

Observatory on **Women's** Empowerment

2nd edition



Preface

At the outset of the 21st century, the world faces a series of unprecedented challenges that demand collective and innovative solutions. Among these challenges, demographic and fertility declines have emerged as critical concerns, carrying far-reaching implications for the economic and social sustainability of countries. In the current scenario, recognizing and fostering women's valuable contribution to the labour force, and society as a whole, has become more urgent than ever before. For this reason, the Women's Empowerment Observatory remains committed to highlighting the paramount importance of female labour participation and addressing the worrying underrepresentation of women in emerging industries. By monitoring the progress of G20 and European countries towards gender equality, we aim to contribute to charting a new path towards a more inclusive and equitable future.

As we navigate the complexities of a changing global landscape, it has become clear that boosting women's employment is essential to mitigate the reduction in the working-age population and to increase productivity levels. Historically, unpaid housework and care work have disproportionately affected women, hindering their full and successful participation in the labour market. This Report emphasizes the value of work-life balance for both genders, underscoring the need for comprehensive policies that strengthen equal parental leaves and support flexible work arrangements.

Only by unlocking the unreleased potential of women in the workforce, it will be possible to shape a more sustainable economic future. In this regard, our analysis demonstrates that closing the gender pay gap and achieving equal employment rates as men in G20 countries plus Spain could result in a substantial economic impact, estimated to up to \$11.7 trillion (14% of G20 GDP) in 2023 alone.

However, the journey towards gender equality comes with its own set of challenges. The underrepresentation of women in the job sectors of the future – such as Cloud Computing, engineering, data, Artificial Intelligence, and the green economy – poses a significant risk of women's exclusion from the opportunities of Society 4.0. To address this, it is crucial to eradicate cultural biases and dismantle barriers that hinder women's participation in these industries. We emphasize the importance of promoting attraction and retention strategies, skill development, and effective communication to empower women and close the gender gap in emerging economic sectors. These efforts will not only benefit individuals but also contribute to society's progress in the economic, social, technological, and employment spheres. Closing the gender pay and employment gap in the ICT sector in France, Italy, and Spain alone represents an economic opportunity worth approximately €15 billion (0.3% of their GDP in 2022).

In its 2nd edition, the Observatory's Report goes beyond theoretical analysis, delving into international best practices and closely monitoring the progress of various G20 and European countries in their journey towards Women's Empowerment. The analysis underscores the necessity for collaborative efforts and sustained commitment over extended periods to bring about continuous improvement in this area. It also warns against the risks of regression if attention to the issue fades.

In this regard, the introduction of strict measurement and evaluation mechanisms is crucial, as exemplified by the new EU SheWorks Index elaborated by the Observatory. This composite Index sheds light on a concerning reality regarding women's access, inclusion, and empowerment in the labour market, revealing a "two-tier Europe" with significant polarization between the highest-ranking North-Western countries and the lowest-ranking South-Eastern countries. These insights underscore the imperative of unwavering dedication to promoting Women's Empowerment and ensuring equal opportunities, regardless of geographic location.

The Observatory's work is itself a testament to the significance of empowering women and cultivating an inclusive environment that fosters equal opportunities for all. It emphasizes the value of collaborative efforts among governments, businesses, civil society, and individuals in driving long-term change.

By investing in Women's Empowerment, we will be able to tap into a vast pool of talent, creativity, and expertise that will pave the way for a brighter and more sustainable future. The call for action is upon us, and the mission is clear. As we embark on this transformative journey, we hope this Report will serve as a guiding compass, helping us in designing societies where both women and men are equally and fully recognized, respected, and empowered.

To conclude, I would like to express my sincere thanks to our Special Advisors Arancha González, Dean of the Paris School of International Affairs at Sciences Po, Minouche Shafik, President of Columbia University, and Élisabeth Moreno, President of the Femme@Numérique Foundation and their staff for their contribution and commitment, and to the members of the Business Advisory Board for their valuable insights as well as their precious personal experiences on these issues.

Thanks to all the corporate partners and the over 400 members of the Club of The European House – Ambrosetti. Finally, one last thanks to The European House – Ambrosetti Working Group, led by Sara Lelli, with Irene Gianotto, Chiara Gargaglia, Anna Tagliatela, Alessandra Cardin and Carmen Lojaco.

Valerio De Molli

Managing Partner and CEO
The European House – Ambrosetti

Some of the most defining moments for gender equality and Women's Empowerment across the world over the last year in 5 pictures (1/2)



1

Biden nominates Ketanji Brown Jackson to the Supreme Court



2

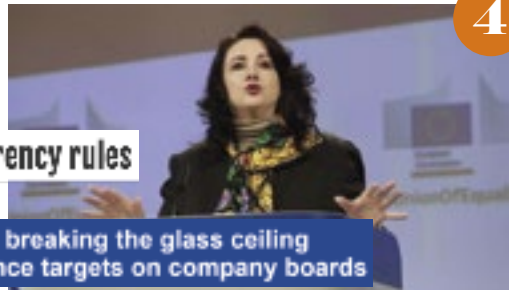
Chile's constitutional process: an historic opportunity to enshrine human rights

Chile votes overwhelmingly to reject new, progressive constitution



3

Iran protests: Why is cutting hair an act of rebellion?



4

EU agrees on pay transparency rules to fight gender pay gap

Gender Equality: The EU is breaking the glass ceiling thanks to new gender balance targets on company boards



5

Taliban ban Afghan women from university education

Some of the most defining moments for gender equality and Women's Empowerment across the world over the last year in 5 pictures (2/2)

1

June, 2022 – USA

Ketanji Brown Jackson made history by being sworn in as an Associate Justice of the U.S. Supreme Court, becoming the first black woman to hold this esteemed position in the 232-year history of the Court. The confirmation process showcased a rare display of bipartisanship, as three Republicans crossed party lines to join all 50 Democrats in the historic vote.

2

September, 2022 – Chile

In Chile, 62% of the voters rejected the adoption of a new Constitution, preserving the one imposed by Pinochet in 1980. The new Chilean Constitution – strongly rooted in the concepts of liberation and equality and of female and environmental rights – would have been the first in the world to be drafted by a special assembly that had gender parity and included designated seats for Indigenous representatives.

3

October, 2022 – Iran

After the death of Mahsa Amini, the 22-year-old Iranian who had been arrested for breaching the Islamic dress code for women, Iran has been gripped by nationwide protests and women-led demonstrations in sign of solidarity. Protests have broken out across the country, with women standing up against the morality police by chopping off their hair, removing and even burning their hijabs in public.

4

November and December, 2022 – European Union

In November, the EU Parliament approved the Women on Boards Directive, which aims to boost gender balance on corporate boards through quotas. The Directive requires at least 40% of non-executive board seats or 33% of both non-executive and executive board positions to be filled by the underrepresented sex.

On December 15th, EU negotiators reached an agreement on a Pay Transparency Directive to address the gender pay gap in the EU. Companies with over 100 employees must report their gender pay gap, job-seekers have the right to pay range information, and employees can access sex-disaggregated data. Employers with a pay gap above 5% without justification must perform a pay assessment, and penalties may be imposed by Member States for non-compliance. Workers have the right to compensation if equal pay obligations are not respected. The pay transparency rules will come into force in 2024.

5

December, 2022 – Afghanistan

Since the installation of an all-male Taliban Government, women's access to work and education has been progressively limited in Afghanistan. The Taliban leadership has decreed that women are no longer permitted to use gyms or parks or to attend middle school and high school. In addition, despite initial promises to the contrary, women are now required to wear head-to-toe clothing in public and are facing restrictions in all but a few employment options.

Source: The European House – Ambrosetti elaboration on various sources, 2023

Key messages of the 2023 edition

- Demographic and fertility declines have significant implications for the economic and social sustainability of countries. In the current scenario, **increasing female labour participation is a necessary step to mitigate the reduction in the working-age population and lower productivity levels**. Considering that unpaid housework and care work predominantly affects women, **ensuring a better work-life balance** for both men and women and **strengthening parental leaves** is therefore fundamental
- The **underrepresentation of women in the jobs of the future** (cloud computing, engineering, data and AI, green economy) exacerbates the risk of women's exclusion from the job market. Closing the gender gap and increasing female participation in the Twin Transition by **eradicating cultural biases** and **strengthening attraction and retention, skill development and communication** would benefit society as a whole – from an economic, social, technological, and employment perspective
- The journeys of the different G20 and European countries demonstrate both the **need for synergic efforts and extended timeframes** for improvement and the ease of regression, underscoring the importance of **maintaining high attention** on the issue and further enhancing the presence of **measurement and evaluation mechanisms**. In particular, the EU SheWorks Index conveys a clear image of a **“two-tier Europe”**, with a strong polarization between North-Western countries (ranking the highest) and South-Eastern ones (ranking the lowest)

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01

Introduction

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1.1

In 2021, Ambrosetti Club coordinated a G20 Business Advisory Board on Women's Empowerment

- To enrich the G20 Agenda under its Italian Presidency, in May 2021 The European House – Ambrosetti launched an **International Business Advisory Board** on Women's Empowerment. The latter included **20 CEOs** from leading national and multinational companies
- The **final position paper** was officially presented by Valerio De Molli at the **first ever G20 Conference on Women's Empowerment***, in August 2021



Following the Conference, the promotion of Women's Empowerment has been formally introduced as **one of the main goals** of the **G20 Rome Leader's Declaration**

(*) The initiative was shared with Elena Bonetti, at the time Minister for Equal Opportunities and the Family of Italy.

