



SUPPORT FOR FEMALE ENTREPRENEURS

Survey evidence
for why it makes sense



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Support for female entrepreneurs: Survey evidence for why it makes sense

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About this publication

This is a report by the EIB Economics Department. The data source for this report is the EIB Investment Survey (EIBIS) 2021, the Enterprise Survey 2019 and the COVID-19 Follow-up Enterprise Surveys.

About the EIB Economics Department

The mission of the EIB Economics Department is to provide economic analyses and studies to support the Bank in its operations and in the definition of its positioning, strategy and policy. The department, a team of 45 economists, is headed by Director Debora Revoltella.

economics@eib.org
www.eib.org/economics

Main contributors to this publication

Rozalia Pal, Désirée Rückert and Patricia Wruuck

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Contents

Introduction	1
A push for parity is still needed	2
Survey findings	11
Gender equality and the pandemic	24
Which firms are striving for gender balance?.....	27
Conclusion	30
References.....	32
Annexes	36

Introduction

Women's economic empowerment has improved rapidly in the last century. Today, many women are not just fully engaged in the workplace; some lead international organisations, corporations and countries. Still, after a century of impressive progress, overall economic opportunities for women are still lagging those of men. On average, women earn 13% less per hour in the European Union, and this difference cannot be explained by schooling or work experience alone.¹ Women are less often entrepreneurs and those that strive to grow their business or decide to lead a company face high barriers. Globally and across the European Union, we still have a way to go to achieve gender equality and empower women and girls, as stipulated by the UN Sustainable Development Goals and the European Pillar of Social Rights (Annex 1).

Gender pay gaps and the gender employment gap in the European Union have changed little over the last decade. The gender employment gap, which is the difference between male and female employment rates, stood at some 11 percentage points in 2021. Employment gaps are widest in southern and eastern EU countries and in less developed regions.

Female entrepreneurs are role models for women's empowerment and make significant contributions to the economy and society. Based on the analysis of three surveys, we show that supporting female entrepreneurs helps to mitigate gender employment gaps and generates wider societal benefits. Notably, female-led firms achieve higher environmental, social and governance scores and support the upskilling of their employees through investment in training.

Crises impact women heavily. The afflictions of war and the pandemic have appeared recently in our lives, threatening health and safety, and exacerbating pre-existing inequalities and injustices. Women are typically more vulnerable to the effects of recessions and shocks. The emerging literature on the impact of the COVID-19 shock and the economic downturn it caused shows that this crisis has been no exception. Analyses find that women often had to juggle professional duties and a higher share of care work during the pandemic. Despite often lacking interventions, especially when looking at family support and school closures, many female entrepreneurs have shown resilience and adapted successfully.

Failing to fully leverage women's entrepreneurial potential comes at an economic and social cost. It means lost opportunities for boosting employment, promoting more balanced economic development and reducing poverty risks across the European Union and globally.

This report presents insights on female entrepreneurs and what is holding them back. To gain a better understanding of factors that influence female entrepreneurial activities, this analysis looks at three different surveys, the EIB Investment Survey (EIBIS) 2021, the EIBIS Startup and Scaleup Survey 2019 and the EBRD-EIB-World Bank Group Enterprise Survey, which includes structural information on firms, and as part of a follow-up collected information on the impact of the COVID-19 shock. The unique combination of data helps shed light on structural gaps, obstacles women entrepreneurs face and the recent impact of the pandemic.

¹ Unadjusted gender pay gap for the EU 27, 2020. This is the difference between the average gross hourly earnings of male and female employees as a percent of male gross earnings (Eurostat, 2022).

A push for parity is still needed

Gender equality has advanced, but gender gaps remain pronounced in many areas of economic and political life, women’s potential is underused and their work undervalued. Better access to education for women has helped to reduce overall gender gaps. While some differences persist, an increasing number of countries globally have progressed on educational parity (UNICEF, 2022).² More than 110 countries have closed at least 95% of educational gender gaps and 77 have basically achieved gender parity (World Economic Forum, 2022).³ While global gaps remain in many advanced economies, particularly beyond primary education, women on average have higher levels of education. In the European Union, more women than men graduate from university and a clear majority of Member States record a positive gender gap in favour of women for tertiary education.⁴

Some EU member countries are global frontrunners on gender equality (Table 1). However, gender differences persist, and some countries are much closer to parity than others (Figure 1).

On average, women in the European Union and globally remain underrepresented in the labour market, politics and top positions in firms. Looking at the Fortune 500 companies, just 44 have female CEOs — and the figure in fact marks a new record high.⁵ For a larger global sample of leading companies, the share of female CEOs in 2020 stood at some 5%.⁶ For Europe, the share of female CEOs at the largest listed companies remained below 10%, too.⁷ On boards, women account for less than a fifth of board members globally. While women hold some 30% of board seats at the largest listed companies in the European Union, parity has not yet been reached.⁸

Women are more likely to work in part-time jobs (EU27: 28.3% compared to 7.6% of men in 2021), which typically offer fewer opportunities for career progression and more limited access to other benefits such as training. Women continue to earn less per hour, even for the same work as men. Due to structural differences in careers, they tend to be in a less advantageous position to build up savings and financial buffers (Wruuck, 2013). Women are at higher risk of poverty and social exclusion, partly as a result of not being able to fully realise their potential in the labour market.⁹

² Compared to the mid-1990s, with a focus on primary enrolment.

³ Literacy and educational attainment levels. “Basically achieved” refers to countries scoring 99% or higher in the 2022 edition of the WEF assessment.

⁴ All Member States except Germany and Austria. For the latter, the ratio is almost equal though. For 2020, 25-64 years, Eurostat.

⁵ According to the latest figures for May 2022, see <https://fortune.com/2022/05/23/female-ceos-fortune-500-2022-women-record-high-karen-lynch-sarah-nash/>.

⁶ Based on Deloitte (2022a) for a global sample of more than 10 000 companies analysed (data as of March 2021).

⁷ See Deloitte (2022b). EU-profile, p. 94-95.

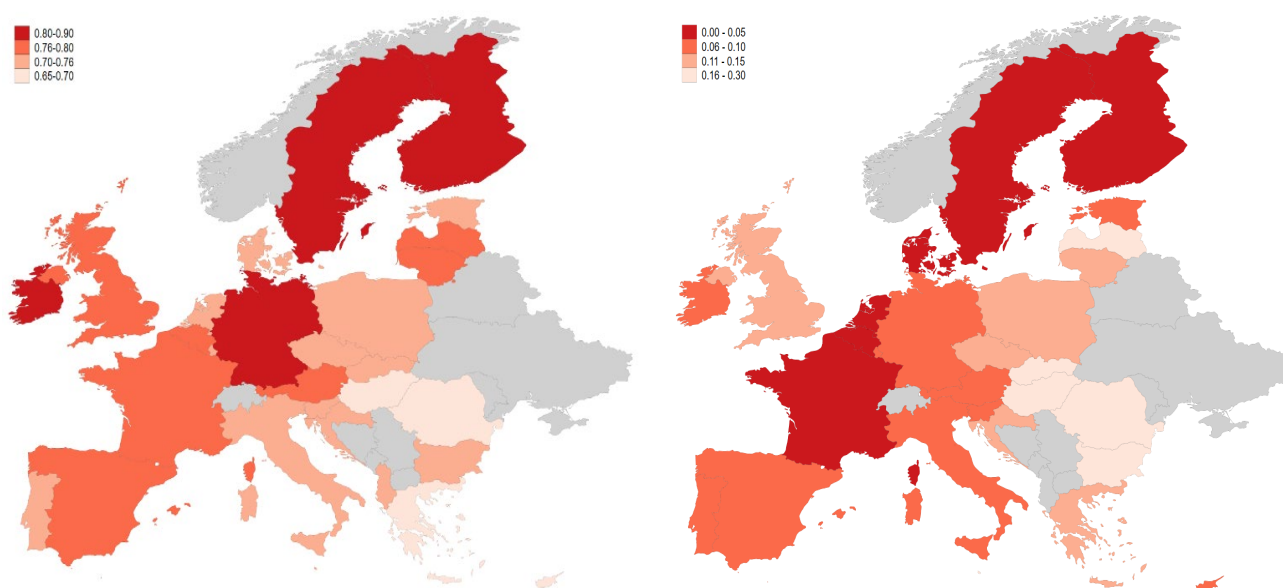
⁸ Based on Deloitte (2022b) regional profile for Europe, on a sample of 2026 companies analysed. The sample includes the United Kingdom.

⁹ Based on 2020 data, the share of people at risk of poverty and social exclusion was 22.9% for women compared to 20.9% for men.

Table 1: Countries most advanced in reducing gender gaps and disparities globally

Rank	Countries with the smallest gender gaps ¹⁰	Countries with the lowest losses to human development stemming from male-female disparities ¹¹	Countries where women are most equal legally and in business ¹²
1	Iceland	Norway	Countries with global maximum scores, i.e. legal parity: Belgium, Canada, Denmark, France, Greece, Iceland, Ireland, Latvia, Luxembourg, Portugal, Spain
2	Finland	Ireland	
3	Norway	Switzerland	
4	New Zealand	Hong Kong	
5	Sweden	Iceland	
6	Rwanda	Germany	
7	Nicaragua	Sweden	
8	Namibia	Australia	
9	Ireland	Netherlands	
10	Germany	Denmark	

Source: EIB Economics Department based on the World Economic Forum (WEF) Global Gender Gap Index, the UNDP Gender Inequality Index and the World Bank's Women, Business and the Law Index.

Figure 1: WEF Global Gender Gap Index and UNDP Gender Inequality Index: A focus on Europe

Source: WEF Global Gender Gap Index (2022).

Note: The higher the number, the better the country's performance.

Source: UNDP Gender Inequality Index (2021).

Note: The lower the number, the better the country's performance.

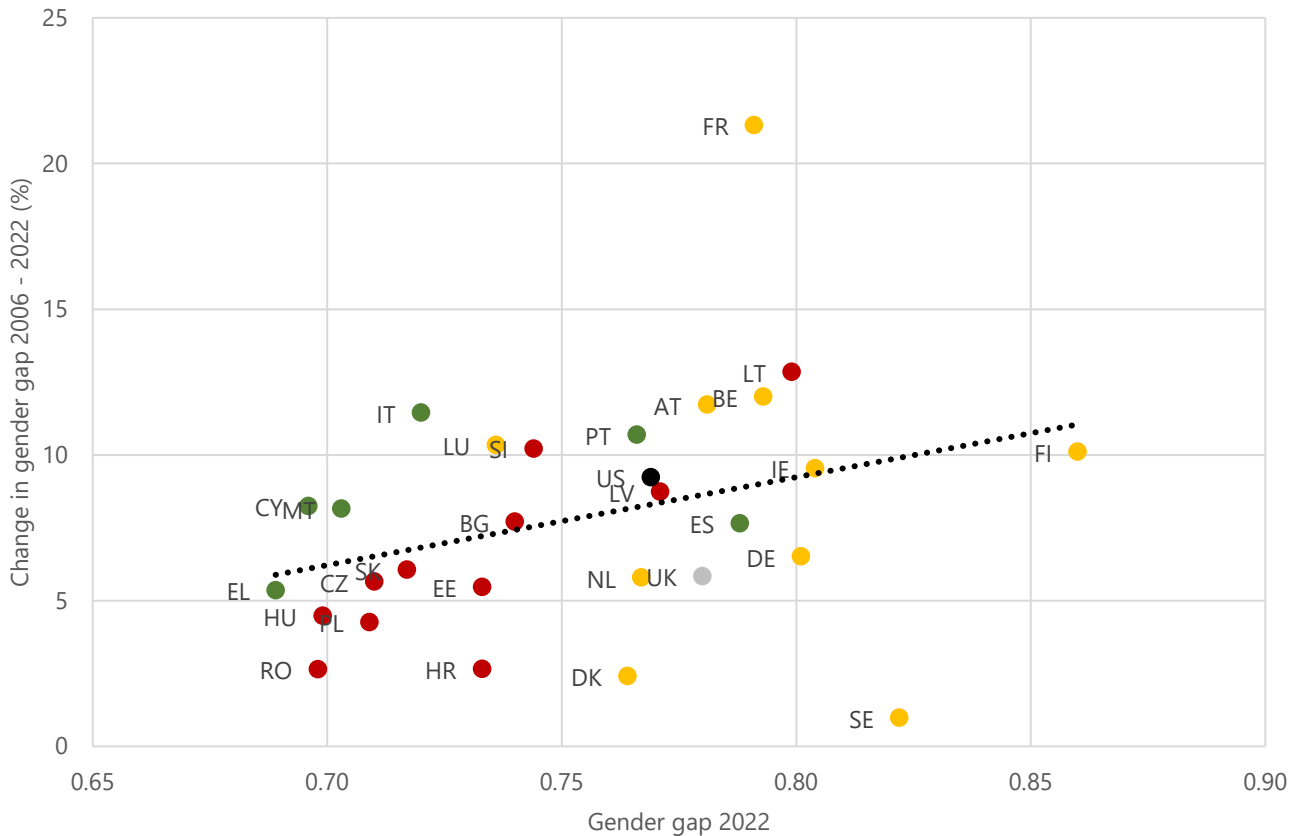
¹⁰ The Global Gender Gap Index benchmarks the evolution of gender-based gaps among four key dimensions (economic participation and opportunity, educational attainment, health and survival, and political empowerment) and tracks progress towards closing these gaps over time. The global sample includes 146 countries, see World Economic Forum (2022).

¹¹ The UNDP Gender Inequality Index shows the potential loss in human development due to disparities between women and men and thus higher losses to human development, see [UNDP Gender Inequality Index](#) (2019).

¹² The Women, Business and the Law Index is based on the World Bank's assessment of laws and regulations that affect women's opportunities for 190 countries. The focus is on women's legal position as a prerequisite for equal economic participation and opportunities, see World Bank (2022).

Gender parity levels and progress towards gender parity are unequal, with some divergence among EU countries actually widening. Compared to 15 years ago, the gender gap, measuring economic participation, political empowerment, educational attainment and health outcomes, has narrowed in all European countries. This is partly due to good health outcomes and the increased political participation and educational attainment of women. However, the gender gap is closing quicker in countries that are already advanced in gender equality (Figure 2).

Figure 2: WEF Global Gender Gap Index, over time and country



Source: WEF Global Gender Gap Index (2006 and 2022).

Note: The higher the number, the better the country's performance. The gender gap measure includes economic participation and opportunity, educational attainment, health and survival, and political empowerment. Yellow indicates Northern and Western Europe, red Central and Eastern Europe and green Southern Europe. See Annex 2 for details of each country grouping.

Northern and Western European countries stand out as regions that are most advanced when it comes to gender parity. In contrast, some Central and Eastern European countries and Southern European countries continue to lag behind when looking at indices such as the WEF Global Gender Gap Index and the UNDP Gender Inequality Index that capture multiple dimensions of inequalities. Focusing on employment gaps (the difference between male and female employment rates) as one key dimension of gender inequality, the gaps in Northern and Western Europe are less than half (some 7 percentage points) the levels in Southern, Central and Eastern Europe (European Commission, 2022).

Gender employment gaps have narrowed only marginally over the last decade in the European Union. Despite progress in a number of areas, and increased female labour market participation, gender employment gaps have persisted. The gender employment gap (still) stands at almost 11 percentage points (2021: 10.8; 2011: 12.5 percentage points).

Gender employment gaps are larger in cohesion regions.¹³ Comparing EU NUTS2 regions at different income levels shows that gender employment gaps are particularly large in the poorest regions (Figure 3a). In less developed regions, with gross domestic product (GDP) per capita below 75% of the EU average, the employment rate for women was more than 17 percentage points lower than that of men.¹⁴ For example, less than a third of women in Campania and Calabria (Italy) are employed and gender employment gaps by far exceed the EU average (by 27.1 pp and 25.4 pp, respectively).

Lower employment rates for women do not coincide with significantly higher levels of unemployment for females (Figure 3b), suggesting that many women are not actively looking for a job. Factors that prevent women's (full) participation in labour markets include gender stereotypes and infrastructure gaps, notably for social infrastructure and care. These entrench longstanding disadvantages and prevent women from achieving their full potential.

