&langId=en).

[4] Typically, recessions hit male employment more strongly than female employment as men are more likely to work in industries with strong cyclical dynamics such as manufacturing and construction (Albanesi and Sahin, 2018).

[5] See e.g. Employment and Social Developments in Europe (ESDE) Review 2021.

[6] Note that these impacts on growth are transitory impacts on output levels, not persistent positive impacts on growth rates.

[7] The service sector not only supports women's labour supply, by freeing up their time (e.g. through childcare provision), it also raises demand for female labour demand, as its distribution of employment is more gender equal (Ostry et al., 2018).

[8] LFS data, ESTAT code lfsa_ergan.

[9] In around half of EU Member states the gender employment gap increased in 2020, in around half it decreased, but changes were overall contained.

[10] We follow ESTAT's methodology, which calculates the FTE employment as full-time employment + part-time employment x (nr hours worked on average by part-time workers/nr hours worked on average by full-time workers).

[11] In the EU, 7.7% of women aged 20-64 reports being inactive to take care of adults with disabilities or children or other family members or persons, as compared to 0.9% of men in that age group. Source: LFS, ESTAT code lfsa_igar.

[12] See Pan (2015) for a fascinating discussion of the dynamics of gender segregation in occupations.

[13] The impact of gender on productivity is a much-studied issue in agricultural development and in research, where direct measures of productivity are more easily available. In agricultural development, several studies have found that women have lower productivity than men. However, these studies have frequently been criticised for ignoring crucial variables such as (differences in) access to quality inputs, access to education and training, access to output markets. A literature review by Quisumbing (1996) argues that if these factors are controlled for, women are not generally found to be worse farmers than men. Similarly, several studies have investigated the determinants of the gender gap in productivity in research, identifying internal and external barriers (e.g. Mairesse and Pezzoni, 2015). Nevertheless, also there, different studies tend to arrive at diverging, sometimes contradictory results, pointing at the need for more research.

[14] Research finds that in Europe, countries with more gender equity exhibit higher fertility intentions, while institutional constraints (such as lack of childcare) reduce fertility intentions (see e.g. Mills, 2008).

[15] The study does not prejudge the possibility of having other types of households than those consisting of traditional heterosexual couples (and their possible children).

[16] Cfr. for instance the Commission's "Gender Equality Strategy 2020-25: Striving for a Union of Equality. https://ec.europa.eu/info/policies/justice-and-fundamental-rights/gender-equality/gender-equality-strategy_en.

[17] OECD (2013) Labour Market Effects of Parental Leave policies in OECD countries, https://www.oecd-ilibrary.org/social-issues-migration-health/labour-market-effects-of-parental-leave-policies-in-oecd-countries_5k8xb6hw1wjf-en.

[18] See https://ec.europa.eu/social/main.jsp?catId=89&furtherNews=yes&newsId=9438&langId=en.

[19] For instance, the European Commission has put forward a proposal for a Directive on pay transparency in 2021. (see ECOM(2021)93 final 2021/0050(COD).

[20] In 2012, the Commission put forward a proposal for a Directive to improve the gender balance among non-executive directors of listed companies (COM(2012)614 final 2012/0299 (COD). 14.11.2012 As part of the its Work Programme in 2022, the Commission aims to give new impetus to the file. The InvestEU Regulation includes as an objective the promotion of gender equality, for instance through gender smart financing approaches.

[21] For instance, some have argued that fiscal consolidation tends to set back gender equality, as it is likely to erode the provision of public services that benefit women in particular (UN Women, 2021; Donald and Lusiani, 2017).

[22] The Commission's April 2021 Communication on Better Regulation engages the Commission to "pay greater attention to the gender equality dimension as well as equality for all, to give it consistent consideration in all stages of policymaking" and to "improve the analysis and reporting of proposals' impacts (e.g. on sustainable development goals, SMEs, sustainability, equality, subsidiarity and proportionality)". (see https://ec.europa.eu/info/sites/default/files/better_regulation_joining_forces_to_make_better_laws_en_0.pdf). The 2019 Council Conclusions on 'Gender-Equal Economies in the EU: The Way Forward' call upon Member States to consider developing gender impact assessments and gender budgeting across all policy fields: https://data.consilium.europa.eu/doc/document/ST-14254-2019-INIT/en/pdf. Art 18 of the Regulation of the Recovery and Resilience Facility requires national Recovery and Resilience Plans to include "an explanation of how the measures in the recovery and resilience plan are expected to contribute to gender equality and equal opportunities for all and the mainstreaming of those objectives, in line with principles 2 and 3 of the European Pillar of Social Rights, with the UN Sustainable Development Goal 5 and, where relevant, with the national gender equality strategy."

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