The work carried out in 2021 highlighted the general lack of a results-oriented approach concerning female empowerment

Despite the many international initiatives and pledges in support of women, there is still a lack of an overall vision geared towards measuring and evaluating results

Even where performance monitoring, measurement tools and reward mechanisms for achievements already exist, these are still insufficient



For these reasons, one of the guidelines outlined in the Paper presented to the G20 Ministers in 2021 was to **lay the groundwork for a permanent platform** dedicated to monitoring the progress of Women's Empowerment across G20 countries

On this premise, in 2022 The European House – Ambrosetti decided to launch a permanent Observatory on Women's Empowerment

The Observatory is an **independent multi-country and multi-partner platform**, aimed at **monitoring the progress** of G20 countries plus Spain* regarding Women's Empowerment, promoting a virtuous cycle of evolution



The main outcomes of the 1st edition of the Observatory were:

- The elaboration of the **Women's Empowerment Progress Index (WEPI)**, a composite indicator to monitor and track progress over time in multiple domains of female empowerment and give a **"gentle" and positive push towards improvement**
- The creation of a **platform to map, gather and share** the main **public and corporate policy best-practices** in the field

The activities of the Observatory have been supported by former Italian Minister **Elena Bonetti** and Spanish Minister for Equality **Irene Montero**

(*) Spain included as the only country recognized as a permanent guest.

The final results of the 1st edition of the Observatory, presented in September 2022, were met with considerable interest from the media



Targets for 2023 include the dissemination of results also through the **international press**

The **official results** of the Observatory, included in a dedicated Report , were presented at the 48th edition of the **Forum “Intelligence on the World, Europe, and Italy”** in Cernobbio, during the panel *“Society of the Future – The Fight Against Inequalities”* which took place on September 2, 2022

Research methodology and approach

The Observatory answers to the **general lack of evaluation mechanisms** regarding Women's Empowerment. In fact, while much has been done on the subject, the attitude towards measuring impacts is still insufficient, with **only sporadic cases of structured measurement** of Key Performance Indicators (KPIs).

Since 2022, Ambrosetti Club has embarked on a **process of analysis, updating and monitoring of Women's Empowerment initiatives**, based on the principle of accountability and the measurement of social, economic and cultural impacts. The permanent Women's Empowerment Observatory has the following goals:

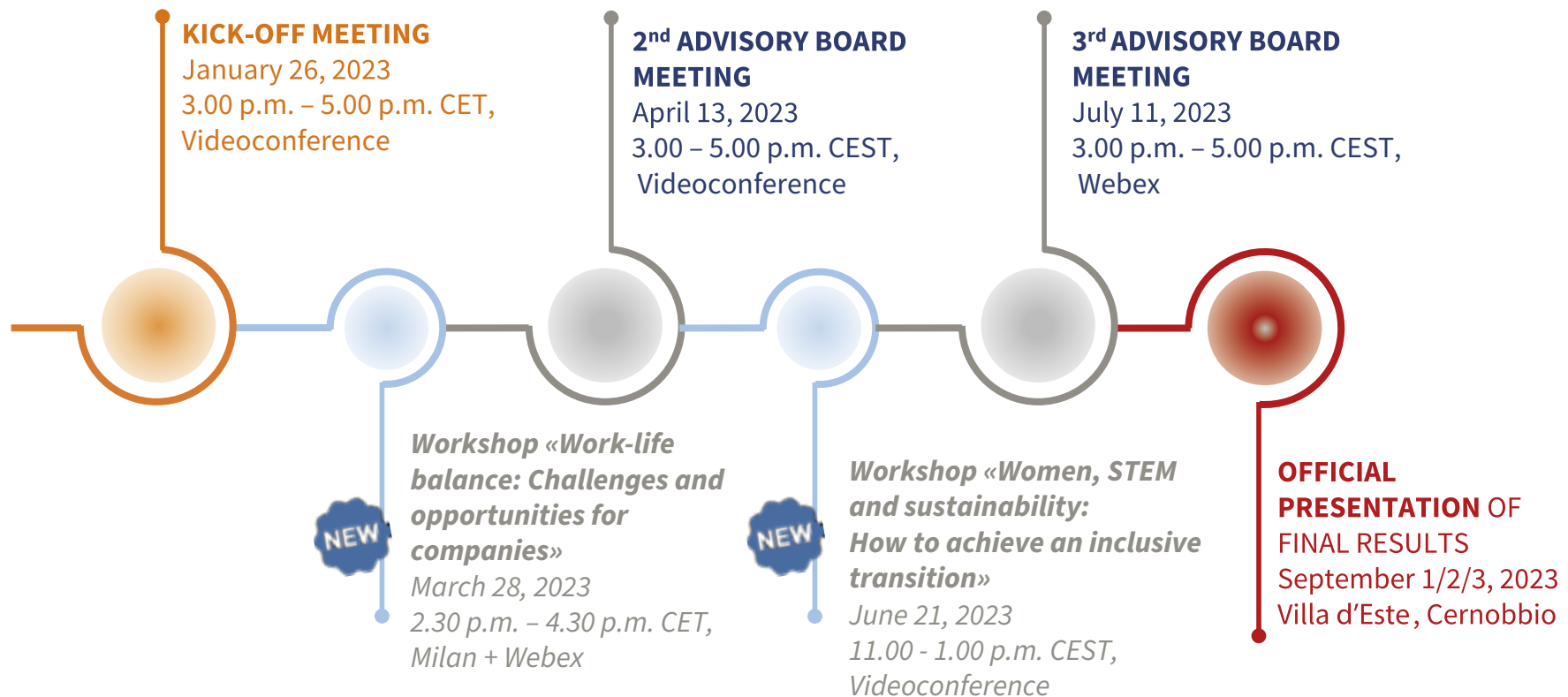
- **To increase knowledge and awareness of the critical issues** concerning the advancement of Women's Empowerment;
- **To assess the level of Women's Empowerment** through the definition of a **set of KPIs** and the **construction of time trends and benchmarks** through the collection of historical data;
- **To study policy-related literature** and **policy impact analysis**;
- **To develop composite Indexes** to track and measure progress in G20 and European countries in multiple domains to capture and synthesize the complexity of the phenomenon;
- **To identify priority focus areas** for the adoption of **best practices** and **effective policies** in the public and corporate sectors.

In 2023, activities were enriched through the organization of **two thematic Workshops** aimed at fostering meaningful discussions and the exchange of best practices at the corporate level, leading to the identification of practical and actionable solutions.

Achieving gender equality and the full realization of women's potential in the economy and society is a complex social-economic phenomenon due to the myriad interrelationships it encapsulates, and which are involved in its configuration. At the same time, the cultural aspects – more difficult to manage and measure – are a key element to focus on to ensure the success of initiatives in the short-to-medium term. It is not just a question of rights, but a fundamental step toward **economic growth, social equality, country competitiveness**, in other words **sustainable development**.

For a detailed description and additional information about the Indexes methodology, please see the Annex.

Timeline of the initiative



The Scientific Committee

SPECIAL ADVISORS

- **Arancha González** (Dean, Paris School of International Affairs, Sciences Po; former Minister of Foreign Affairs, Spain)
- **Élisabeth Moreno** (President, Femme@Numérique Foundation; former Minister for Gender Equality, Diversity and Equal Opportunity, France)
- **Minouche Shafik** (President, Columbia University; former President and Vice Chancellor, LSE; former Deputy Governor, Bank of England)

The Observatory has benefitted from the involvement and contribution of the Italian Ministry for the Family, Birth Rate and Equal Opportunities. Key messages and results with also be shared with the 2023 **G20 Indian Presidency***

(*) In the figure of Hon'ble Minister Smt. Smriti Zubin Irani, Indian Minister of Women and Child Development.

The Observatory's Partners (1/2)



PHILIP MORRIS ITALIA

The Observatory's Partners (2/2)

- **Mariella Bianchi** (Chairwoman, **Molitoria Umbra**)
- **Fabio De Petris** (Chairman & Chief Executive Officer Italy, **British American Tobacco**) – supported by **Greta Autieri** (Head of Talent, Culture & Inclusion Italy, BAT)
- **Marco Hannappel** (Chairman & Chief Executive Officer, **Philip Morris Italy**; President Southwestern Europe, Philip Morris International) – supported by **Simona Delvecchio** (Regulatory and Institutional Affairs Manager, Philip Morris Italy) & **Eleonora Santi** (Director of External Relations and Communications, Philip Morris Italy)
- **Gianluca Lilli** (Senior Vice President – Electrification Commercial Leader Italy, **ABB**) – supported by **Eliana Baruffi** (Italy Country and EL Communications Manager; ABB)
- **Francesca Rigolio** (Human Resources Director – Books Division & Chief Diversity Officer, **Mondadori Group**)