Figure 3a: Gender employment gaps across EU regions, in percentage points (20-64 years)

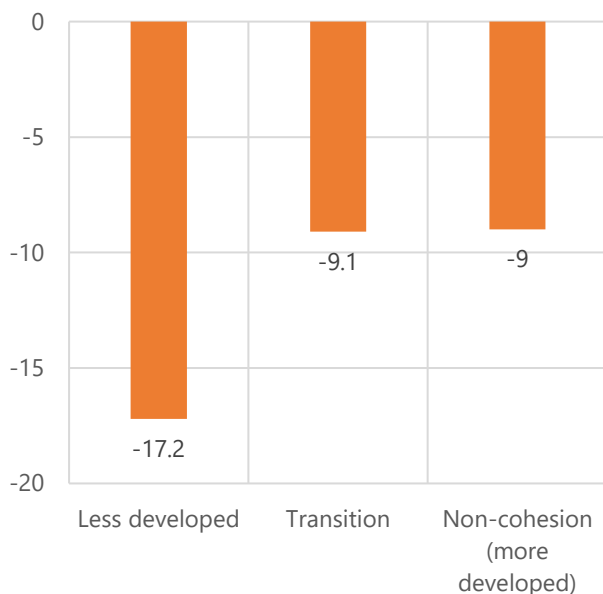
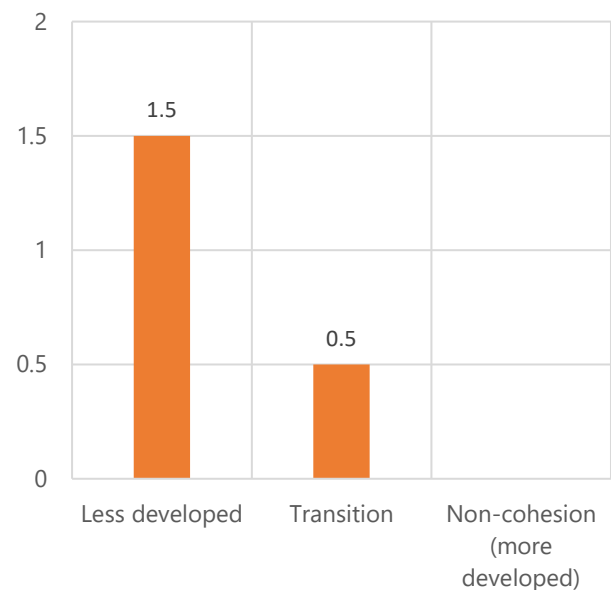


Figure 3b: Gender unemployment gaps across EU regions, in percentage points (15-74 years)



Source: Eurostat.

Note: Less developed regions with GDP/head (PPS) less than 75% of the EU27 average. Transition regions with GDP/head between 75% and 100% and more developed regions with GDP/head above 100% of the EU27 average. In the context of this report, we also refer to more developed regions as "non-cohesion regions" and less developed together with transition regions as "cohesion regions." For more information see EIB (2022).

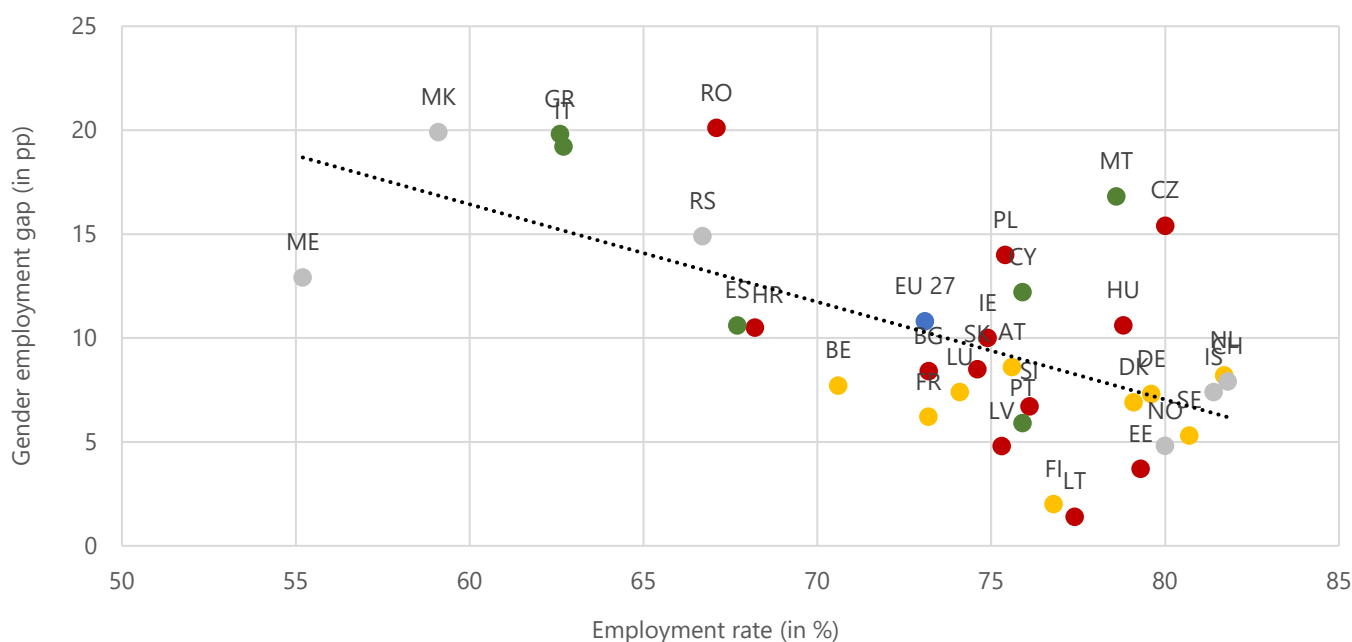
¹³ See note underneath Figures 3a and 3b for a definition.

¹⁴ Employment rates for people aged between 20-64 years, 2020. Eurostat and European Commission (2022).

Gender employment gaps are costly. They imply underused potential of increasingly well-educated women. Aggregate economic losses of the gender employment gap for the European Union have been estimated at some EUR 370 billion per year (Eurofound, 2016).¹⁵ At an individual level, not being employed raises the risk of poverty for women given foregone earnings and welfare contributions and tends to increase dependencies.

Outside the European Union, some types of gender gaps tend to be even larger. The gender employment gap is typically larger for countries with lower total employment rates (Figure 4). Gender employment gaps are higher, for instance, in some countries in the Western Balkans and Turkey. Other types of gender gaps are also prevalent, particularly in the European Union’s Southern Neighbourhood and the Western Balkans.¹⁶

Figure 4: Gender employment gaps in the EU27 and selected neighbouring countries



Source: Eurostat, authors’ calculation.

Note: Montenegro and North Macedonia with 2020 data. For Turkey, the employment rate is 51% and the gender gap 38.1 pp (2020). The data refer to employment rates for 20-64 years. Yellow indicates Northern and Western Europe, red Central and Eastern Europe, and green Southern Europe, while grey indicates non-EU countries. See Annex 2 for details of country groupings.

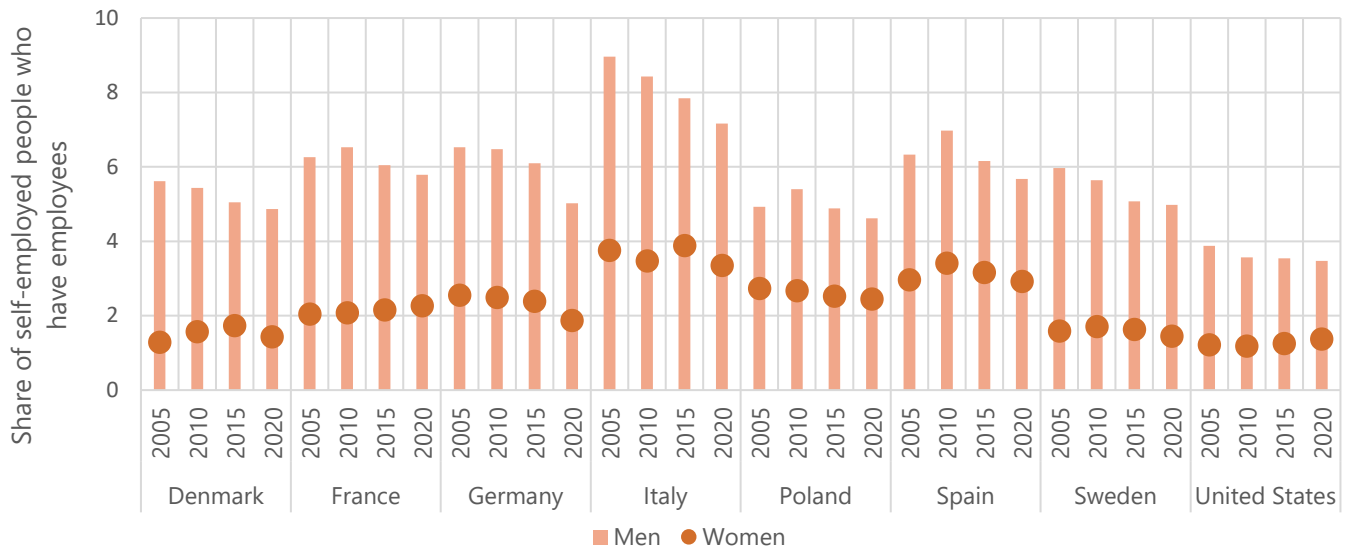
The female entrepreneurship gap remains pronounced. Entrepreneurs dare to take risks and drive economic dynamism. Fewer women take this route. While they account for almost half of the world’s population, their share among the entrepreneurial population remains much smaller. One way to measure the gender entrepreneurship gap is to look at the share of self-employed people with employees as a proxy for entrepreneurs in the total employed population. Here, the share of women is persistently lower

¹⁵ The total cost of a lower female employment rate is estimated to be around EUR 370 billion in 2013, corresponding to 2.8% of EU GDP. Costs relate to foregone earnings and missed welfare contributions to society as well as public finance costs such as individual welfare transfers and social benefits. The figure does not include an estimation of the economic contribution of women not active in the labour market. For further information on the estimation methodology see Eurofound (2016).

¹⁶ Southern Neighbourhood countries comprise Egypt, Jordan, Lebanon, Morocco and Tunisia. The Western Balkans include Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia and Serbia. For an overview of country groups see Annex 2.

and improvements have been slow even in advanced economies (Figure 5). A comparison of the number of women and men who start or manage a business yields similar results.

Figure 5: Self-employed people who are employers, by gender, as a share of the working population (%)

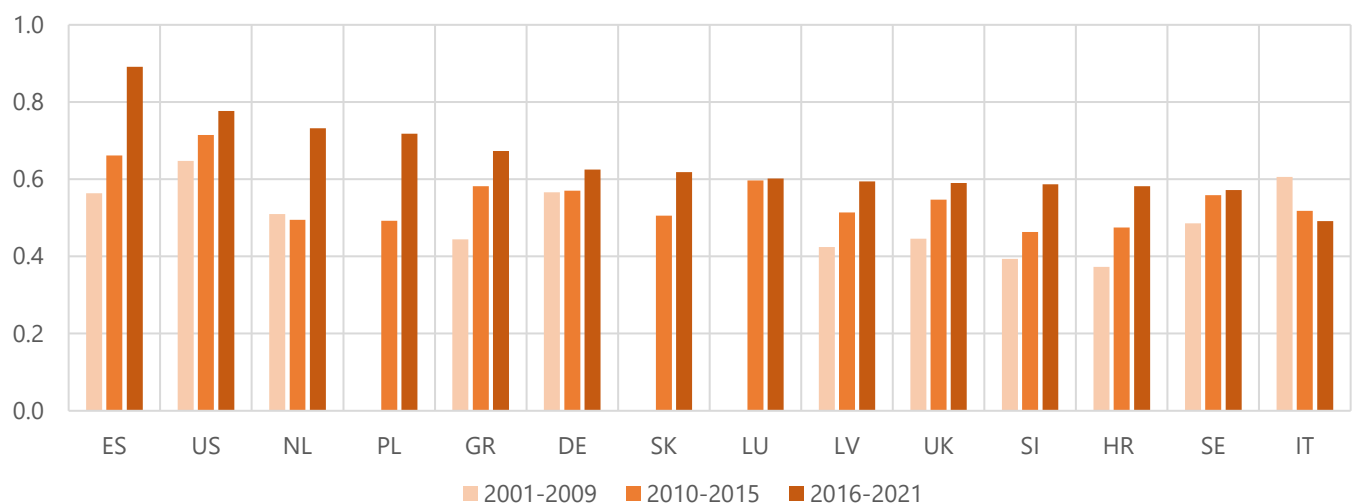


Source: OECD.

Note: Number of self-employed people who have employees divided by the total number of employed, multiplied by 100.

Fewer women than men are business owners and directors of limited liability companies. The share of female sole proprietors is slightly higher (they account for a third), but still well below men. Similarly, improvements over time have been rather slow. Focusing on new business, women typically continue to lag men, although a small catch-up over time can be discerned (Figure 6).

Figure 6: Female/male total early-stage entrepreneurial activity (TEA)

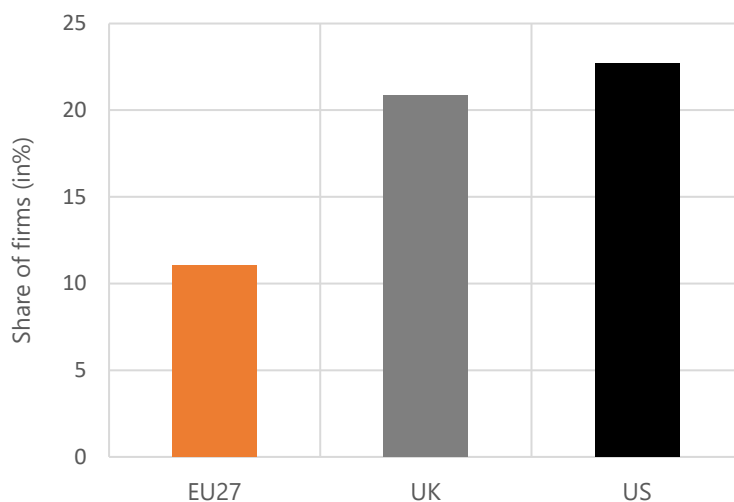


Source: GEM (2001-2021).

Note: Female/male TEA ratio: Percentage of female 18-64 population who are either a nascent entrepreneur or owner-manager of a new business, divided by the equivalent percentage for their male counterparts. A value of 1 would indicate gender parity.

Women entrepreneurs are underrepresented at the forefront of economic dynamism. Startups and scaleups are a particular type of new business, driving new ideas and often growing rapidly. However, female startups and scaleups remain rare: The share of startups that have (a) female founder(s) is 23% in the United States, 20% in the United Kingdom and 11% in the European Union (Figure 7). Much dynamic entrepreneurial activity in recent years has been related to the development and application of new digital technologies. Here, several analyses note the strong underrepresentation of women in the tech sector in particular (OECD, 2018).

Figure 7: Female founders



Source: EIBIS special survey on startups and scaleups. EIBIS 2019.

Supporting women in the labour market and female entrepreneurs brings multiple benefits.

Increasing women's opportunities for successful professional development would help to reduce dependencies on welfare and poverty risks globally and across the European Union. In doing so, it would also benefit households and communities. Successful female entrepreneurs are positive role models, helping to advance gender equality over time and creating jobs. Beyond benefits for inclusion and society as a whole, analyses indicate that gender diversity in firms can bring benefits in terms of creativity, more efficient solutions and better decision-making (Lazear, 1999; Baer et al., 2013; Profeta, 2017).

We use data from three firm-level surveys to examine the state of women in business. Based on three unique data sources — the EIB Investment Survey (EIBIS), a special survey focused on digital startups and scaleups (EIBIS Startup and Scaleup Survey 2019), and the recent wave of the EBRD-EIB-World Bank Group Enterprise Survey (Enterprise Survey 2019), which collected data on more than 35 000 registered firms from 2018 to 2021 across 50 countries (plus the follow-up COVID-19 module conducted during 2020-2021)¹⁷ — the analysis allows us to provide new insights for EU Member States, as well as the EU Neighbourhood. In addition, we conduct transatlantic comparisons for selected aspects.

¹⁷ <https://www.enterprisesurveys.org/en/data>.

Box 1: Overview of data sources

The **EIB Investment Survey (EIBIS)** is an annual survey that gathers qualitative and quantitative information on investment activities by non-financial corporates, their financing requirements and the difficulties they face. Every year since 2016, the survey has collected data from more than 13 000 businesses located in all EU countries, the United Kingdom and, since 2019, the United States. The focus of this chapter is EU cohesion and thus relies only on data for the 27 EU countries. Using a stratified sampling methodology, the survey is designed to be representative at the level of the country, sector (manufacturing, construction, services and infrastructure) and firm size class (micro, small, medium and large).