02

The economic, social and cultural barriers hindering Women's Empowerment

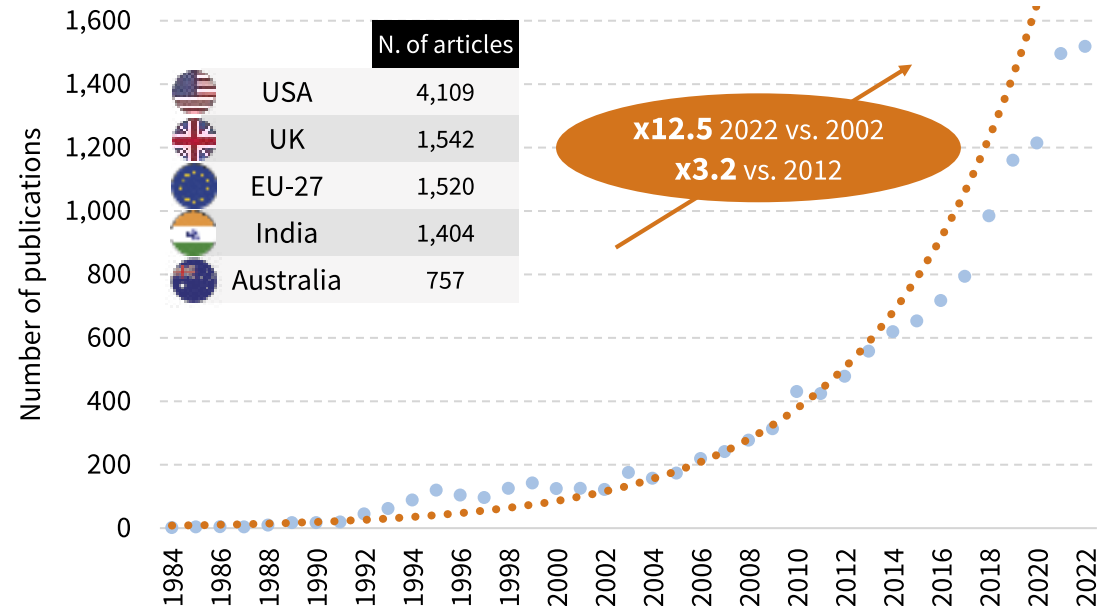
- 2.1 Women's Empowerment, a complex and multidimensional phenomenon 18
- 2.2 The state of the art of women's participation in economic and political life 24

2.1

Over the decades, Women's Empowerment has become a prominent topic of discussion in business studies

- Despite the **large amount of work** in this regard, a common understanding of the perimeter area of Women's Empowerment is still **somewhat lacking** among the scholars who investigate the field
- Women's Empowerment is in fact a **multifaceted concept**, encompassing multiple aspects of economic, social and cultural dimensions

Academic publications on Women's Empowerment by year and top-5 countries (n. of publications), 1984-2022



Source: The European House – Ambrosetti elaboration on Kumar A, Reddy K.G. and Varsha P.S. (2019), "A scientometric analysis of the women empowerment" and Scopus data, 2023

Besides a growing volume of research, the gender data gap is still wide, representing a significant barrier to the achievement of policy goals

- Data gaps arise due to various reasons and in various phases, which go from **data production**, passing through **data analysis** and tabulation, to **dissemination** of datasets and reports
- Gender data, however, is essential to measure and **report on the progress** achieved and to design **meaningful policies**
- Moreover, narrowing this gap means **removing an obstacle** to the promise of releasing women's full potential

Gender data gap generates **damaging effects** in multiple dimensions of women's lives



Women are **17%** more likely to die than a man in the same car crash



5 out of 6 brain disease trials are conducted on males, yet the risk of suffering from depression is 70% higher for women

The issue of gender data availability affects the SDGs as well

EXAMPLES

Goal 1. End poverty (5)

- 1.1.1, Proportion of the population living below the international poverty
- 1.3.1, Proportion of population covered by social protection systems

Goal 2. End hunger (2)

- 2.2.3, Prevalence of anaemia in women by pregnancy status

Goal 3. Ensure healthy lives (6)

- 3.1.1, Maternal mortality ratio
- 3.1.2, Proportion of births attended by skilled health personnel

Goal 4. Ensure inclusive and equitable quality education (8)

- 4.3.1, Participation rate of youth and adults in formal and non-formal education and training

Goal 5. Achieve gender equality (4)

- 5.4.1, Proportion of time spent on unpaid domestic and care work
- 5.6.2, Number of countries with regulations that guarantee full and equal access to sexual and reproductive health care, information and education

Goal 8. Promote sustained, inclusive and sustainable economic growth (6)

- 8.3.1, Proportion of informal employment by sector and sex
- 8.5.1, Average hourly earnings of female and male employees, by occupation, age and persons with disabilities

Goal 10. Reduce inequality (1)

- 10.2.1, Proportion of women living below 50 per cent of median income

Goal 11. Safe, resilient and sustainable cities (3)

- 11.7.2, Proportion of persons victim of physical or sexual harassment by place of occurrence

Goal 13. Combat climate change and its impacts (1)

- 13.3.1, Extent to which education for sustainable development is mainstreamed in teacher education and student assessment

Goal 16. Promote peaceful and inclusive societies (6)

- 16.1.2, Conflict-related deaths per 100,000 population
- 16.7.1, Proportions of positions in national and local public institutions

Between 2016 and 2022, the percentage of gender data needed to monitor the gender-specific dimensions of the SDGs rose from 26% to 42%, with an annual increase of 3 p.p.
At this pace, it will take **22 years** for countries to make all SDGs gender data available

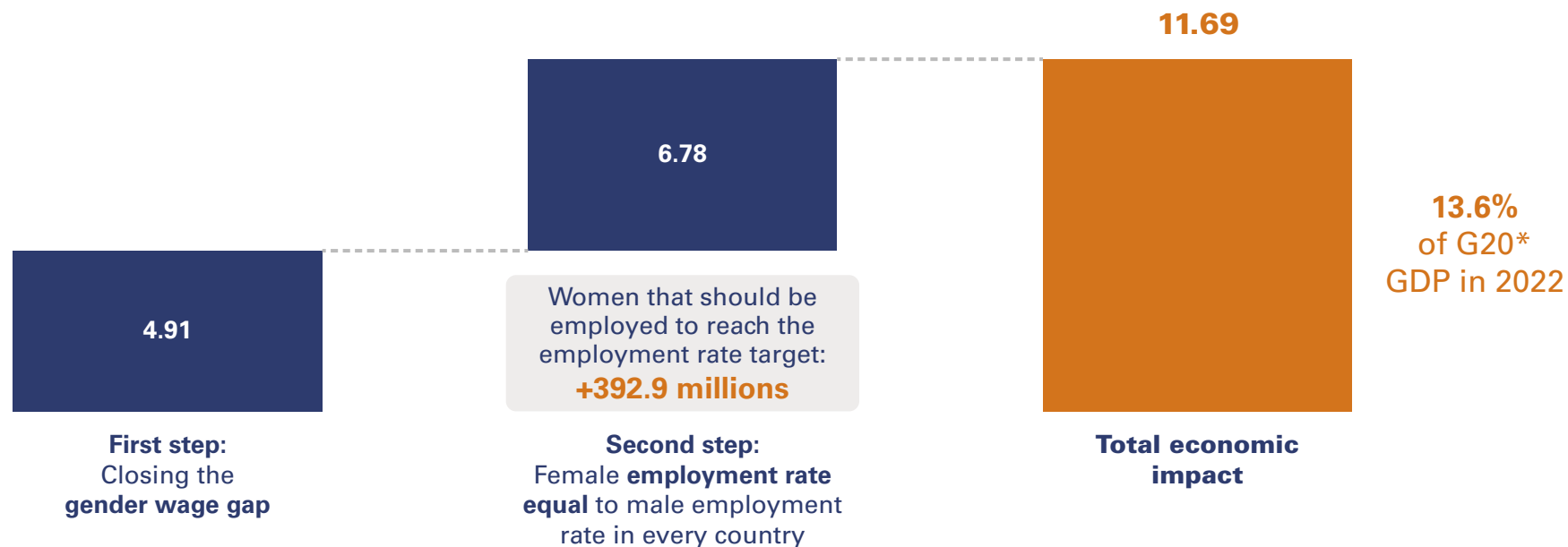


*But why is it so crucial for the international community
to discuss Women's Empowerment?*

Promoting female empowerment is not just a matter of rights, but also a sizeable **opportunity for economic growth** and a key element of **sustainable development**

Our starting point: Women's Empowerment is not only a social issue, but also an economic opportunity worth up to \$11.7 trillion (~14% of G20 GDP)

Economic impact generated if in each G20 country + Spain* female and male wages and employment rates were the same (trillion \$), 2023



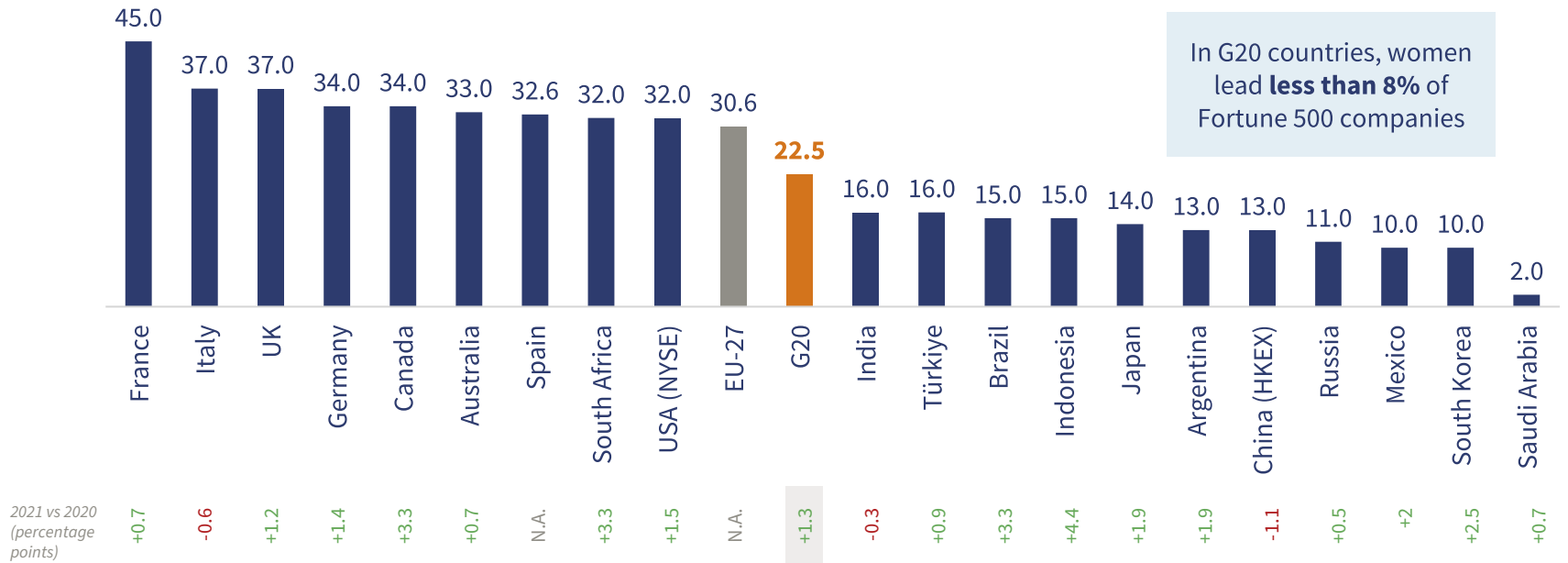
(*) Spain included as permanent guest.

Source: The European House – Ambrosetti elaboration on ILOSTAT, OECD and World Bank data, 2023

2.2

Despite some progress being achieved over the last years regarding women's participation on company boards ...

Board seats held by women of the top 100 issuers by market capitalization in G20 countries + Spain*
(as % of total seats), 2021

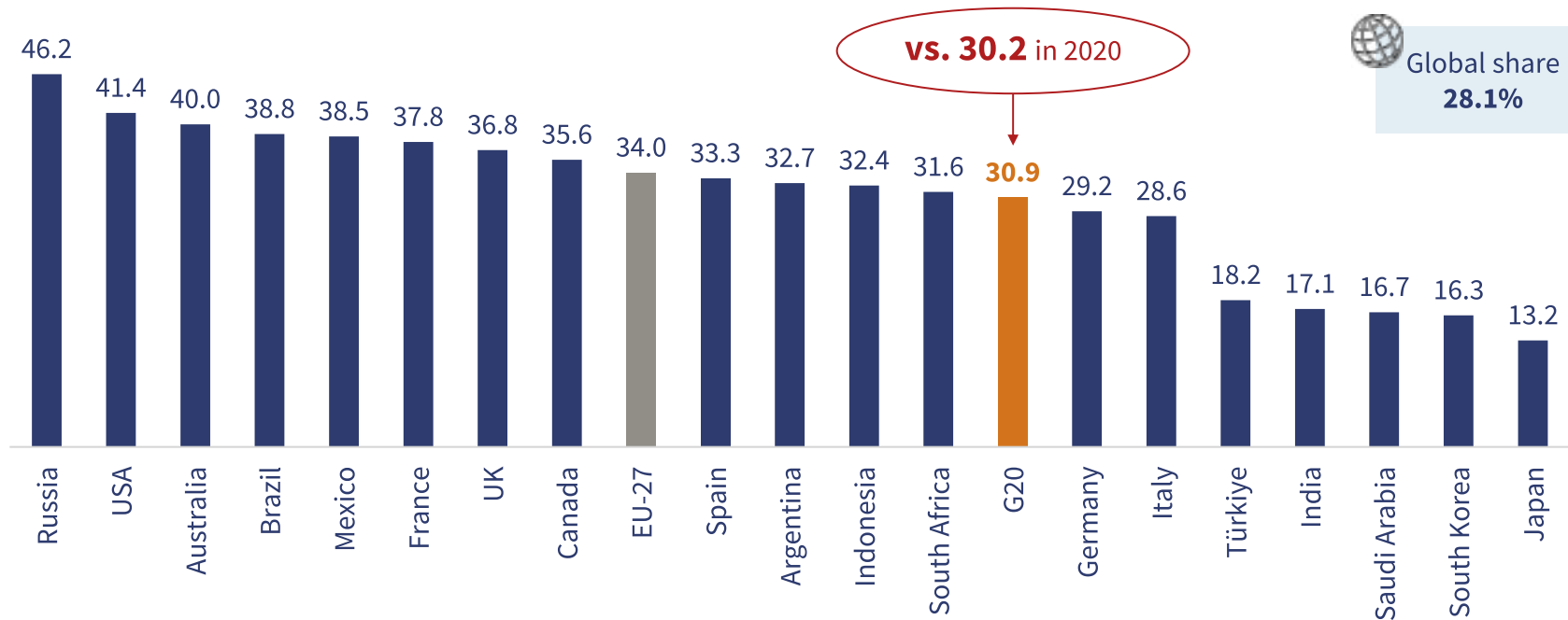


(*) Spain included as permanent guest. The sample of analysis includes 2,171 firms in total, which is 100 per market except for Argentina with 71.

Source: The European House – Ambrosetti elaboration on UN SSE, 2023

... there is still a “glass ceiling” that prevents women’s access to managerial positions

Female share of employment in managerial positions in G20 countries + Spain*
(as % of all managerial positions), 2021 or latest year available



(*) Spain included as permanent host - N.B. No data available for China.

Source: The European House – Ambrosetti elaboration on ILOSTAT data, 2023

Policy analysis: The share of women on company boards

Country	Women on boards		
	2016	2022	CAGR
Average	17.0%	26.5%	7.7%
Argentina	N.A.	N.A.	N.A.
Australia	26.0%	37.2%	6.2%
Brazil	5.8%	19.1%	22.0%
Canada	22.8%	35.5%	7.7%
China	8.5%	14.8%	9.7%
EU-27 ✓	21.7%	30.0%	5.5%
France ✓	41.2%	45.2%	1.6%
Germany ✓	29.5%	37.2%	3.9%
India ✓	12.8%	18.2%	6.0%
Indonesia	2.8%	12.3%	28.0%
Italy ✓	32.3%	42.6%	4.7%
Japan	4.8%	15.5%	21.6%
Mexico	7.2%	11.5%	8.1%
Russia	6.8%	12.0%	9.9%
Saudi Arabia	N.A.	N.A.	N.A.
South Africa	18.7%	34.4%	10.7%
South Korea	2.4%	12.8%	32.2%
Spain ✓	20.3%	35.7%	9.9%
Turkey	12.6%	17.3%	5.4%
UK	27.0%	40.9%	7.2%
USA	20.3%	31.3%	7.5%

- Overall, almost every G20 country + Spain has recorded a significant **improvement** regarding the share of women on company boards
- Only **5 out of 21 countries** have adopted **legislated gender** quotas for women on boards, with different kinds of **sanctions for non-compliance** (e.g., fines, non-payment of fees/termination of employment for directors...)
- Countries such as **France** are evolving **mandatory gender quotas** → **Law No. 2021-1774**: quotas of 30% of women executives and 30% of women members of governing bodies in 2027; **40%** in **2030** (financial penalties for not compliance occur)
- On **17 October 2022**, the EU adopted the final text of the **Directive on gender balance on corporate boards**:
 - **40%** of non-executive director positions by 2026
 - **33%** of all director positions by 2026

✓ = countries that have adopted **legislated gender quotas** for company boards

(*) 2016 first year available. CAGR calculated using 2016-2022 values.




Source: The European House – Ambrosetti elaboration on OECD and EIGE data, 2023

The European Union exemplifies how the introduction of hard laws is strictly connected to the highest increase in female board members

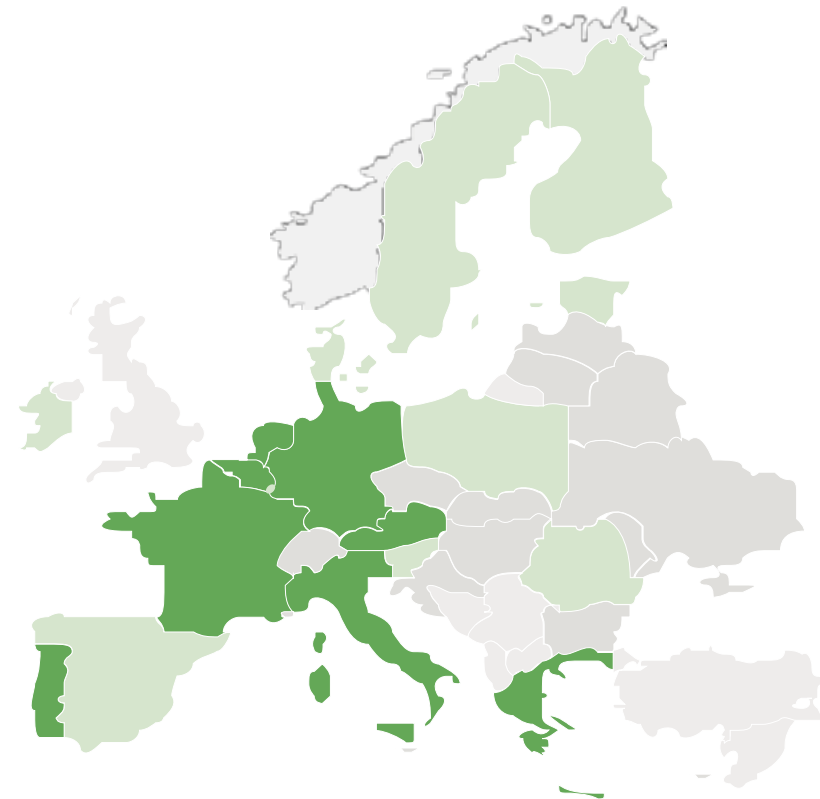
Starting from a level of around **13% in 2011** across EU Member States, the **share of women on company boards** in 2022 has increased, on average:

- To **36.4%** in countries that adopted **hard laws** to increase the number of women in top positions
- To **30.3%** in countries that implemented **soft law measures and initiatives**
- To **16.6%** in countries that have not taken **any substantial action**

Legend

-  National mandatory gender quotas for listed companies
-  Soft law initiatives
-  No substantial action undertaken

Policies for women on boards in EU Member States, 2022

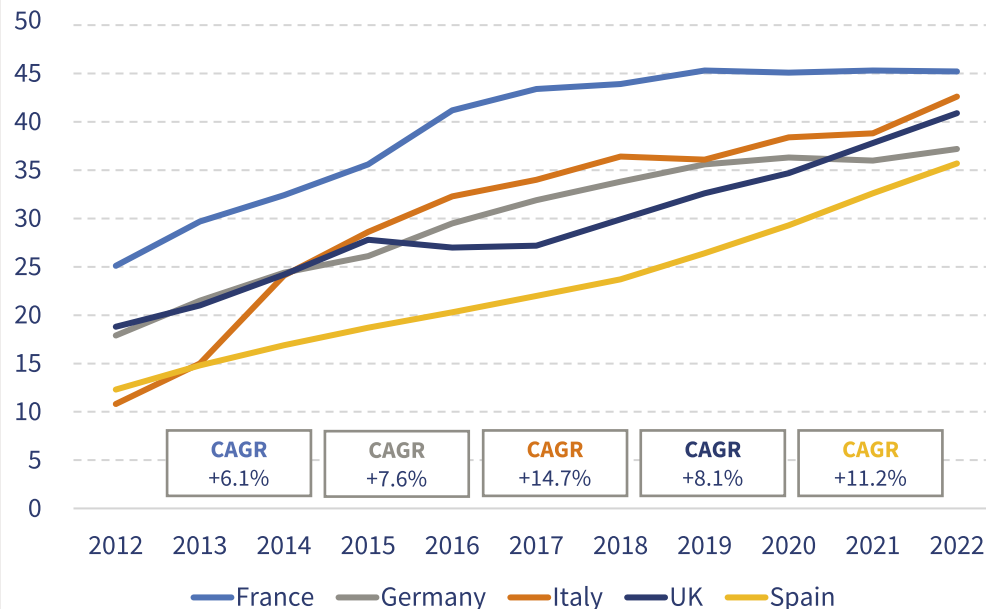


Source: The European House – Ambrosetti elaboration on EIGE data and other sources, 2023

However, the performance of countries such as the UK shows that legislated gender quotas are not the only means towards women's leadership in the corporate world

POLICIES

Proportion of seats held by women on boards of the largest publicly listed companies (as % of total seats), 2021-2022



FRANCE

Law 2011-103: 40% of women on the boards of non-listed and publicly listed companies with 500+ employees or €50+ million revenues

ITALY

Golfo-Mosca Law (2011): 40% of women on the boards of publicly listed companies and state-owned enterprises (quota initially set at 30%, raised to 40% in 2019)

SPAIN

Law 3/2007: 40% of women on the boards of publicly listed companies with 250+ employees

GERMANY

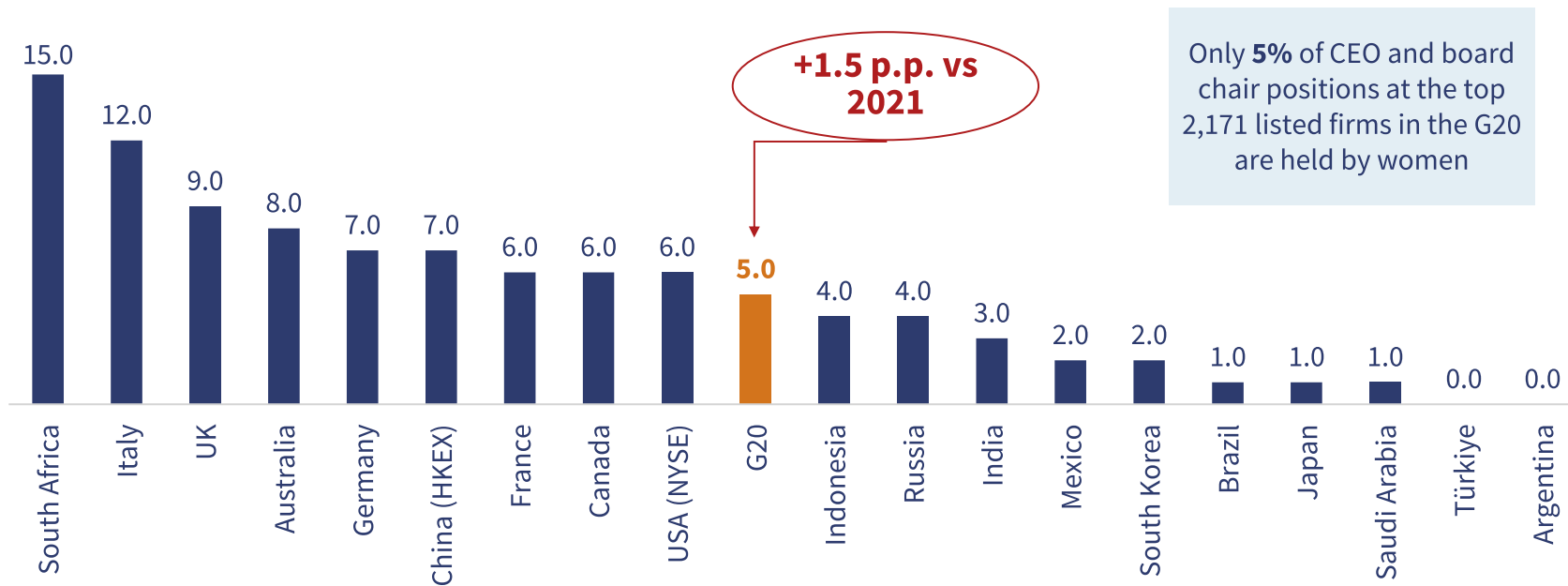
Law on Equal Participation of Women and Men in Leadership Positions in the Private and Public Sector (2015): mandatory 30% quota of the underrepresented sex on non executive boards

N.B. Although the UK has not implemented legal initiatives to support the increase of women's share in company boards, substantial improvements may be traced back to the evolution of the cultural and social environment and/or secondary soft-law initiatives.

Source: The European House – Ambrosetti elaboration on various sources, 2023

Even though numbers are slowly increasing, female CEOs continue to play a marginal role in the corporate world

CEO positions held by women of the top 100 issuers by market capitalization in G20 countries
(as % of total positions), 2022



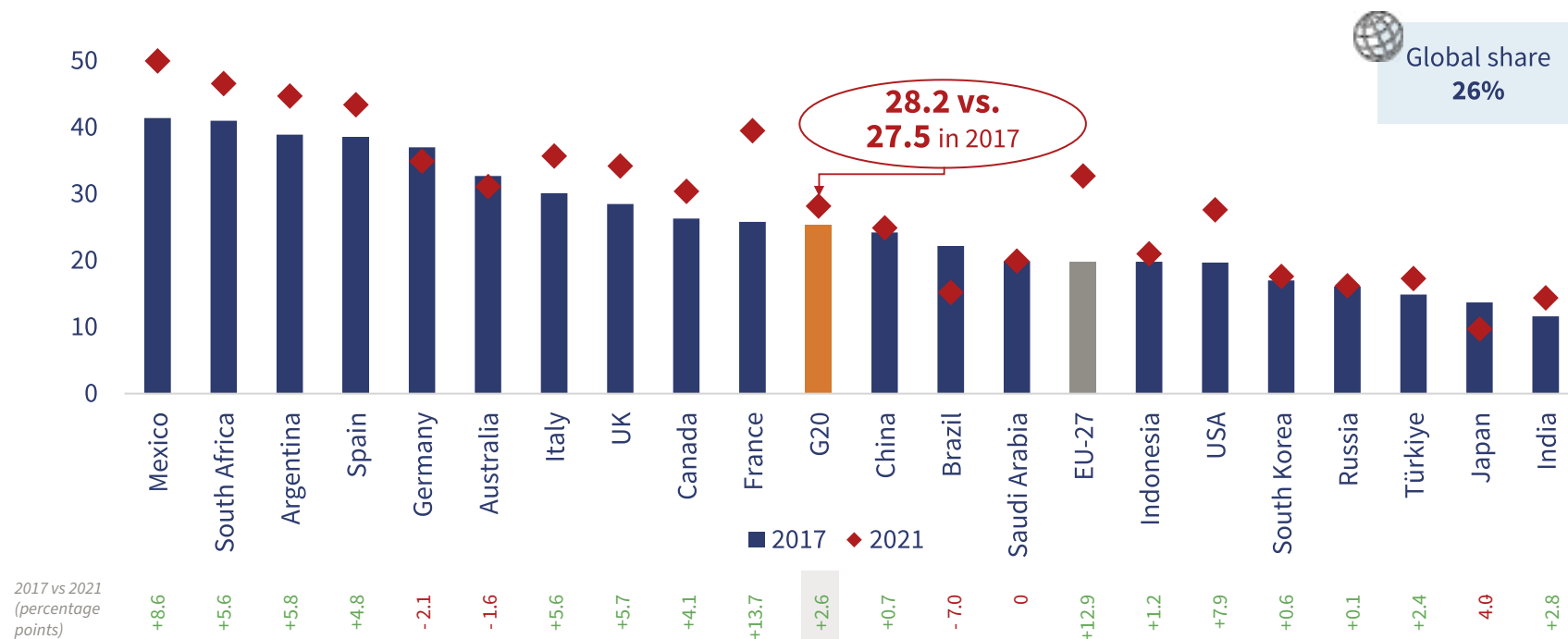
N.B. No data available for Spain and EU-27. The sample of analysis includes 2,171 firms in total, which is 100 per market except for Argentina with 71.