The survey also gathers qualitative information on firms' adoption of digital technologies and their investments to tackle the impact of climate change. What is more, it asks firms whether they actively strive for gender balance. EIBIS data are collected in a consistent manner and with the same methodology for a large number of firms across different countries, making it possible to carry out a comparative analysis of investment activities in diverse institutional settings.

The **Add-on Module** surveyed 1 100 startups and scaleups in the European Union, the United Kingdom and the United States. Eligible respondents were chief executive officers, financial managers or heads of accounts. The survey was administered by telephone (in the local language) and took on average less than 20 minutes to complete. The fieldwork started in April 2019 and continued until July 2019. Firms had to be listed on the Crunchbase database, have been founded between 2008 and 2018, and still be active. In the EU27, 499 startups and scaleups were interviewed, in the United Kingdom this figure was 120, while 483 startups and scaleups were interviewed in the United States. Survey answers from the Add-on Module on Startups and Scaleups in this report are aggregated using firm weights based on the Crunchbase database. The aim of the interview was to ask young firms with high growth ambitions about their ambitions, business activities as well as what hampers their growth (if anything).

Our sample from the latest wave of the **EBRD-EIB-World Bank Group Enterprise Survey** (Enterprise Survey 2019) collects data on more than 32 000 registered firms from 2018 to 2021 across 48 countries with a focus on EU countries and neighbouring and enlargement countries of the European Union. The survey provides a structural snapshot of firms in the region. In addition, we use the first round of the Enterprise Survey follow-up on COVID-19 carried out by the World Bank to illustrate how firms have been impacted and have adapted during the crisis (covering more than 17 000 firms and 31 countries).

The neighbouring and enlargement regions are composed of several sub-regions such as the Eastern Neighbourhood, Central Asia and the Western Balkans. The EU sub-regions are Central and Eastern Europe, Southern Europe and Northern and Western Europe. The country composition of each sub-region is presented in Annex 1. All statistics for regional aggregates are reported as simple averages of individual countries, whereby firms within countries are weighted with survey weights. The Enterprise Survey 2019 provides a rich source of information about firms and their business environment. The questionnaire includes firm characteristics, annual sales, costs of labour and other inputs, performance measures, access to finance, workforce composition and participation in the

labour market. The Enterprise Survey 2019 also includes a special module on the green economy (except for the Northern and Western region).

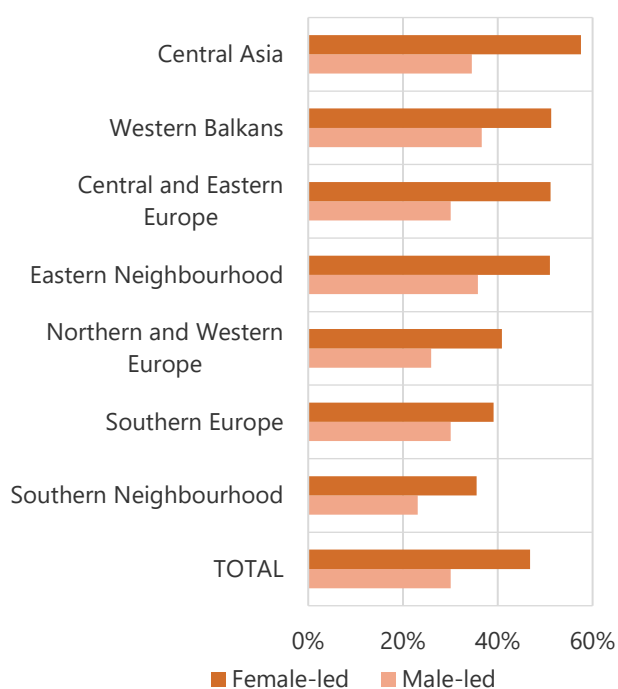
The survey provides a representative sample of the non-agricultural, formal private sector for firms with at least five employees and operating in the manufacturing or services sectors. "Services" include retail and wholesale trade, hospitality, repairs, construction, information and communication technology (ICT) and transport. Firms that are wholly owned by the state are excluded.

Survey findings

Women-led enterprises employ more women. Our analysis shows that this holds across different geographies (EU and non-EU). These results corroborate findings for advanced economies (Inc./Fast Company, 2018) and add new evidence for middle-income and emerging economies. Data based on the Enterprise Survey show that this pattern is particularly pronounced in Central Asia and Central and Eastern Europe (Figure 8a). It also holds across different types of businesses. For the European Union, the EIB special survey on startups and scaleups confirms the positive effects on female employment in this particularly dynamic segment (Figure 8b).

Support for female-led businesses has clear knock-on effects on female employment. Female-led businesses generate positive spillovers by helping to narrow gender employment gaps in the labour force, reducing gender disparities and inequalities more broadly (SDG 5 and 10) and promoting more inclusive growth.

Figure 8a: Share of female workers, by firm type (non-EU)



Note: See Annex 2 for details of each country grouping.

Source: EIB authors' calculation based on the Enterprise Survey 2019.

Figure 8b: Differences in workforce composition of startups and scaleups, by gender of founder

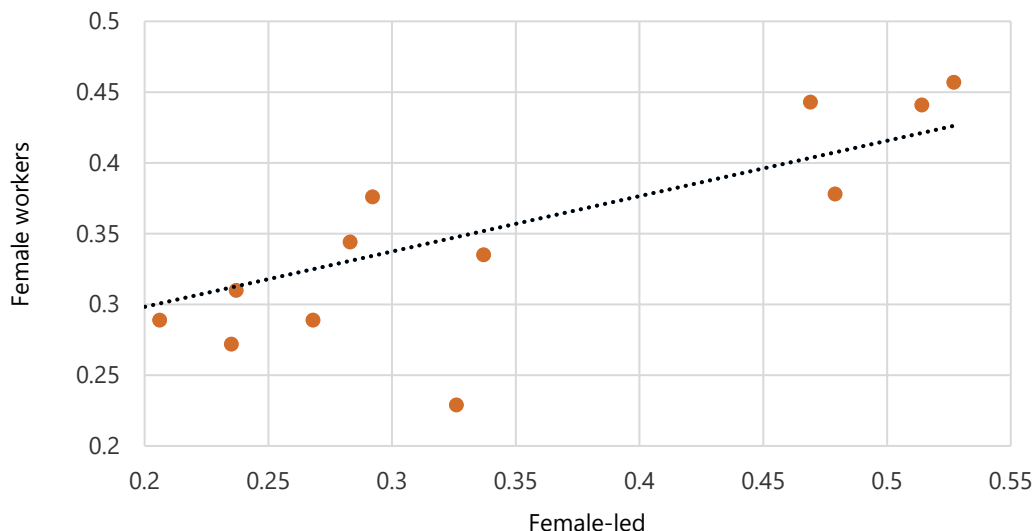


Note: The chart shows the differences in workforce composition between startups and scaleups founded by women compared to those founded by men. Firms were asked about the share of women in their workforce and then grouped by categories (women making up less than half/about half/over half of the workforce).

Source: EIBIS special survey on startups and scaleups. EIBIS 2019.

The share of female workers and female-led firms differs strongly across sectors (Figure 9). For example, more firms are women-led in the retail trade sector, which also has the highest share of female employees. In contrast, construction has a low share of female workers and firms are hardly led by women.

Figure 9: Correlation between female-led firms and share of female workers by industry



Source: EIB authors' calculation based on the Enterprise Survey 2019.

Despite these sectoral differences, female-led firms have higher levels of female workers across all sectors (Figure 10). Several analyses note the greater propensity of female-led firms to hire women and that women have better prospects to advance in female-led companies (see Bednar et al., 2019, for a review). This means that support for female-led firms can also help to increase their representation in the labour force and in sectors where they are currently strongly underrepresented, including in higher paying sectors such as IT. This effect does not necessarily depend on new job creation, which may vary with economic cycles and sectoral trends, but can also stem from creating role models in leadership at the top of firms and promoting more inclusive management practices within corporations with a more diverse workforce. However, Devine et al. (2019) looking at US-based high-growth entrepreneurial firms¹⁸ show for a sample of similar firms that female-led entrepreneurs were better at leveraging their companies' human and financial capital. In fact, female-led companies with more educated managers were more likely to achieve high employment growth than male peers with a team at similar levels of experience.

¹⁸ Defined as companies that experience annualised employment growth of 20% or more during a three-year period.

Figure 10: Female workers by industry, difference in share of female workers in female-led versus non-female-led firms by industry



Source: EIB authors' calculation based on the Enterprise Survey 2019.

Female-led firms generate further positive spillovers. We find that female-led businesses are more likely to provide training and that a higher share of the workforce typically benefits from training investment (Figures 11a and 11b). What is more, by having a higher chance of women participating in training, female-led firms' investment in human capital contributes to knowledge building and empowerment beyond the company level.

Figure 11a: Share of firms offering training, by firm type (%)

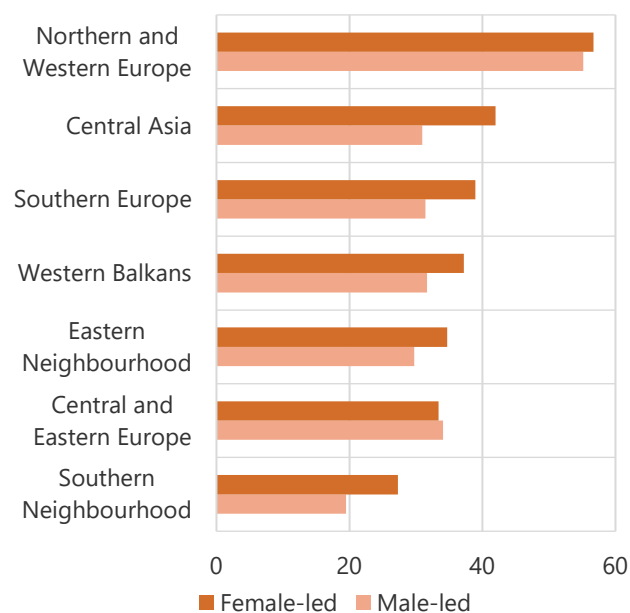
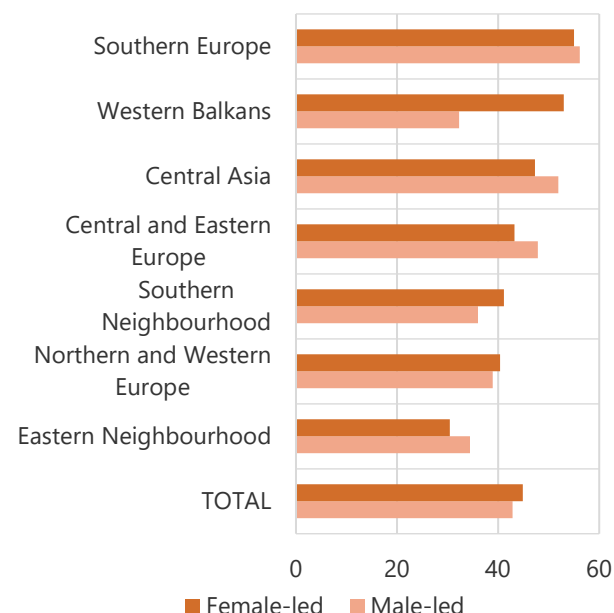


Figure 11b: Share of workers receiving training, by firm type (%)



Note: See Annex 2 for details of each country grouping.

Source: EIB authors' calculation based on the Enterprise Survey 2019.

Female-led firms achieve higher environmental, social and governance scores (Figure 12). Female-led firms achieve significantly higher ESG scores. This partly reflects the outperformance in the social component inherent to ESG ratings, which, by definition is higher whenever the company has a good gender balance (Box 3). However, gender balance is not the only driver of the aggregate difference in scores, as female-led firms outperform non-female-led firms in the probability of offering training to their workforce (Figure 12b). For the governance and environment components (Figures 12c and 12d), female-led firms also tend to show significantly higher scores.

Box 2: Measuring firms' environmental, social and governance quality: The Corporate ESG Responsibility composite indicator

The Corporate ESG Responsibility composite indicator is based on ESG-related questions in the Enterprise Surveys. It is inspired by the Sustainability Accounting Standards Board (SASB) standards. Selected ESG-related questions (45 in total out of more than 200 in the Enterprise Surveys) have been aggregated to match the main ESG pillars and sub-pillars and generate a synthetic index (see Table 2.1 below for the schematic representation). The Corporate ESG Responsibility composite indicator has been built taking the following steps:

1. Identify and select the building blocks (E, S and G and their sub-pillars) and respective variables, based on relevant frameworks such as the Sustainability Accounting Standards Board and on their relevance in the assessments of the main ESG rating agencies.

2. Match the main building blocks and the variables used by the Sustainability Accounting Standards Board and ESG rating agencies with the topics (set of questions) covered by the Enterprise Surveys.
3. Align the sub-pillars with SASB standards to the maximum possible extent. We included three sub-pillars for E (environmental awareness, green management practices, green measures), three for S (gender, education and skills, training), and six for G (corporate governance, management practices, internal controls and audit, business ethics, compensation, innovation).
4. When data are missing due to skipping patterns that ensure the firms answer only questions relevant to them rather than not responding, answers are imputed when logically straightforward (in line with OECD-JRC, 2008). Answers can include "refusal" or "don't know"; this is typically treated as missing in the analysis, but can on a case-by-case basis be used as valid information.
5. Calculate pillars and the overall composite indicator as z-scores with mean 0 and standard deviation 1 over the sample including all 41 economies and companies covered in the Enterprise Surveys.
6. Weight the main building blocks (E, S and G) and the sub-pillars taking into account their relevance; the components within each sub-pillar, on the contrary, are equally weighted. The weight for E has been set at 40%, for S at 25%, and for G at 35%.
7. Perform various other robustness checks, such as looking at correlation matrices and benchmarking different versions of scores built using different definitions in terms of (i) inclusion, or not, of specific building blocks, and (ii) different weights.
8. Generate the final output, represented by firm-level corporate ESG responsibility scores.

Table 2.1: Corporate ESG Responsibility composite indicator: Building blocks and Enterprise Survey questions

E	Environmental awareness	Monitor/external audit/targets of energy consumption, CO ₂ , water, pollution
	Green management	Strategic objectives mentioning environment, manager responsible, certifications
	Green measures	Heating and cooling improvements, upgrade of machines and of vehicles, etc.
S	Gender	Female owners, female top managers, female employees
	Education and skills	Secondary school completion
	Training	Formal training programmes
G	Corporate governance	Written business strategy with KPIs, board of directors, meeting with suppliers
	Management practices	Monitor performance indicators, production targets, promotion of non-managers
	Internal controls and audit	Certified fiscal statement, internationally recognised quality certification
	Business ethics	Obstacles from crime, losses from robberies, gifts or informal payments
	Compensation	Performance bonuses for managers
	Innovation	R&D, purchase of fixed assets, use of technology from foreign company

Source: Authors' classification based on Sustainability Accounting Standards Board (SASB) standards and Enterprise Surveys. For further information see EIB/EBRD (2022), Chapter 3.