Source: The European House – Ambrosetti elaboration on UN SSE, 2023

In addition, women are still underrepresented within politics ...

Share of seats held by women in Parliament in G20 countries + Spain*

(as % of total seats), 2017 and 2021 or latest year available

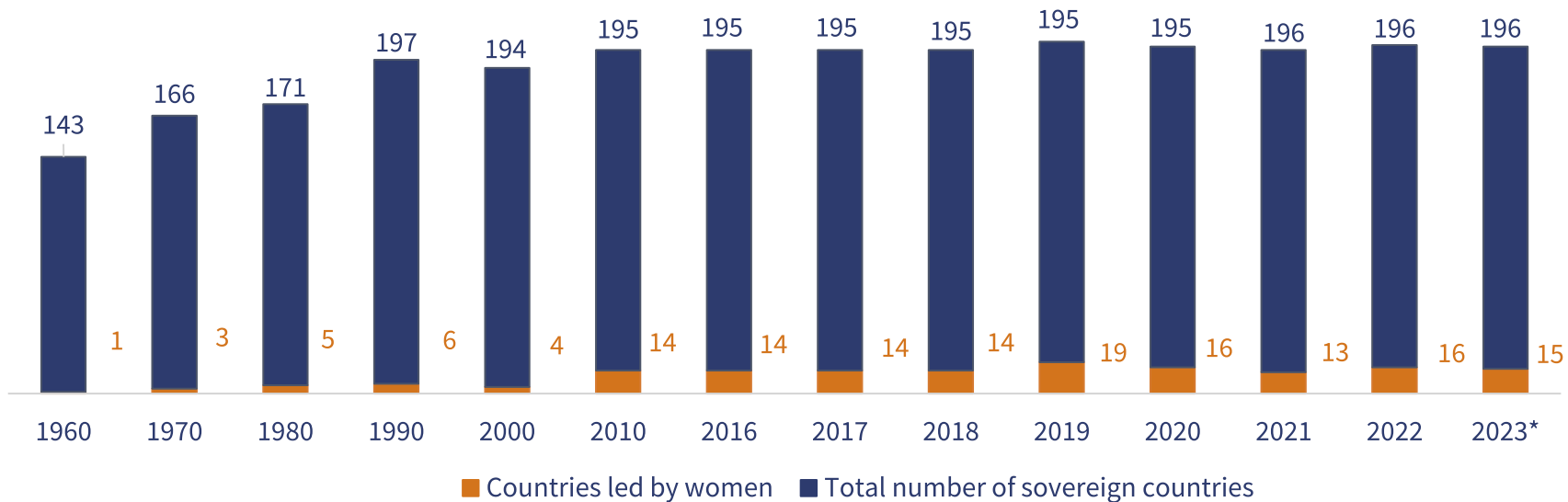


(*) Spain included as permanent guest.

Source: The European House – Ambrosetti elaboration on Human Development Report, UNECE and UN data, 2023

... with only about 8% of the States of the world being led by women ...

Number of sovereign countries with women as Head of the national Government
(absolute values), 1960-2023



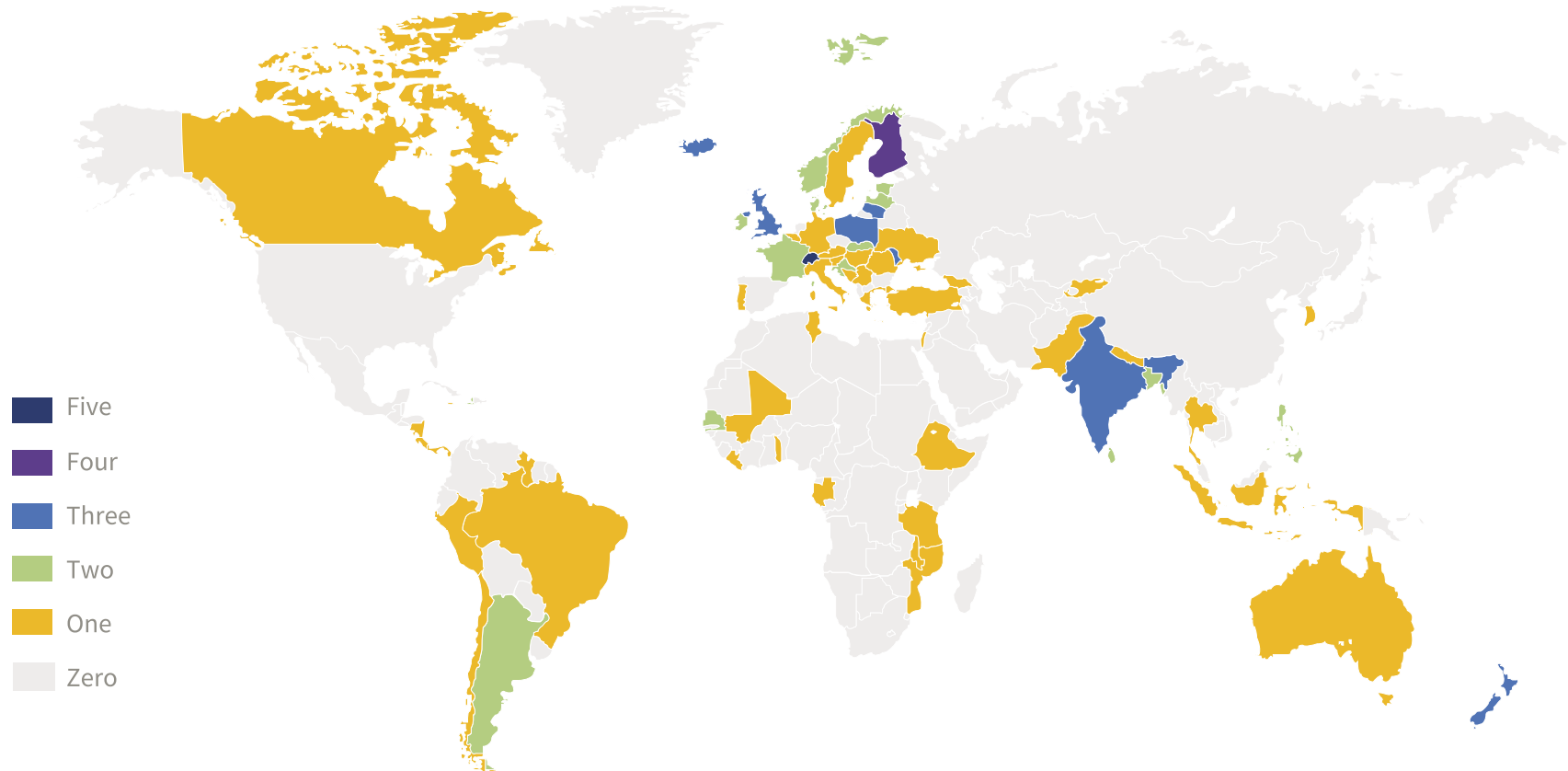
The data show how **virtually no progress** has been achieved **over the last 13 years** regarding the female executive leadership of countries

(*) As of March 2023. Data is limited to Heads of Government for the 193 United Nations members states.

Source: The European House – Ambrosetti elaboration on Pew Research Center and UN data and other sources, 2023

...and many more that have yet to appoint their first female Head of Government or State

Number of elected/appointed female Heads of Government/State* by country since 1946, 2023






(*) Excluded monarchs or those appointed by them, acting/interim/honorary positions.


Source: The European House – Ambrosetti elaboration on Council on Foreign Relations data, 2023

Policy analysis: Women's leadership and political participation

Country	Women in parliaments			Women on boards		
	2018	2023	CAGR	2018	2023	CAGR
Average ✓	27.1%	29.4%	1.4%	26.2%	27.7%	0.8%
Argentina	38.9%	44.8%	2.4%	25.0%	22.2%	-2.0%
Australia ✓	28.7%	38.4%	5.0%	21.4%	43.5%	12.6%
Brazil	15.0%	17.7%	2.8%	9.1%	36.7%	26.2%
Canada	27.0%	30.6%	2.1%	50.0%	48.6%	-0.5%
China	24.9%	24.9%	-	6.5%	4.2%	-7.0%
EU-27 ✓	30.5%	33.1%	1.4%	30.2%	32.0%	1.0%
France	39.6%	37.8%	-0.8%	50.0%	35.3%	-5.6%
Germany ✓	30.8%	35.0%	2.2%	40.0%	50.0%	3.8%
India ✓	11.8%	15.1%	4.2%	23.1%	6.7%	-1.8%
Indonesia ✓	19.8%	21.6%	1.4%	23.5%	20.7%	-2.1%
Italy	35.7%	32.3%	-1.7%	27.8%	26.7%	-0.7%
Japan ✓	10.1%	10.0%	-0.2%	5.3%	8.3%	7.8%
Mexico	48.2%	50.0%	0.6%	42.1%	42.1%	-
Russia ✓	15.8%	16.4%	0.6%	12.9%	4.8%	-1.5%
Saudi Arabia ✓	19.9%	19.9%	-	0.0%	0.0%	-
South Africa ✓	42.8%	46.3%	1.3%	48.6%	48.1%	-0.2%
South Korea ✓	17.0%	19.1%	2.0%	22.2%	16.7%	-4.6%
Spain	39.1%	42.4%	1.3%	64.7%	63.6%	-0.3%
Turkey	17.5%	17.4%	-	3.8%	5.9%	7.6%
UK	32.2%	34.5%	1.2%	21.7%	33.3%	7.4%
USA	23.5%	29.4%	3.8%	21.7%	33.3%	7.4%

- Women's presence in Parliaments is increasing in the majority of G20 countries + Spain, albeit at different speeds. However, at the same time the number of female Ministers has been decreasing in most G20 countries
- Over the years, more than half of them have adopted mandatory gender quotas in candidate lists (concerning the single upper/lower house or the sub-national level). In different cases, legislated gender quotas are matched with sanctions for non-compliance and/or provisions of financial advantages (e.g., public funding to political parties encouraging gender parity)
- Only in EU, over the last 20 years, 11 Member States have introduced national gender quotas for national parliament elections: these countries have increased the share of women almost 3 times faster than countries without quotas
- Other countries, such as Australia, Canada, Germany, Japan, Turkey and the UK have adopted only voluntary party quotas

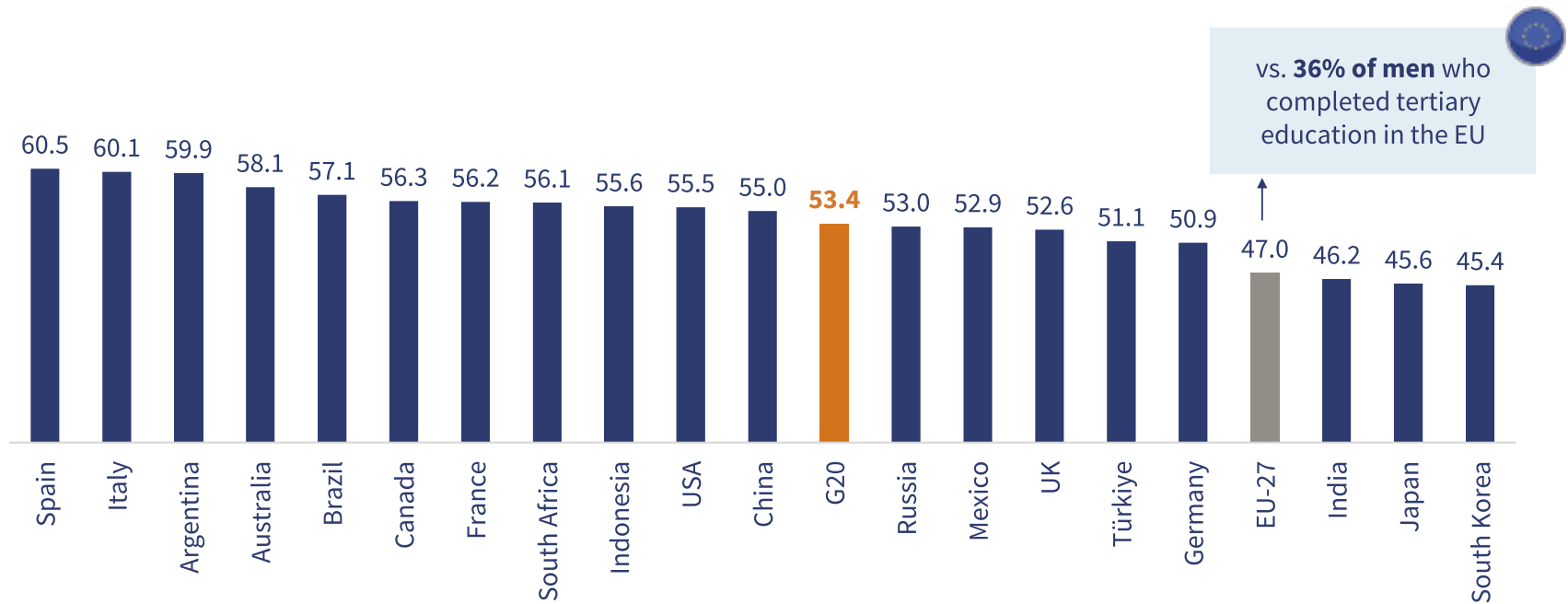
 = CAGR ≥ 0
 = CAGR = 0
 = CAGR < 0

 = countries that have adopted legislated gender quotas (at national or sub-national level)

While education plays a role in these dynamics, it cannot be identified as a defining factor

Share of women among adults with tertiary education in a selection of G20 countries + Spain*

(% values, age 25-34), 2021 or latest year available



(*) Spain included as permanent guest.
N.B. No comparable data available for Saudi Arabia.

Source: The European House – Ambrosetti elaboration on Eurostat and OECD data, 2023

G20 countries are still affected by a gender wage gap in terms of hourly pay between men and women ...

Average hourly gender wage gap* in G20 countries + Spain**
(% values), 2021 or latest year available



Although widely used with reference to gross hourly earnings, the GPG does not measure the full gender gap: research shows that, on average, the value of the wage gap **can even triple when moving from hourly to monthly earnings** and **peaks at annual earnings**

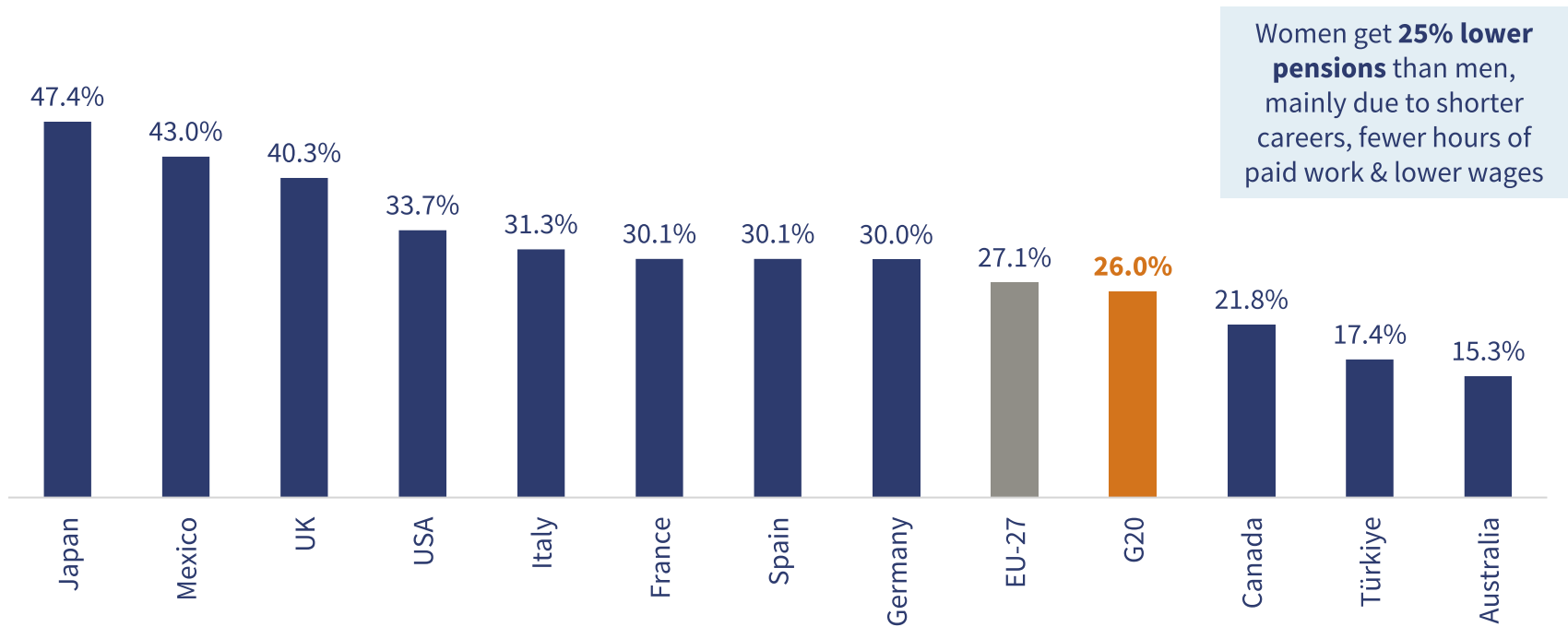
(*) Depending on the country, the earnings data used can also refer to the weekly earning on a gross or net basis.

(**) Spain included as permanent guest.