Figure 12a: Predicted probability of female-led firms, by ESG index

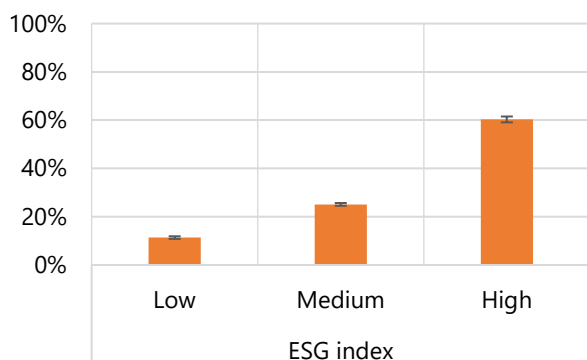


Figure 12b: Social index pillar

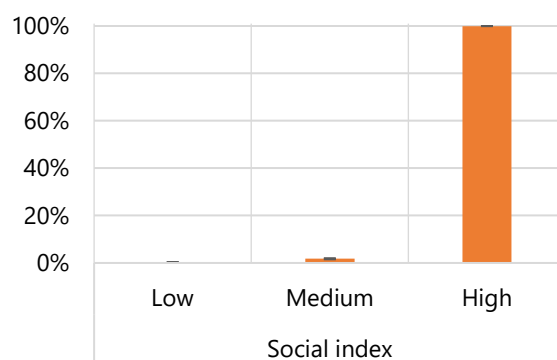


Figure 12c: Environment index pillar

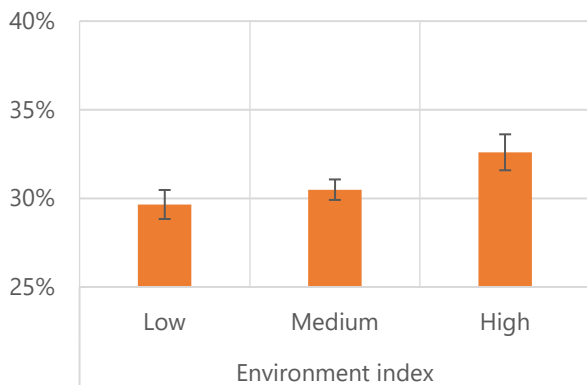
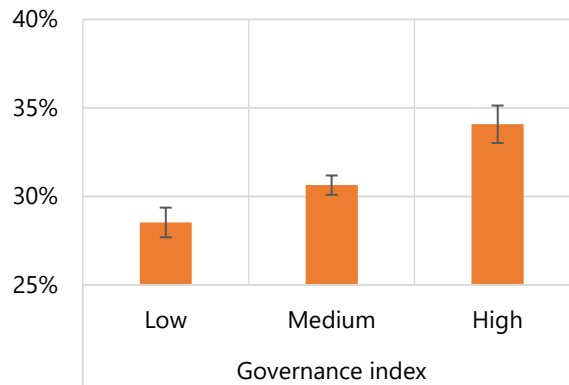


Figure 12d: Governance index pillar



Source: EIB authors' calculation based on the Enterprise Survey 2019.

Note: The chart plots the average predicted value of the outcome of female-led firms on logit regressions on an indicator of interest, controlling for region, firm size, age and sector. Standard errors are clustered at the regional level. The error bands denote the 90% confidence interval. All variables shown are statistically significant at the 10% level.

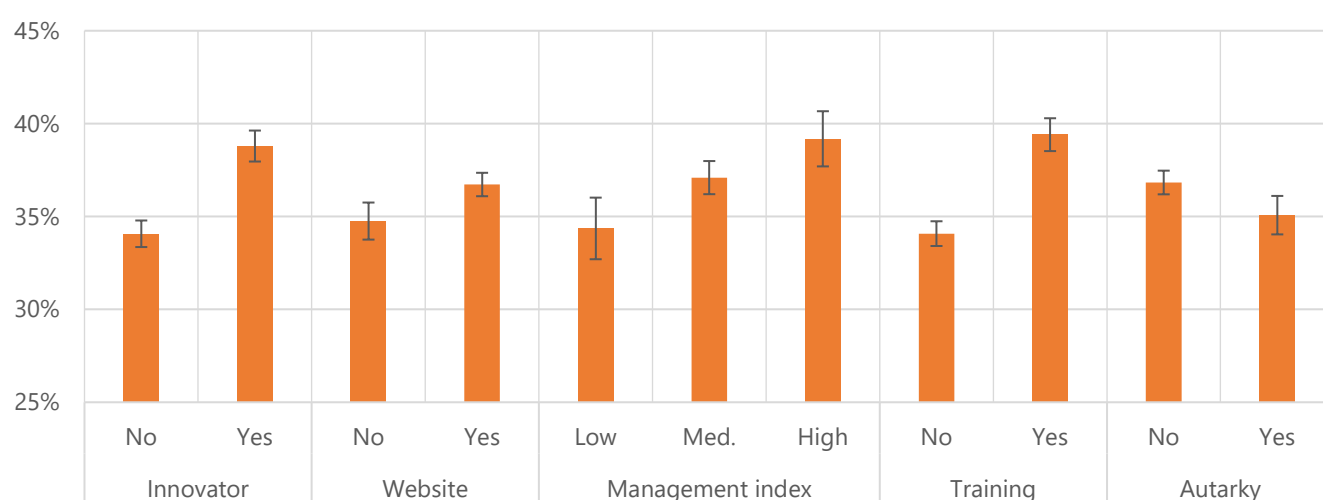
Higher ESG scores attest to the broader benefits female-led businesses can generate. For example, they are more likely to be innovative and support the green transition by monitoring CO₂ emissions and setting energy targets. Indeed, female leadership has also been found to be associated with greater disclosure on emission information and reduction efforts for energy consumption, greenhouse gases and other resources in further analyses (Bloomberg, 2020; UN Women, 2022; FP Analytics, 2020). At the same time, ESG performance will play an increasing role in firms' evaluation and perception by its clients and investors, making investment in female-led firms potentially more attractive.

Women-led firms differ from male-led companies on several key dimensions. Controlling for sectoral differences, country and firm size effects, we find that female-led firms lag on some dimensions but are leading on others (Figure 13).

Female-led firms are more likely to undertake innovation, introducing new products and processes. This pattern holds both for firms located in the European Union and in neighbouring countries. Findings

appear to be in line with results based on previous waves of the Enterprise Survey and counter some longstanding perceptions that women are less innovative than men and that female-led firms tend to underperform (Audretsch et al., 2020; Bastida et al., 2021). Several empirical analyses further corroborate the benefits of gender diversity in the workforce, research and development teams and on boards on firms' innovation outcomes (Díaz-García et al., 2013; Gallego et al., 2018). Thus, in addition to the broader socioeconomic benefits through training by female-led firms, innovation activity is another channel that generates positive externalities. One factor supporting better innovation outcomes may be differences in leadership style between men and women. While different styles have been found to be equally effective, some research suggests that women may be more "transformational leader types," fostering trust in organisations, encouraging creativity and helping develop new skills (American Psychological Association, 2006; Bilal et al., 2021). In turn, these factors can be conducive to innovation in companies.

Figure 13: The probability of female-led firms by firm characteristics



Source: EIB authors' calculation based on the Enterprise Survey 2019.

Note: The chart plots the average predicted value of female-led firms based on logit regressions on an indicator of interest, controlling for region, sector, firm size and age. Standard errors are clustered at the regional level. The error bands denote the 90% confidence interval. All variables shown are statistically significant at the 10% level. More estimation details in Annex 6.

Innovative companies are considered as those introducing new or significantly improved products and processes, as well as new or significantly improved organisational and marketing methods or investing in research and development.

The management index combines the scores on the management practices used to address problems arising in operations or production processes, to monitor the performance indicators, to implement production targets (such as volume, quality, efficiency, waste or on-time delivery) and to incentivise staff and managers' performance.

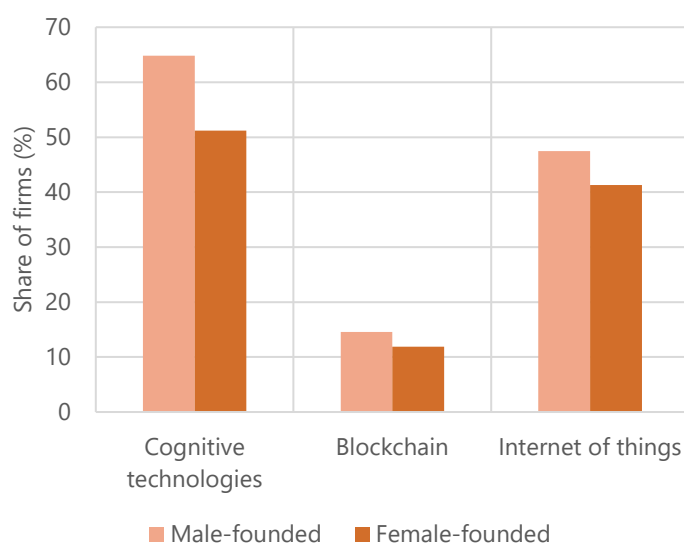
Firms in autarky are those firms that have no liability relationship with the banking sector. These firms (i) finance their working capital and investment entirely with internal sources, and (ii) have no outstanding loan, credit line or access to an overdraft facility.

Female-led firms are more likely to have established good management practices (Figure 13). Aside from differences in leadership styles, our survey data show that female-led firms are more likely to have established a set of sound management practices such as setting performance indicators and monitoring them. Those firms achieving top scores on management quality are significantly more likely to be led by women. In turn, establishing practices that help to detect problems and work towards improvements can

also support innovation. Research based on a global dataset derived from a real-time HR insights platform that analyses employee feedback shows that employees in female-led firms have higher engagement with the company, are more positive on their firm's strategy and mission and tend to be more satisfied with their jobs (Castrillon, 2019).¹⁹

Female-led firms are more likely to have started their digitalisation journey but there remain gaps on advanced digital technologies. We find female-led firms more likely to have a website compared to male-led companies both for EU and neighbouring geographies. While this marks a basic step of businesses' digitalisation journey, women-led firms lag on deployment of more advanced digital technologies. Data from the EIB startup and scaleup survey show that businesses founded by women are less likely to deploy cutting-edge technologies (Figure 14).

Figure 14: Digitalisation status, by founders' gender



Source: EIBIS Startup and Scaleup Survey, EIBIS 2019.

Questions: Are at least half of the founders women? Can you tell me for each of the following technologies if you have heard about them, not heard about them, implemented them in parts of your business, or whether your entire business is organised around it?

Fewer female firms are fully self-financing, qualifying as autarkic. We classify firms as autarkic that finance their investment and working capital from internal sources and have no outstanding credit line or access to overdraft.²⁰ Financial autarky can limit firms' growth opportunities. Findings therefore suggest that female-led firms are less likely to (voluntarily) forego connections to the financial sector and the possible benefits to it. However, not being classified as autarkic does not imply that firms' financing needs are (sufficiently) met.

Access to finance is among the top five obstacles female-led firms face. Asked about the most significant obstacle, 7% of female-led firms in the European Union and some 12% in neighbouring countries struggle with access to finance (Figure 15). Overall differences compared to male-led firms

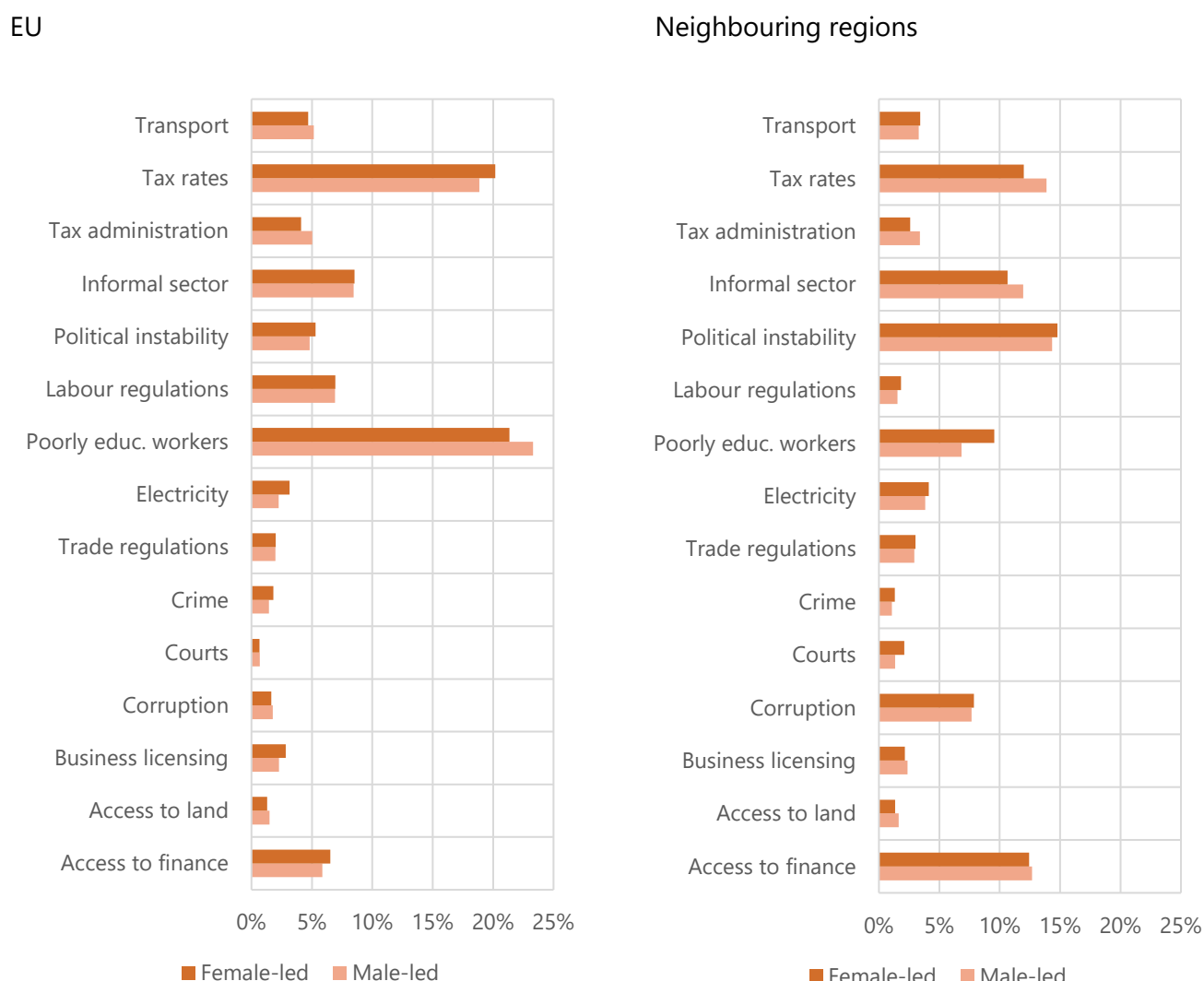
¹⁹ The higher engagement and identification may also be partly linked to female-led companies pursuing goals beyond profit generation. For startups and scaleups, survey data show greater diversity in founders' ambition.

²⁰ The concept of financial autarky is introduced in Chapter 4 of the Enterprise Survey report 2022.

appear to be relatively small. However, in some regions — Central Asia, the Western Balkans and particularly the Eastern Neighbourhood — problems with access to finance are more pronounced for female than for male-led firms.

Female and male-led businesses cite very similar issues in their operating environment. The key obstacle for firms in neighbouring countries is political instability. For EU-based companies, whether male or female-led, skills gaps are the biggest obstacle. In neighbouring countries, skills gaps are the biggest obstacle for some 10% of firms and the issue seems more pronounced for women-led companies. For most other key obstacles, gender differences appear rather minor (Figure 15). In turn, this means that improvements in the key bottlenecks in economies across the different regions stand to benefit businesses on a broad basis. At the same time, some of the bottlenecks, including infrastructure, regulation and incentives set in taxation systems may be factors preventing women to work or set up a business in the first place.

Figure 15: Biggest obstacles, EU and neighbouring regions



Source: EIB authors' calculation based on the Enterprise Survey 2019.

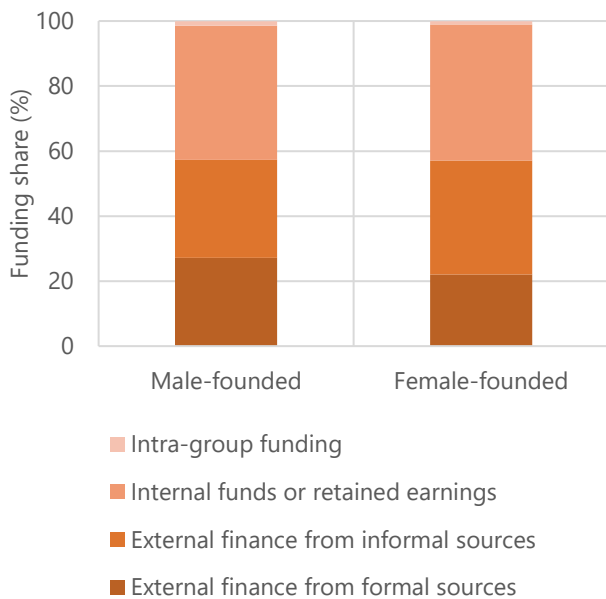
Note: Only one obstacle can be selected by each firm. The share of each obstacle sums up to 10% for the selected sample.

Women-led firms differ in their financing mix. While female-led firms report problems with access to finance similar to male-led firms, a closer look at firms’ financing mix shows that these are not the same. Sources of finance and the instruments used show gender differences. Data from the Enterprise Survey indicate a stronger reliance on bank finance for female-led firms for investment and working capital.

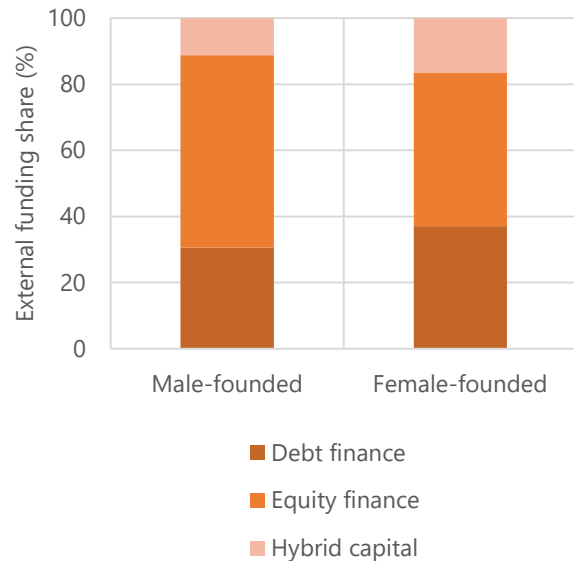
Women-led firms in the most dynamic segment face challenges accessing adequate funds. We find differences in the mix and the sources of funding for startups and scaleups, which suggests that financial systems may not serve the most dynamic female entrepreneurs that well. Focusing on this particular segment of corporates, we find that for startups and scaleups with female founders, informal sources play a bigger role in their financing mix (Figure 16a). External funding also tends to be more debt based (Figure 16b). In addition, the equity that women-led firms receive is more likely to come from themselves, family or friends (Figure 16c). Business angels, who often benefit young firms not only through finance but also through advice and networks, play a much smaller role in the equity mix of female-founded startups. Similarly, venture capital funds account for a smaller share. These results confirm the substantial literature pointing to funding gaps for women and difficulties in accessing venture capital (see Fackelmann and De Concini, 2020, for an overview).

Figure 16: Financing mix

a. Financing mix



b. External funding mix



Source: EIBIS Startup and Scaleup Survey, EIBIS 2019.

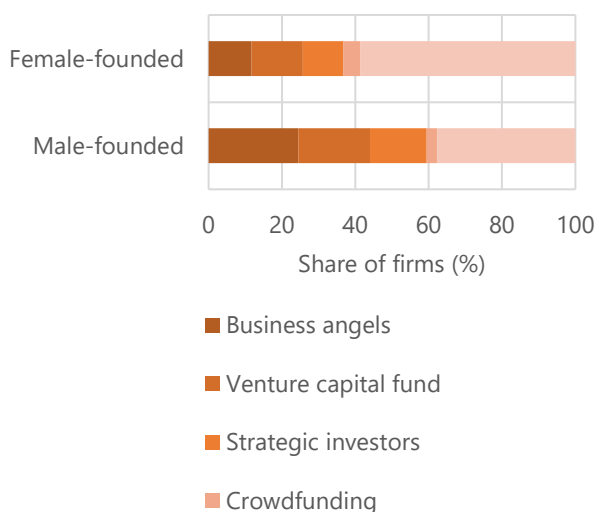
Source: EIBIS Startup and Scaleup Survey, EIBIS 2019.

Base: All firms.

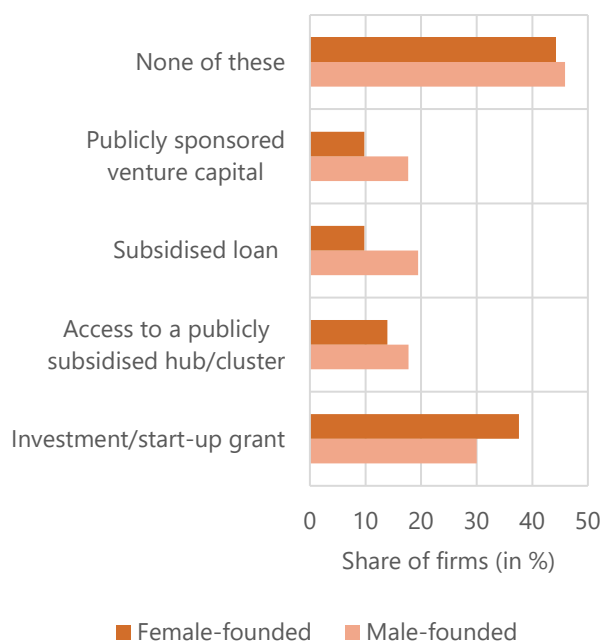
Base: All firms that used external finance.

Questions: Are at least half of the founders women? Questions: Are at least half of the founders women? What proportion of the external finance was in the form of ...? Approximately what proportion of your business activities have been financed by each of the following?

c. Equity mix



d. Public support



Source: EIBIS Startup and Scaleup Survey, EIBIS 2019.

Source: EIBIS Startup and Scaleup Survey, EIBIS 2019.

Base: All firms that used equity finance.

Base: All firms based in the EU27.

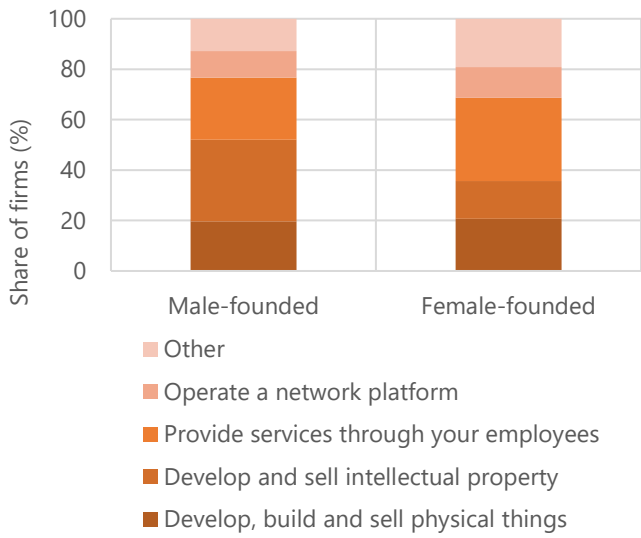
Questions: Are at least half of the founders women? Who provided you with the largest share of equity finance for your start of your business, has it, at any point, benefited from any of the following types of public support schemes?

Differences in ambition and business activities could be confounding factors. The startup and scaleup survey data indeed show that female founders tend to focus slightly less on scaling up than their male peers. Their businesses also tend to rely slightly less on digital technologies and the development of intellectual property as opposed to providing a service through its employees. We also find that female-led firms often have a stronger local focus than male-led firms, even though this may be a consequence of their financing conditions rather than a cause of it.²¹ Similarly, the reason fewer focus on turnover growth to scale their business may also be influenced by restrictions the firms face (Figures 17a, 17b and 17c).

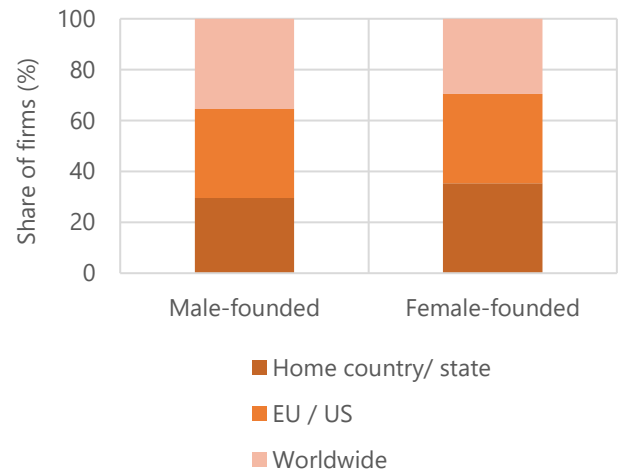
²¹ Differences in risk aversion could be confounding factors (Charness, 2012). However, behavioural differences observed in some studies are also shaped by women’s socioeconomic circumstances and the obstacles they face.

Figure 17: Firms' activities, geographical reach and ambitions

a. Firm activity



b. Geographical reach



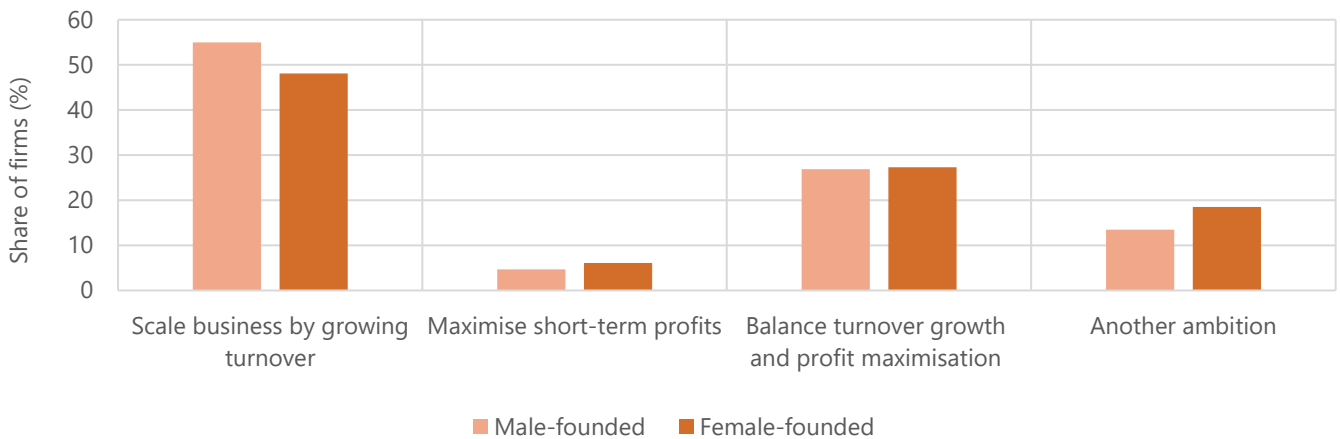
Source: EIBIS Startup and Scaleup Survey, EIBIS 2019.

Source: EIBIS Startup and Scaleup Survey, EIBIS 2019.

Questions: Are at least half of the founders women? What is the main activity of your firm?

Questions: Are at least half of the founders women? In which geographical markets do you primarily operate?

c. Main ambition



Source: EIBIS Startup and Scaleup Survey, EIBIS 2019.

Questions: Are at least half of the founders women? Looking ahead to the next three years, which of the following best describes your company's main ambition?

Accounting for differences in ambition and business activities, the financing differences between male and female founders remain. We use a regression framework to assess whether the differences observed in funding conditions are simply due to differences in ambitions/firm characteristics. For similar female and male-led firms, we compare the share of funding that comes from informal sources; the equity share in firms' external financing mix and the share of equity that comes from founders, family and friends.

We find that, even after controlling for possible confounding factors, women-led firms have a 5 percentage point higher funding share from informal external sources; an 11 percentage point lower equity share in their external funding mix; and an 18 percentage point higher share of equity funding from founders, family and friends. This suggests that the differences in financing conditions are not only due to differences in ambition, activities, or innovation behaviour, but reflect a situation in which access to finance is more difficult for women-led firms.

Policy support can help mitigate some gaps for women founders. Notably, they are more likely to have benefited from investment or startup grants (Figure 16d). However, on other forms of support that hold benefits in terms of networking and integration in an ecosystem, women entrepreneurs appear to lag. Similarly, for venture capital, where networks are vital, the gender gap shows not only in the overall equity mix, but also for publicly sponsored venture capital.

Venture capital gaps may work to exacerbate gender disparities in the digital sector. Reasons behind the venture capital gap in the equity mix may reflect the lack of diversity in the venture capital industry as well as in the science, technology, engineering and mathematics sectors, which remain male-dominated (WAPPP, 2019; UNESCO, 2021). Market studies for the United States, where a venture capital gap is also prevalent, indicate that female founder teams receive venture capital less often and generally get a lower fraction of the funding they seek compared to male peers (WAPPP, 2019). At the same time, venture capital gaps may limit women in advancing towards greater parity in tech and to the forefront of the digital transformation.

Structural differences, barriers and constraints female entrepreneurs face can also affect their resilience to shocks. In the following section, we examine the impact of the COVID-19 pandemic shock on women and female-led businesses.

Gender equality and the pandemic

The COVID-19 shock exacerbated some longstanding differences and reopened gaps. Emerging literature shows that the pandemic shock impacted women and girls via multiple channels. School closures affected boys and girls across the globe, typically more severely in poorer countries. Evidence to evaluate learning losses by gender and their potential long-term implications on labour market inequalities is still lacking, but it appears that closures already had some immediate effects on girls. For example, a study for Kenya shows that early marriages and school age pregnancies have increased, and risks setting back progress on reducing gender inequalities for longer (Zulaika et al., 2022).

Many women have been at the frontline of the pandemic, working in the care sector and facing health risks in underpaid jobs. Globally, women are overrepresented in precarious and vulnerable employment, often with less access to social safety nets, and the pandemic has pushed many into extreme poverty.²² Female-led businesses are concentrated in industry sectors hit hardest by economic shutdowns (World Economic Forum, 2020; Queisser, 2021). Torres et al. (2021) show that female-led micro-businesses and female-led enterprises in countries most affected by the pandemic were disproportionately hit compared with enterprises led by men. In some countries, gender gaps in labour force participation have widened (World Economic Forum, 2021).

Juggling multiple responsibilities often came at personal and financial costs. In the European Union, almost four in ten women state that the pandemic had a negative impact on their personal income and one-fifth consider or have decided to permanently reduce the time allocated to paid work (Eurobarometer, 2022). Analysis of mobility data shows that lockdowns had a stronger impact on women's mobility (Caselli et al., 2021). Women have shouldered more responsibilities of care work at home (Queisser, 2019). Due to the double load of telework and care, their work-life balance was affected more negatively and they have on average experienced greater stress than men (Eurofund, 2021).

Recent survey evidence confirms adverse effects on female-led businesses. Regression results show that firms that experienced sales losses and liquidity drops linked to the pandemic were more often female-led (Figure 18a). This applies to both EU and non-EU geographies and controlling for differences in firm age, size and sector.²³ These results appear to be in line with studies finding female-owned businesses more likely to experience a decrease in demand for their products or services and supply of intermediate inputs than male-owned firms (Hyland et al., 2021).

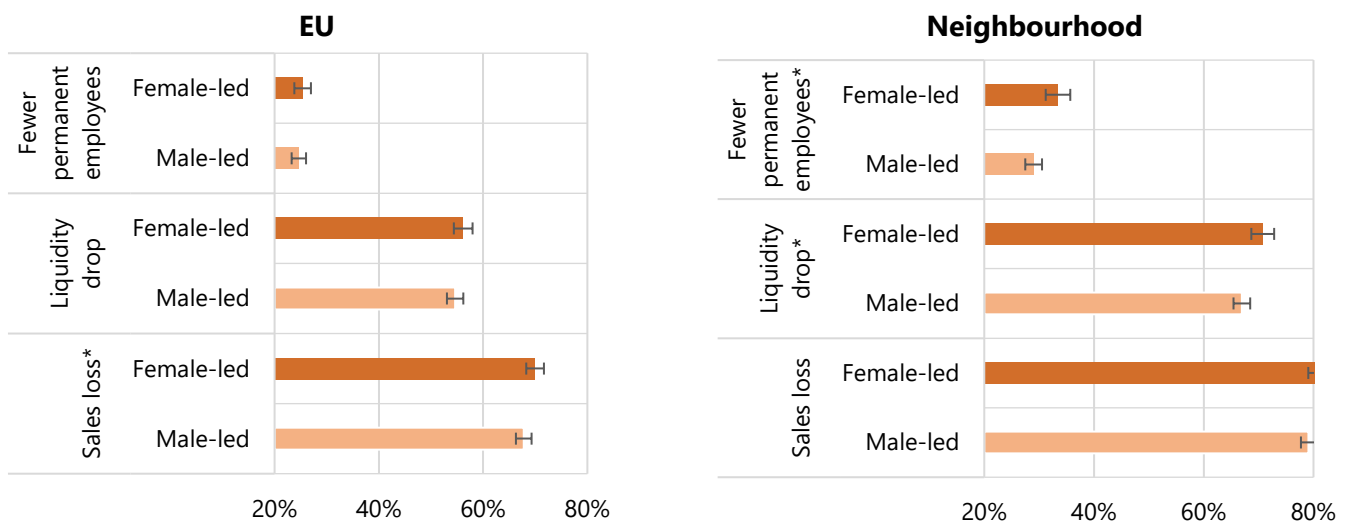
Firms reporting a decrease in employment are more likely to be women-led. Here, the levels and gender disparities are wider in neighbouring countries, which may reflect differences in the sales and liquidity impact as well as more limited policy support compared to the European Union.

²² Oxfam estimates that some 47 million women and girls have been pushed into extreme poverty since the start of the pandemic.

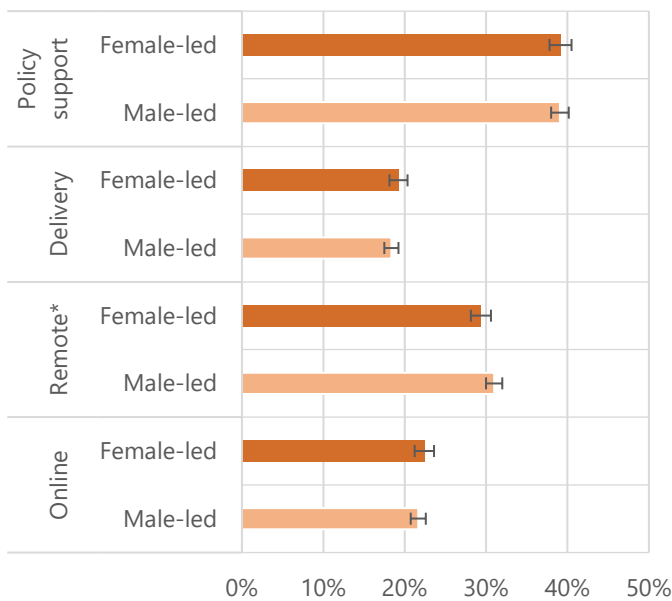
²³ Tables A4 and A5 provide further information on regression results.

Figure 18: The COVID-19 shock

a: COVID-19 impact: Decrease in sales and liquidity



b: COVID-19 adaptability (all regions)



Source: EIB authors' calculation based on the Enterprise Survey COVID-19 follow-up.

Note: The chart plots the average predicted value of the outcome of interest based on logit regressions on an indicator for female-led, country and sector fixed effects, and controls for firm size and age.

The error bands denote the 90% confidence interval. Stars indicate that the female variable is statistically significant at the 10% level. See more estimation detail in Annexes 4 and 5.

Male and female-led firms have adapted their businesses in response to the pandemic shock (Figure 18b). Policy support played a crucial role in giving firms some breathing space and support to adapt (EIB, 2022). Many have shifted their sales online and devised new forms of product delivery. In

addition, about three in ten firms introduced practices for remote working. The lower probability of firms that introduced remote working being female-led might also reflect differences in the pre-pandemic levels of digital sophistication and location-specific factors (such as the distribution of firms within countries and local network quality). Indeed, EIB analysis has shown that firms already more advanced on digitalisation and those located in regions with better digital infrastructure were typically quicker to respond with further digitalisation (EIB, 2022).

How firms position themselves in the emerging post-pandemic environment will impact gender equality in the medium to longer term. Two areas deserve particular attention. One impact of the pandemic has been to accelerate digitalisation. In turn, this adds to the urgency of closing gender gaps in this area in particular, including for the adoption of advanced digital technologies and the formation of new digital businesses. In addition, it remains to be seen how well women will fare in a world of work with enhanced remote working options. On the one hand, the broader adoption of teleworking and hybrid work could help to reduce some biases towards remote working pre-dating the pandemic that might have affected women in particular. On the other, women appear more likely to make use of new working arrangements in the aftermath of the pandemic (Barrero et al., 2021), but social norms change more slowly. Being away from the office might still come with an (enhanced) promotion penalty, particularly affecting women, thereby manifesting gender gaps or even exacerbating them. In addition, women might get increasingly caught up in the enhanced “flexibility” of juggling professional duties and unpaid work. How technology is being integrated, how management practices evolve and to what extent changing work practices come with shifts in societal norms are therefore key factors for creating a world of work with fewer gender biases after COVID-19.

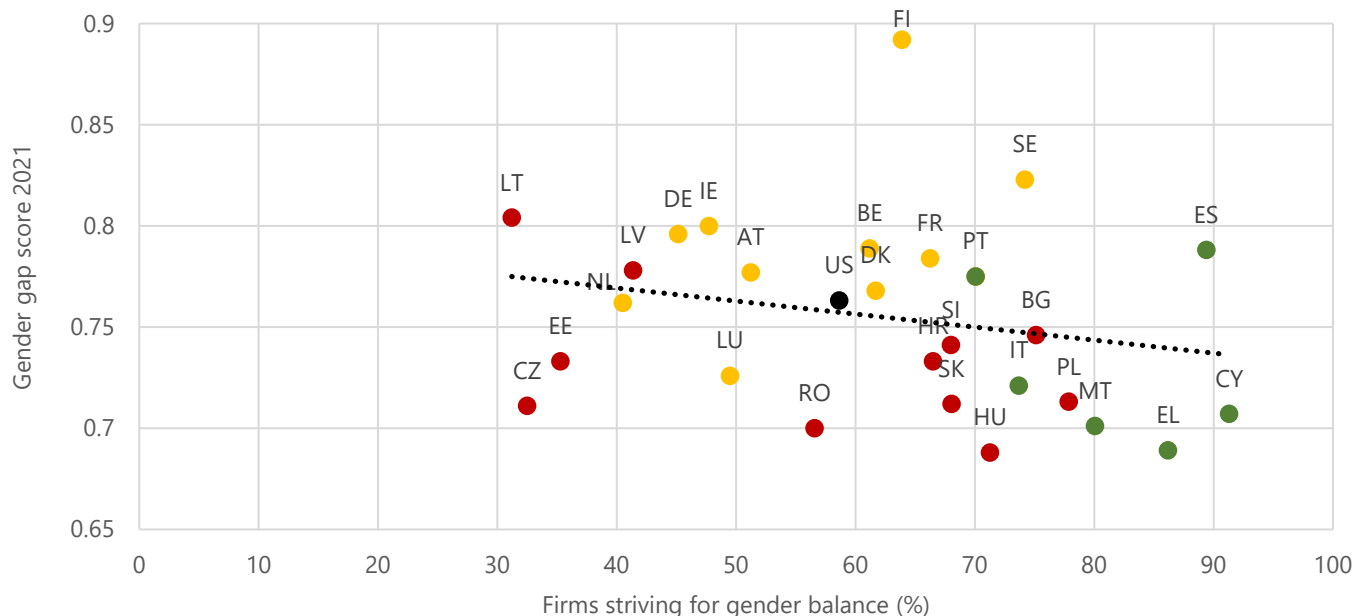
There is still a considerable way to go to achieve gender parity in the post-pandemic environment. Part of the progress depends on policy action to create the conditions that support the formation and growth of new female-led businesses. However, firms play an important part in this process, too. Therefore, in the next section we look at firms’ role in supporting a better gender balance. For this analysis, we use data from the EIBIS 2021 survey.

Which firms are striving for gender balance?

Six out of ten firms in the European Union report striving for gender balance. Here, EU firms are on a par with the United States, where 59% strived for gender balance.

The share of firms that report actively striving for gender balance varies across Europe. Some 80% of firms in Southern Europe report doing so, compared to 62% in Central and Eastern Europe and 54% of firms in Northern and Western Europe. Examining the relationship between the share of firms reporting to strive for gender balance and gender gap scores shows a negative correlation (Figure 19). Firms active in countries lagging on gender equality more often report actively striving for it, which might indicate that many have started to realise that they still have a (longer) way to go to reach parity and also that there are costs of lagging behind. In addition, in some countries (new) legislation may push firms to demonstrate commitments.

Figure 19: Firms reporting to strive for gender balance versus gender gap, by country



Source: EIBIS 2021, WEF Global Gender Gap 2021.

Questions: Did your company actively strive for gender balance and incorporate this in the company strategy?

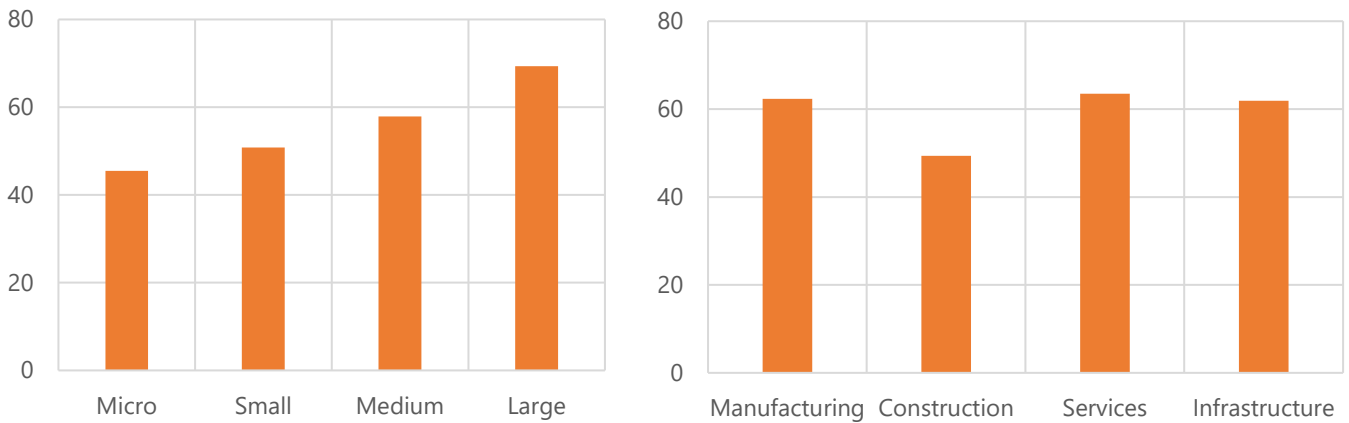
Larger firms are more likely to report actively striving for gender balance than smaller ones. Almost seven in ten large corporates (69%) report striving for gender balance compared to some 58% of medium-sized firms and 51% of small firms (see Figure 20). The share of firms striving for gender balance is lowest among micro-firms with 45%. The relationship between firm size and striving for gender balance might be influenced by regulation, too. For example, some countries have legislation introducing quotas for leading positions or requiring firms to set targets to increase the share of women at different levels in organisations, but these tend to be focused on larger corporates.²⁴ In addition, signalling to investors

²⁴ For example, German legislation to promote women in leading positions specifies a minimum threshold for women on the supervisory board and in top management for listed companies and those with more than 2 000 employees.

who increasingly care about companies' ESG performance may provide stronger incentives for larger companies to act.

By sector, construction, which has few women-led businesses and a low female employment share, stands out as having a particularly low share of firms reporting to strive for gender balance (49%). Firms in the services sector report efforts to advance gender balance most often (64%), followed closely by the manufacturing and the infrastructure sector (both 62%).

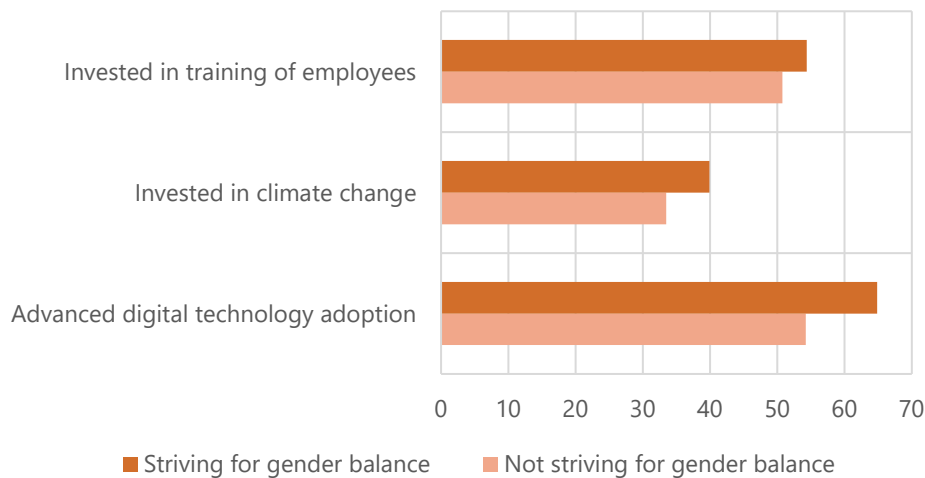
Figure 20: Firms reporting to strive for gender balance, by firm size and sector (% of firms)



Source: EIBIS 2021.

Firms striving for gender balance are pushing ahead with transformation in other areas, too. Firms that have invested in digital technologies or have undertaken investment to address the consequences of climate change and prepare for it are on average more likely to report striving for gender balance. Similarly, those investing in training report efforts to strive for gender balance more often (Figure 21).

Figure 21: Firms reporting to strive for gender balance, by firms' transformative investment activities (% of firms)



Source: EIBIS 2021.

Striving for gender balance is the first step to close the gaps. However, to advance on gender parity, firms' commitments need to be effectively implemented.

Shifts towards a more digital and greener economy can open up opportunities for women because firms pushing for transformation in other areas also tend to grow more dynamically, creating employment opportunities and helping to mainstream practices to advance a more equal gender balance. There is also some evidence that green startups are more often established by women (Borderstep, 2022).²⁵ At the same time, our results suggest that a push for parity is still much needed, enabling women to leverage their potential in a transforming economy.

²⁵ Data for Germany show greater gender diversity among green startups than for overall startup activity (share of female founders at 21% compared to 16% for non-green startups). See Borderstep (2022).

Conclusion

Our analysis shows that gender gaps are still prevalent in the European Union and in other regions around the world. Gender gaps are costly, not only implying foregone opportunities for women individually, but also for economies. Moreover, many firms forego benefits, for example in terms of better decision-making and new ideas, by not fully leveraging female talent.

Our results show that supporting female-led businesses makes good economic sense, as these firms generate wider economic, social and environmental benefits. Notably, support for female-led businesses can contribute to raising female labour force participation, thereby helping to reduce poverty risks. At the same time, framework conditions that make it easier for women to have professional careers, or establish and run a business successfully, are key to seeing more female-led businesses emerge and thrive.

Persistent gaps show that advances in educational and legal parity are not enough. While these are necessary conditions, it takes more for women to take advantage of economic opportunities on an equal basis.

Stepping up efforts to achieve gender parity is needed to live up to global and EU commitments, and to revert recent setbacks. Globally, the pandemic had a negative effect on women via multiple channels, with the COVID-19 shock often worsening women's situation. For the European Union's social pillar, advances in gender equality would support all three headline targets on employment, training participation and a reduction in the number of people at risk of poverty and social exclusion, which have suffered setbacks as a result of the COVID-19 shock.

Creating the right conditions for women-led firms to thrive serves to narrow gender employment gaps and bring wider socioeconomic benefits. Legal parity remains a necessary but insufficient component. Tackling key obstacles in the business environment would benefit both male and female businesses. However, to support the emergence and growth of female businesses, factors that keep women from work or from setting up and growing a business need to be tackled. These include sociocultural barriers, biases in tax systems and addressing gaps in infrastructure and care facilities. Infrastructure gaps and gender biases in urban and transport planning, for instance, can affect women's ability to get to work safely, thereby limiting labour market participation (World Bank, 2022). A dedicated planning approach and investment in inclusive infrastructure can help to mitigate specific gaps and make places and services more inclusive, thereby benefiting women and communities as a whole.

A crucial enabler for women remains the availability of affordable childcare services. It has been repeatedly found to benefit female labour force participation in countries at different levels of income, and is associated with wider benefits in terms of human capital and early childhood development. What is more, increasing public investment in the care economy can help to support women by reducing unpaid work. This needs to come together with a fairer distribution of unpaid care work, requiring societal and behavioural shifts, a focus on working conditions in the paid care sector and fair remuneration.

To tackle gender entrepreneurship gaps, particularly in dynamic sectors, improving access to finance and networks is crucial. Our research showed clear disparities in startup and scaleup funding.

Reducing these gaps takes an understanding of biases in the venture capital industry and action to tackle them actively, challenging investors' strategies and mind-sets. One way to do this is to foster greater diversity and gender balance in investment teams, which also pays off in terms of returns for private equity firms (IFC, 2019). Another is to set targets for the funding of female startups. Dedicated policy support to create additional opportunities for funding and network building for female entrepreneurs, including mentoring and coaching to strengthen business-relevant soft skills, can also advance gender balance. Support needs to arrive quickly as norms tend to change slowly and (potential) women founders risk missing out on opportunities, particularly in the digital sector, in the near to mid-term.

Countering a deepening of the digital gender divide requires comprehensive efforts. New technologies offer opportunities for women and men but cannot address underlying structural problems. Men are 3.1 times more likely than women to work in the ICT sector and there is some evidence of a deepening gender divide (European Commission, 2018). Comprehensive policy action with a medium to long-term focus is needed to address the risks of deepening digital gender divides. Globally, this includes a focus on safe and affordable access to digital tools for women to encourage use, and a strong focus on education enabling girls to counter inherent biases and sociocultural norms that affect enrolment choices in later education and that manifest digital gaps. Policymakers and firms should also focus on inclusive use and the advancement of new digital technologies, for example by promoting gender-smart artificial intelligence that avoids embedding and scaling gender biases. In the short term, some of these risks can be mitigated by adjusting training datasets and developing responsive practices in AI management in firms. In the longer term, the best way to mitigate the risks of new discrimination through technology is to have more women in the tech industry.

Financial markets and ESG-conscious investors can help generate opportunities for women. Our analysis shows that women-led firms tend to achieve higher ESG scores. In turn, growing interest in ESG and sustainable investing offers opportunities for female-led businesses. What is more, it also provides incentives to adopt good practices for promoting gender balance at the firm level on a broader basis, strengthening the case for businesses to foster good gender practices and being rewarded through investors' choices. In addition, regulation to advance gender parity at the firm level through targets or quotas can help to mainstream it. Public policy can also provide incentives to progress towards gender targets in firms, for example through tendering procedures that take firms' ESG performance into account. Procurement practices offer another way to support the growth of female-led businesses in dynamic and more traditional sectors. Notably, this could be fostered by public institutions but also by large private sector businesses that strive for the integration of female-led businesses into supply chains. At the same time, gender-responsive procurement practices could help to strengthen networks for female entrepreneurs.

Policymakers, social partners and civil society need to work together to ensure that the twin transition is also an opportunity for women. This includes investing in women's skills to work in a greener and more digital economy and supporting those women who push ahead with the transformation with new business ideas.

References

- American Psychological Association (2006). "When the Boss is a Woman." American Psychological Association. Available at: <https://www.apa.org/topics/women-girls/female-boss>.
- Audretsch, D. B. and Belitski, M. (2020). "Innovation in women-led firms: an empirical analysis." *Economics of Innovation and New Technology*, Vol. 31, No 1-2, November 2020, pp. 90-110.
- Alesina, A. et al. (2009). "Do Women Pay More for Credit? Evidence from Italy." NBER Working Paper No 14202. National Bureau of Economic Research.
- Baer, M., Hofmann, C. and Vetter, K. (2013). "Intergroup Competition as a Double-Edged Sword: How Sex Composition Regulates the Effects of Competition on Group Creativity." *Organization Science*, Vol. 25, No 3, pp. 892-908.
- Barrero, M. J., Bloom, N. and Davis, S. J. (2021). "Let Me Work from Home, or I Will Find Another Job." University of Chicago, Becker Friedman Institute for Economics, Working Paper No 2021-87. Available at: <http://dx.doi.org/10.2139/ssrn.3890988>.
- Bastida, M. (2021). "Women's entrepreneurship and self-employment, including aspects of gendered Corporate Social Responsibility." European Parliament, Brussels. Available at: [https://www.europarl.europa.eu/RegData/etudes/STUD/2021/694301/IPOL_STU\(2021\)694301_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2021/694301/IPOL_STU(2021)694301_EN.pdf).
- Bednar, S., Gicheva, D. and Link, A. N. (2019). "Innovative activity and gender dynamics." *Small Business Economics*, Vol. 56, pp. 1591-1599. Available at: <https://doi.org/10.1007/s11187-019-00282-2>.
- Bilal, A., Ahmad, W., Jan, M. F., Huseynov, R. and Nagy, H. (2021). "How Women's Transformational Leadership Induces Employees' Innovative Behaviour Through Trust and Connectivity: A Sequential Mediation Model." *Global Business Review*, pp.1-16. Available at: <https://doi.org/10.1177/0972150920982760>.
- BloombergNEF/Sasakawa Peace Foundation (2020). "Gender Diversity and Climate Innovation." Available at: https://assets.bbhub.io/professional/sites/24/BNEF-Sasakawa-Peace-Foundation-Gender-Diversity-and-Climate-Innovation_12012020_FINAL.pdf.
- Borderstep Institute (2022). "Green Startup Monitor 2022." Available at: <https://www.borderstep.de/wp-content/uploads/2022/03/GreenStartupMonitor2022.pdf>.
- Burunciuc, L./Forbes (Kazakhstan) (2018). "Why Companies that Employ Women are More Effective than 'All Male' Companies." World Bank, originally published in Russian in Forbes Kazakhstan.
- Caselli, F., Grigoli, F., Lourenco, P. R., Sandi, D. and Spilimbergo, A. (2021). "The disproportionate impact of lockdowns on women and the Young." VoxEU, Centre for Economic Policy Research, January 2021.
- Castrillon, C. (2019). "Why Women-Led Companies Are Better for Employees." Forbes. Available at: <https://www.forbes.com/sites/carolinecastrillon/2019/03/24/why-women-led-companies-are-better-for-employees/?sh=21393eb43264>.

Charness, G. and Gneezy, U. (2012). "Strong Evidence for Gender Differences in Risk Taking." *Journal of Economic Behavior & Organization*, Vol. 83, No 1, pp. 50-58.

Deloitte (2022a). "Progress at a snail's pace. Women in the boardroom: A global perspective." 7th edition. Available at: <https://www2.deloitte.com/content/dam/Deloitte/global/Documents/gx-women-in-the-boardroom-seventh-edition.pdf>.

Deloitte (2022b). "Europe: Regional overview." 7th edition. Available at: <https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Risk/gx-risk-wob-europe-180222.pdf>.

Devine, R. A., Molina-Sieiro, G., Holmes, R. M. Jr. and Terjesen, S. A. (2019). "Female-Led High-Growth: Examining the Role of Human and Financial Resource Management." *Journal of Small Business Management*, Vol. 57, No 1, pp. 81-109.

Díaz-García, C., González-Moreno, A. and Sáez-Martínez, F. J. (2013). "Gender diversity within R&D teams: Its impact on radicalness of innovation." *Innovation: Management, Policy & Practice*, Vol. 15, No 2, pp. 149-160.

Eurobarometer (2022). "Women in times of COVID-19." EP Flash Eurobarometer, Brussels.

European Investment Bank (2022). "Regional Cohesion in Europe 2021-2022." European Investment Bank, Luxembourg.

European Investment Bank/European Bank for Reconstruction and Development (2022). "Business resilience in the pandemic and beyond. Adaptation, innovation, financing and climate action from Eastern Europe to Central Asia." Luxembourg/London.

European Investment Bank/European Bank for Reconstruction and Development (2022b). "Unlocking sustainable private sector growth in the Middle East and North Africa." Luxembourg/London.

Eurofound (2016). "The gender employment gap: Challenges and solutions." Publications Office of the European Union, Luxembourg.

Eurofound (2021). "Living, working and COVID-19 (Update April 2021): Mental health and trust decline across EU as pandemic enters another year." Publications Office of the European Union, Luxembourg.

European Commission (2018). "Women in the Digital Age." European Commission, Directorate-General of Communications Networks, Content and Technology, Brussels.

European Commission (2022). "8th Report on Economic, Social and Territorial Cohesion." European Commission, Brussels.

European Parliament (2015). "Women's Entrepreneurship: closing the gender gap in access to financial and other services and in social entrepreneurship." Available at: [http://www.europarl.europa.eu/RegData/etudes/STUD/2015/519230/IPOL_STU\(2015\)519230_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2015/519230/IPOL_STU(2015)519230_EN.pdf).

Eurostat (2022). Gender Pay Gap Statistics. Available at: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Gender_pay_gap_statistics#Gender_pay_gap_levels_vary_significantly_across_EU

- Fackelmann, S. and De Concini, A. (2020). "Funding women entrepreneurs. How to empower growth." Report prepared for the European Commission. European Investment Bank and European Commission, Luxembourg/Brussels. Available at: https://www.eib.org/attachments/thematic/why_are_women_entrepreneurs_missing_out_on_funding_en.pdf.
- FP Analytics (2020). "Women as levers of change." Available at: <https://womensleversofchange.com/>
- Gallego, J. M. and Gutierrez, L. H. (2018). "An integrated analysis of the impact of gender diversity on innovation and productivity in manufacturing firms." IDB Working Paper No 865, IDB Working Paper Series, Inter-American Development Bank.
- GEM (2021). "Women's Entrepreneurship 2020/21." GEM Global Entrepreneurship Monitor. Available at: GEM Global Entrepreneurship Monitor (gemconsortium.org)
- Hyland, M., Karalashvili, N., Muzi, S. and Viganola, D. (2021). "Female-Owned Firms during the COVID-19 Crisis." Global Indicators Briefs No. 2, World Bank, Washington, DC.
- IFC (2019). "Moving toward gender balance in private equity and venture capital." IFC, RockCreek and Oliver Wyman.
- Inc. (2018). "Women entrepreneurship report. Report: Female Entrepreneurs Much More Likely to Employ Women." Available at: <https://www.inc.com/kimberly-weisul/these-entrepreneurs-hired-very-few-men.html>
- Jung, O. (2010). "Women Entrepreneurs." Small Business Financing Profiles, Industry Canada, Small Business and Tourism Branch.
- Lazear, E. P. (1999). "Globalisation and the market for team-mates." *The Economic Journal*, Vol. 109, No 454, pp. C15-C40.
- Liu, Y., Wei, S. and Xu, J. (2021). "COVID-19 and Women-Led Businesses around the World." *Finance Research Letters* 43.
- Meunier, F., Fantoni, S. and Kouhlani-Nolla, S. (2022). "We-Data: Measuring the gap in female entrepreneurship around the world." Available at: <https://blogs.worldbank.org/developmenttalk/we-data-measuring-gap-female-entrepreneurship-around-world>.
- Queisser, M. (2021). "COVID-19 and OECD Labour Markets: What Impact on Gender Gaps?" *Intereconomics*, Vol. 56, pp. 249-253.
- Profeta, P. (2017). "Gender Equality in Decision-Making Positions: The Efficiency Gains." *Intereconomics*, Vol. 52, pp. 34-37.
- OECD (2018). "Bridging the Digital Gender Divide: Include, upskill, innovate." OECD Publishing, Paris."
- OECD-JRC (2008). Handbook on Constructing Composite Indicators, <https://www.oecd.org/els/soc/handbookonconstructingcompositeindicatorsmethodologyanduserguide.htm>
- Torres, J., Maduko, F., Gaddis, I., Iacovone, L. and Beegle, K. (2021). "The impact of the COVID-19 pandemic on women-led businesses." Policy Research Working Paper 9817, World Bank Group.

- UNESCO (2021). "UNESCO Science Report: The race against time for smarter development." UNESCO, Paris.
- UNICEF (2022). Gender and Education. Published June 2022. Available at: <https://data.unicef.org/topic/gender/gender-disparities-in-education/>
- United Nations (2022). "The Sustainable Development Goals Report 2022." United Nations.
- UN Women (2022). "Explainer: Why women need to be at the heart of climate action." Available at: [UNWomen.org](https://unwomen.org).
- World Economic Forum (2020). "Our recovery from the coronavirus crisis must have gender empowerment at its heart." Available at: <https://www.weforum.org/agenda/2020/05/industries-gender-women-coronavirus-covid19-economic> (accessed 10 June 2022).
- World Economic Forum (2022). "Global Gender Gap 2022." World Economic Forum, Geneva.
- Women and Public Policy Program (WAPPP). (2019). "Advancing Gender Equality in Venture Capital." Women and Public Policy Program, Harvard Kennedy School, Cambridge MA. Available at: https://wappp.hks.harvard.edu/files/wappp/files/gender_and_culture_in_vc_literature_review_final.pdf.
- World Bank (2022). "Transport has a gender bias problem. This is what needs to change." Available at: <https://theprint.in/world/transport-has-a-gender-bias-problem-this-is-what-needs-to-change/916633/>.
- Wruuck, P. (2013). "Women and financial products." Deutsche Bank Research, March 2013.
- Zulaika, G., Bulbarelli, M. and Nyothach, E. (2022). "Impact of COVID-19 lockdowns on adolescent pregnancy and school dropout among secondary schoolgirls in Kenya." *BMJ Global Health*, Vol. 7: e007666.

Annexes

Annex 1: Global and European commitments to advance gender equality — A snapshot

The **United Nations Sustainable Development Goals** set out 17 interlinked global goals for a “blueprint to achieve a better and more sustainable future for all” by 2030. Goal number 5 states the aim to achieve gender equality and empower all women and girls. To this end, sub-goals and targets to measure progress are specified.²⁶ These are:

- End all forms of discrimination against all women and girls everywhere
- Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation
- Eliminate all harmful practices, such as early and forced marriage and female genital mutilation
- Recognise and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies in the promotion of shared responsibility within the household and the family as nationally appropriate
- Ensure women’s full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life
- Ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Programme of Action of the International Conference on Population and Development and the Beijing Platform for Action and the outcome documents of their review conferences
- Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws
- Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women
- Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels.

The latest assessment shows that the world still has a long way to go to achieve gender equality by the end of the decade and that the socioeconomic fallout of the pandemic has worked to further derail progress, for example on time spent for unpaid care and domestic work.

The **European Pillar of Social Rights**, proclaimed at the Gothenburg Summit in 2017, **defines 20 principles** to uphold people’s rights and achieve an inclusive Europe with opportunities for all.²⁷ **Gender equality forms the second principle**, stipulating that “equality of treatment and opportunities between

²⁶ See: <https://sdgs.un.org/goals/goal5> and the United Nations’ *Sustainable Development Goals Report 2022*, <https://unstats.un.org/sdgs/report/2022/>.

²⁷ See the European Pillar of Social Rights in 20 principles, https://ec.europa.eu/info/strategy/priorities-2019-2024/economy-works-people/jobs-growth-and-investment/european-pillar-social-rights/european-pillar-social-rights-20-principles_en.

women and men must be ensured and fostered in all areas, including participation in the labour market, terms and conditions of employment and career progression. Women and men have the right to equal pay for work of equal value.” The Action Plan on the European Pillar of Social Rights sets out concrete initiatives to achieve this and defines three EU targets for 2030: raising the EU employment rate to 78% and the share of adults participating in training per year to 60% and reducing the number of people at risk of poverty by 15 million. It is built on joint efforts by EU institutions, national, regional and local authorities, social partners and civil society.

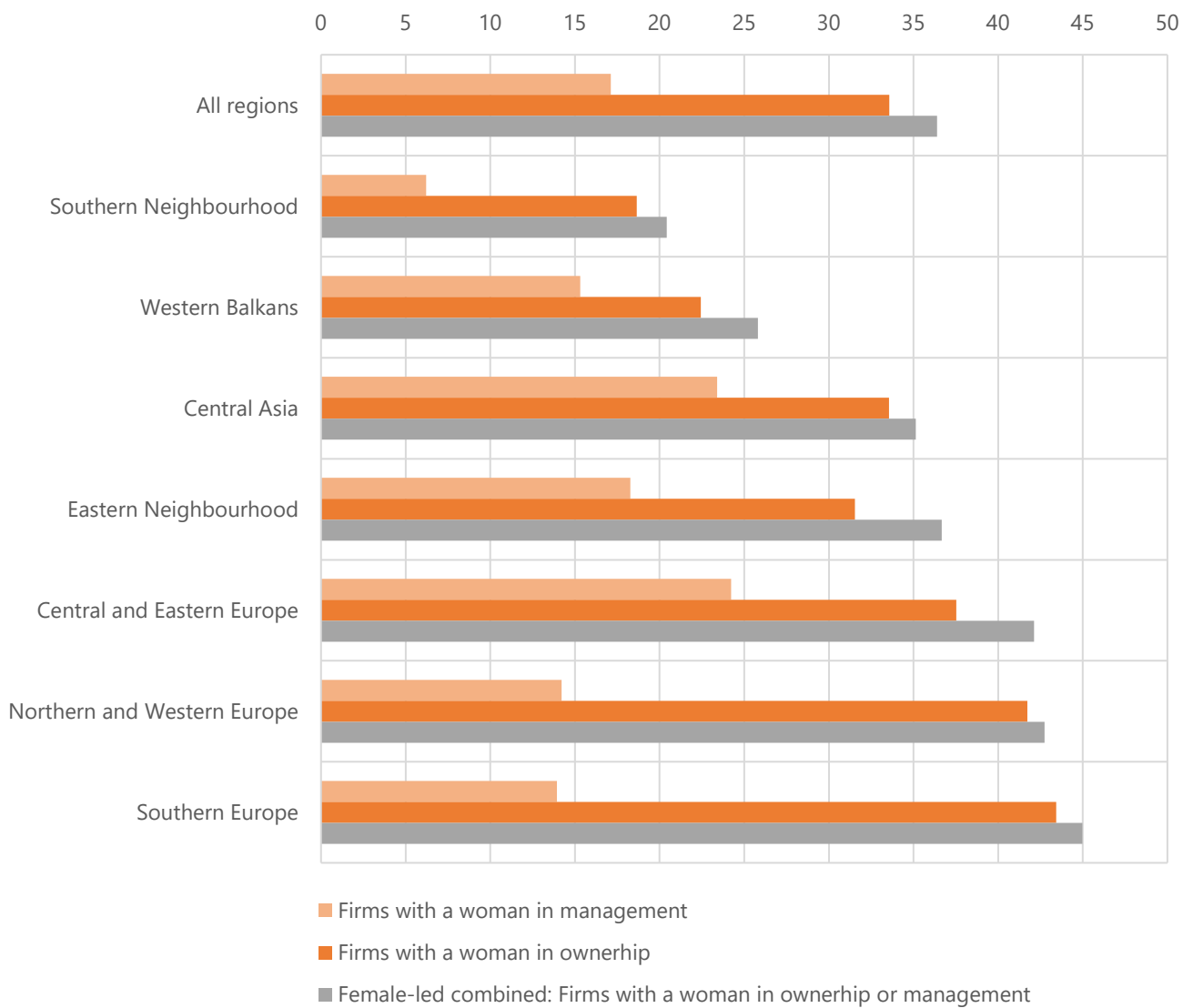
In addition, the European Union has adopted a **Gender Equality Strategy 2020-2025** to deliver on the EU Commission’s commitment to achieve a Union of Equality and progress towards a gender-equal Europe by 2025.²⁸ As part of this, the European Commission has proposed several initiatives and legislative measures and tracks progress in an annual report.

Annex 2: Overview of country groups used in the report

Northern and Western Europe	Austria, Belgium, Denmark, Finland, France, Ireland, Luxembourg, Netherlands, Sweden
Southern Europe	Cyprus, Greece, Italy, Malta, Portugal, Spain
Central and Eastern Europe	Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia
Western Balkans	Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia, Serbia
Eastern Neighbourhood	Armenia, Azerbaijan, Belarus, Georgia, Moldova, Ukraine
Central Asia	Kazakhstan, Kyrgyz Republic, Mongolia, Tajikistan, Uzbekistan
Southern Neighbourhood	Egypt, Jordan, Lebanon, Morocco, Tunisia

²⁸ European Commission, *Gender Equality Strategy*, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020DC0152&from=EN>.

Annex 3: The share of female-led firms by region and definition (%)



Annex 4: Overview of Enterprise Survey 2019 sample, number of firms by country

	Country	2018	2019	2020	2021	Total
1	Albania	0	377	0	0	377
2	Armenia	0	0	546	0	546
3	Austria	0	0	0	600	600
4	Azerbaijan	0	225	0	0	225
5	Belarus	600	0	0	0	600
6	Belgium	0	0	614	0	614
	Bosnia and					
7	Herzegovina	0	362	0	0	362
8	Bulgaria	0	772	0	0	772
9	Croatia	0	404	0	0	404
10	Cyprus	0	240	0	0	240
11	Czech Republic	0	502	0	0	502
12	Denmark	0	0	995	0	995
13	Egypt	0	0	3 075	0	3 075
14	Estonia	0	360	0	0	360
15	Finland	0	0	759	0	759
16	France	0	0	0	1 566	1 566
17	Georgia	0	581	0	0	581
18	Greece	600	0	0	0	600
19	Hungary	0	805	0	0	805
20	Ireland	0	0	606	0	606
21	Italy	0	760	0	0	760
22	Jordan	0	601	0	0	601
23	Kazakhstan	0	1 446	0	0	1 446
24	Kosovo	0	271	0	0	271
25	Kyrgyz Republic	0	360	0	0	360
26	Latvia	0	359	0	0	359
27	Lebanon	0	532	0	0	532
28	Lithuania	0	358	0	0	358
29	Luxembourg	0	0	170	0	170
30	Malta	0	242	0	0	242
31	Moldova	0	360	0	0	360
32	Mongolia	0	360	0	0	360
33	Montenegro	0	150	0	0	150
34	Morocco	0	1 096	0	0	1 096
35	Netherlands	0	0	808	0	808
36	North Macedonia	0	360	0	0	360
37	Poland	0	1 369	0	0	1 369
38	Portugal	0	1 062	0	0	1 062
39	Romania	0	814	0	0	814
40	Serbia	0	361	0	0	361
41	Slovakia	0	429	0	0	429
42	Slovenia	0	409	0	0	409
43	Spain	0	0	0	1 051	1 051
44	Sweden	0	0	591	0	591
45	Tajikistan	0	352	0	0	352
46	Tunisia	0	0	615	0	615
47	Ukraine	0	1 337	0	0	1 337
48	Uzbekistan	0	1 239	0	0	1 239
	Total	1 200	19 255	8 779	3 217	32 451

Annex 5: Overview of Enterprise Survey COVID-2019 follow-up sample, number of firms by country

	Country	2020	2021	Total
1	Albania	377	0	377
2	Armenia	0	546	546
3	Azerbaijan	0	225	225
4	Belarus	600	0	600
5	Bosnia and Herzegovina	0	362	362
6	Bulgaria	772	0	772
7	Croatia	404	0	404
8	Cyprus	240	0	240
9	Czech Republic	502	0	502
10	Estonia	360	0	360
11	Georgia	581	0	581
12	Greece	600	0	600
13	Hungary	805	0	805
14	Italy	760	0	760
15	Jordan	601	0	601
16	Kazakhstan	0	1 446	1 446
17	Latvia	359	0	359
18	Lebanon	532	0	532
19	Lithuania	358	0	358
20	Malta	242	0	242
21	Moldova	360	0	360
22	Mongolia	360	0	360
23	Montenegro	0	150	150
24	Morocco	1 096	0	1 096
25	North Macedonia	360	0	360
26	Poland	1 369	0	1 369
27	Portugal	1 062	0	1 062
28	Romania	814	0	814
29	Serbia	0	361	361
30	Slovakia	429	0	429
31	Slovenia	409	0	409
	Total	14 352	3 090	17 442

Annex 6: COVID-19 impact

VARIABLES	All Sales loss	EU Sales loss	Neighbourhood Sales loss	All Liquidity drop	EU Liquidity drop	Neighbourhood Liquidity drop
Female-led	0.107** (0.0456)	0.105* (0.0560)	0.120 (0.0789)	0.108*** (0.0408)	0.0654 (0.0516)	0.190*** (0.0671)
Retail	0.168*** (0.0613)	0.126 (0.0779)	0.246** (0.100)	-0.192*** (0.0532)	-0.304*** (0.0710)	-0.0410 (0.0815)
Wholesale	-0.0114 (0.0895)	-0.0923 (0.116)	0.116 (0.142)	-0.204*** (0.0792)	-0.220** (0.109)	-0.164 (0.116)
Construction	- 0.269*** (0.0798)	- 0.312*** (0.104)	-0.166 (0.125)	-0.156** (0.0734)	-0.286*** (0.100)	0.0229 (0.110)
Hotel and restaurant	1.180*** (0.140)	1.080*** (0.175)	1.338*** (0.234)	1.474*** (0.125)	1.353*** (0.159)	1.655*** (0.201)
Other services	0.228*** (0.0800)	0.288*** (0.101)	0.133 (0.130)	0.186*** (0.0702)	0.231** (0.0912)	0.133 (0.109)
Central and Eastern Europe	- 0.636*** (0.103)			-0.874*** (0.0917)		
Eastern Neighbourhood	0.249** (0.102)		0.265*** (0.103)	0.0681 (0.0906)		0.0694 (0.0916)
Southern Europe	0.0276 (0.113)	0.667*** (0.0645)		-0.318*** (0.100)	0.558*** (0.0577)	
Southern Neighbourhood	1.116*** (0.143)		1.135*** (0.145)	0.517*** (0.115)		0.539*** (0.117)
Western Balkans	0.368*** (0.102)		0.399*** (0.105)	-0.222** (0.0909)		-0.215** (0.0929)
Medium	-0.0683 (0.0502)	-0.0318 (0.0628)	-0.145* (0.0840)	-0.206*** (0.0450)	-0.188*** (0.0583)	-0.239*** (0.0710)
Large	-0.0575 (0.0607)	0.106 (0.0763)	-0.358*** (0.101)	-0.419*** (0.0538)	-0.340*** (0.0697)	-0.546*** (0.0845)
Age	- 0.000635 (0.00161)	- 0.000425 (0.00197)	-0.000800 (0.00279)	-0.00283** (0.00141)	-0.00304* (0.00178)	-0.00272 (0.00233)
2021	- 0.576*** (0.0840)		-0.577*** (0.0848)	-0.549*** (0.0717)		-0.535*** (0.0723)
Constant	1.168*** (0.106)	0.494*** (0.0677)	1.211*** (0.121)	1.079*** (0.0946)	0.234*** (0.0627)	1.026*** (0.106)
Observations	11 368	6 396	4 972	11 842	6 582	5 260

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Annex 7: COVID-19 impact, continued

VARIABLES	All Perm. employee decrease	EU Perm. employee decrease	Neighbourhood Perm. employee decrease
Female-led	0.116*** (0.0441)	0.0399 (0.0593)	0.212*** (0.0662)
Retail	-0.254*** (0.0607)	-0.302*** (0.0867)	-0.194** (0.0857)
Wholesale	-0.294*** (0.0916)	-0.398*** (0.139)	-0.188 (0.123)
Construction	-0.113 (0.0803)	-0.227* (0.120)	0.0159 (0.109)
Hotel and restaurant	0.579*** (0.0880)	0.229* (0.135)	0.876*** (0.121)
Other services	-0.0439 (0.0752)	0.0206 (0.102)	-0.104 (0.112)
Central and Eastern Europe	-0.383*** (0.0929)		
Eastern Neighbourhood	-0.363*** (0.0926)		-0.377*** (0.0934)
Southern Europe	-1.108*** (0.107)	-0.710*** (0.0708)	
Southern Neighbourhood	-0.563*** (0.111)		-0.555*** (0.113)
Western Balkans	-0.0255 (0.0939)		-0.0223 (0.0954)
Medium	0.101** (0.0492)	0.223*** (0.0680)	-0.0407 (0.0715)
Large	0.399*** (0.0574)	0.495*** (0.0778)	0.288*** (0.0856)
Age	-0.00179 (0.00158)	-0.00273 (0.00212)	-0.000758 (0.00237)
2021	-0.115 (0.0744)		-0.0992 (0.0749)
Constant	-0.614*** (0.0964)	-0.977*** (0.0731)	-0.645*** (0.107)
Observations	11 581	6 480	5 101

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Annex 8: COVID-19 adaptability

VARIABLES	(1) Online	(2) Remote	(3) Delivery	(4) Policy support
Female-led	0.0458 (0.0477)	-0.0861** (0.0435)	0.0595 (0.0494)	0.00349 (0.0411)
Retail	0.662*** (0.0596)	0.178*** (0.0584)	0.633*** (0.0607)	-0.0163 (0.0550)
Wholesale	0.537*** (0.0876)	0.767*** (0.0800)	0.425*** (0.0899)	0.0491 (0.0822)
Construction	-0.168* (0.0928)	-0.0572 (0.0817)	-0.552*** (0.112)	-0.341*** (0.0790)
Hotel and restaurant	0.0523 (0.106)	-0.444*** (0.106)	0.451*** (0.0975)	0.884*** (0.0883)
Other services	0.277*** (0.0814)	0.719*** (0.0713)	-0.130 (0.0926)	0.193*** (0.0696)
Central and Eastern Europe	-0.497*** (0.0988)	-0.436*** (0.0933)	-0.689*** (0.101)	2.544*** (0.114)
Eastern Neighbourhood	0.105 (0.0918)	-0.0599 (0.0889)	-0.0776 (0.0933)	1.251*** (0.109)
Southern Europe	-0.430*** (0.110)	0.0629 (0.101)	-0.414*** (0.110)	2.445*** (0.121)
Southern Neighbourhood	0.549*** (0.110)	-0.846*** (0.110)	-0.531*** (0.117)	1.655*** (0.130)
Western Balkans	-0.642*** (0.101)	-1.244*** (0.0989)	-0.640*** (0.102)	2.161*** (0.110)
Medium	0.320*** (0.0527)	0.626*** (0.0487)	0.186*** (0.0542)	0.110** (0.0454)
Large	0.544*** (0.0619)	1.482*** (0.0562)	0.275*** (0.0653)	0.242*** (0.0543)
Age	-0.00241 (0.00169)	0.000457 (0.00143)	-0.00267 (0.00174)	0.00162 (0.00143)
2021	0.468*** (0.0770)	0.478*** (0.0756)	0.379*** (0.0784)	1.335*** (0.0777)
Constant	-1.523*** (0.102)	-1.223*** (0.0968)	-1.336*** (0.103)	-2.866*** (0.116)
Observations	11 962	12 328	12 307	11 890

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Annex 9: Probability of female-led firms by firm characteristics

Dep. variables	Female innovator	Female management index	Female website	Female training	Female autarky
Female-led	0.218*** (0.0270)	0.115*** (0.0317)	0.0918*** (0.0292)	0.246*** (0.0268)	-0.0820*** (0.0296)
Retail	0.491*** (0.0351)	-	0.478*** (0.0350)	0.457*** (0.0350)	0.488*** (0.0363)
Wholesale	0.0516 (0.0485)	-	0.0471 (0.0483)	0.0280 (0.0485)	0.0556 (0.0502)
Construction	-0.267*** (0.0515)	-	-0.296*** (0.0512)	-0.324*** (0.0513)	-0.275*** (0.0529)
Hotel and restaurant	0.508*** (0.0541)		0.490*** (0.0539)	0.485*** (0.0539)	0.518*** (0.0563)
Other services	-0.0693* (0.0419)		-0.0829** (0.0417)	-0.117*** (0.0419)	-0.0703 (0.0432)
Central and Eastern Europe	0.333*** (0.0438)	0.235*** (0.0789)	0.314*** (0.0443)	0.328*** (0.0436)	0.310*** (0.0455)
Eastern Neighbourhood	0.0966* (0.0518)	0.116 (0.0924)	0.0948* (0.0519)	0.118** (0.0516)	0.150*** (0.0537)
Northern and Western Europe	0.0782 (0.0664)	-0.0897 (0.119)	0.104 (0.0670)	0.0807 (0.0661)	0.144** (0.0697)
Southern Europe	0.162*** (0.0530)	0.129 (0.0936)	0.135** (0.0536)	0.144*** (0.0529)	0.201*** (0.0553)
Southern Neighbourhood	-1.008*** (0.0617)	-1.003*** (0.114)	-1.083*** (0.0607)	-1.054*** (0.0605)	-1.119*** (0.0653)
Western Balkans	-0.423*** (0.0638)	-0.0326 (0.117)	-0.412*** (0.0638)	-0.407*** (0.0635)	-0.367*** (0.0664)
Medium	0.0611** (0.0278)	-0.161** (0.0725)	0.0698** (0.0278)	0.0377 (0.0280)	0.0754*** (0.0287)
Large	0.0520 (0.0348)	-0.206** (0.0813)	0.0562 (0.0349)	-0.00546 (0.0356)	0.0570 (0.0361)
Age	0.0075*** (0.0007)	0.0075*** (0.0010)	0.0074*** (0.0007)	0.0076*** (0.0007)	0.0077*** (0.0007)
2019	-0.626*** (0.0654)	-0.513*** (0.112)	-0.620*** (0.0654)	-0.648*** (0.0655)	-0.590*** (0.0666)
2020	-0.656*** (0.0766)	-0.430*** (0.132)	-0.628*** (0.0764)	-0.643*** (0.0765)	-0.618*** (0.0784)
2021	-0.309*** (0.0779)	-0.219* (0.130)	-0.286*** (0.0778)	-0.338*** (0.0780)	-0.297*** (0.0794)
Constant	-0.332*** (0.0778)	-0.187 (0.147)	-0.298*** (0.0782)	-0.277*** (0.0770)	-0.268*** (0.0805)
Observations	31 462	10 877	31 622	31 677	29 324

Standard errors in parentheses




*** p<0.01, ** p<0.05, * p<0.1



**European
Investment
Bank**

The EU bank

European Investment Bank
98 -100, boulevard Konrad Adenauer
L-2950 Luxembourg
+352 4379-1
www.eib.org – info@eib.org

-  twitter.com/EIB
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