Source: The European House – Ambrosetti elaboration on Eurostat and OECD data, 2023

... a factor that, combined with the previous ones, leads to a gap in pension benefits that negatively affects women

Gender pension gap in a selection of G20 countries + Spain*
(% values), 2019 or latest year available

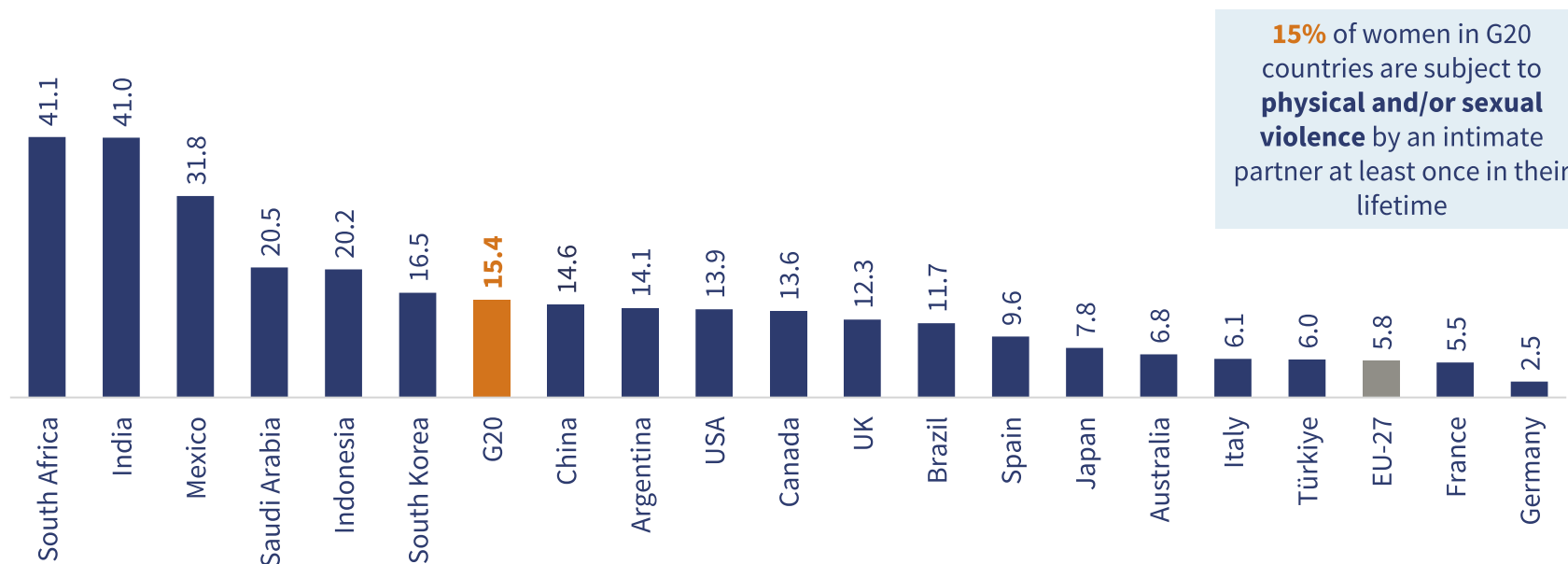


(*) Spain included as permanent guest. N.B. No data available for Argentina, Brazil, China, India, Indonesia, Russia, Saudi Arabia, South Africa and South Korea.

Source: The European House – Ambrosetti elaboration on OECD data, 2023

In G20 countries more than 15% of women have experienced Gender-Based Violence at some point in their life (vs. 26% in 2019)

Women who have experienced physical and/or sexual violence from an intimate partner at some time in their life in G20 countries + Spain*
(% values, age 15+), 2023



(*) Spain included as permanent guest. N.B. No data available for Russia.

Source: The European House – Ambrosetti elaboration on OECD data, 2023

03

The Women's Empowerment Progress Index and the new EU SheWorks Index

3.1	Women's Empowerment Progress Index (WEPI)	41
3.2	EU SheWorks Index	48

In a context characterized by a general lack of evaluation and accountability, the Observatory has been working on two composite Indexes

Women's Empowerment Progress Index (WEPI)




EU SheWorks Index

Goal	Rather than the gaps between women and men, the Index aims to investigate the process towards the full realization of women's potential - considering that women are frequently denied resources, information, and freedom of action
Perimeter	G20 countries + Spain
KPIs	21 organized in 5 macro-pillars (<i>reviewed</i>)
Update	Annual

Goal	The Index focuses on women's access, inclusion and empowerment in the labour market , emphasizing the centrality of this factors in the process of empowerment and release of women's full potential
Perimeter	EU-27 + UK
KPIs	20 organized in 4 macro-pillars
Update	Annual

The composite Indexes have been designed with the same characteristics of **objectivity, significance, replicability** and **robustness**, while developing **two parallel narratives**

The 2023 edition of the Women's Empowerment Progress Index: Our reviews

KPI included in the 2022 edition

Recognition and Representation	Proportion of seats held by women in national parliaments
	Proportion of women in ministerial level positions
	Female participation rate to the labour force
	Proportion of seats held by women on boards of the largest publicly listed companies
	Share of women employed in managerial positions
Access to resourced & knowledge	Female share of tertiary graduates
	Share of female tertiary graduates in STEM
	Women that have a financial institution account
	Ratio of female-to-male mobile use estimate
	Women employed in the ICT sector
Successful employment	Share of women inventors
	Share of women employed who are employers
	Gender wage gap
	Women working in the informal economy
	Share of female employees on temporary contracts
Quality of life	Time spent by women on unpaid domestic chores and care work
	Women reporting having experienced physical or sexual violence
	Time spent on personal care
	Gross enrolment rate in pre-primary education
	Total length of paid maternity and parental leaves

2023 reviews

Replaced with "**Ratio of female-to-male internet use estimate**" (Digital Gender Gaps)
Rationale: to bring attention to and stress the digital divide theme

Replaced with "**Women technicians and associate professionals**" (ILOSTAT)
Rationale: to increase data consistency and embrace other categories not included in ICT

Replaced with "**Expected number of years in retirement**" (OECD)
Rationale: to stress the relevance of working life duration (and increase overall correlation with the other KPIs)

Replaced with "**Female employers**" (ILOSTAT)
Rationale: to increase data coverage and guarantee comparability across countries

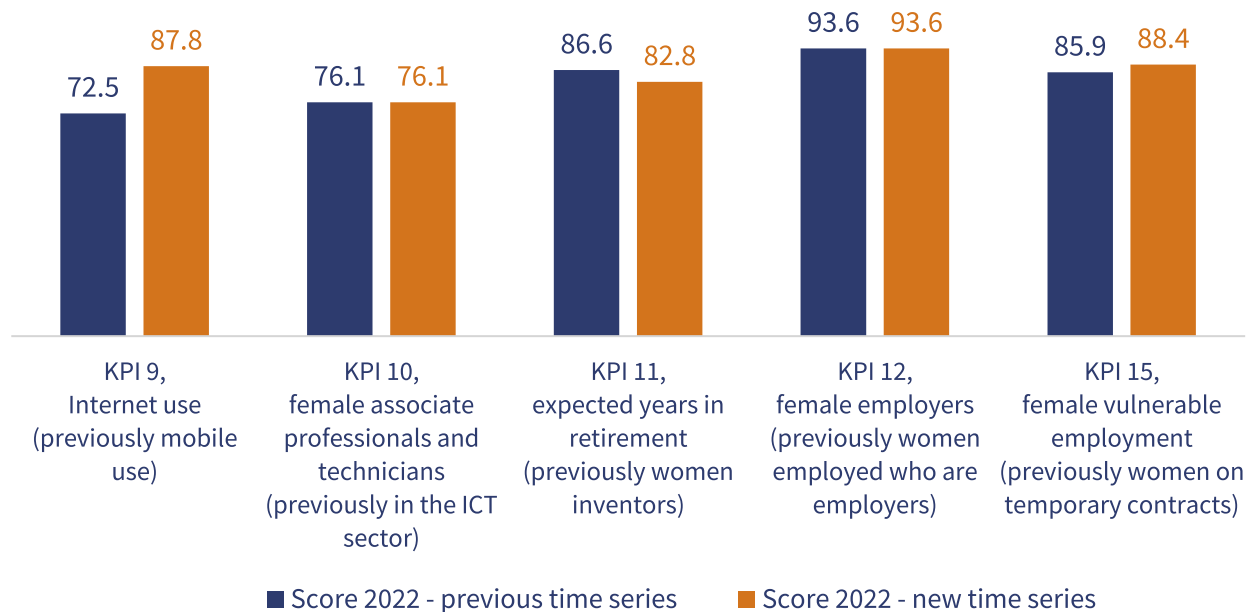
Replaced with "**Female vulnerable employment**" (World Bank)
Rationale: to increase data coverage and avoid lack of data for specific countries

In red the KPIs subject to methodological review.

N.B. The changes implemented have been recommended and shared with the European Commission's Joint Research Centre (JRC) after the statistical audit conducted in 2022.

A methodological premise: We have recalculated the WEPI backwards, updating the time series for the KPIs affected by the methodological revision

Exemplificative: Main backward changes for Italy in the methodologically revised KPIs of the WEPI
(score 0-100), 2022



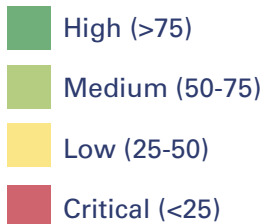
With a correlation between the 2023 Score and the 2022 Score of **0.95**, the WEPI confirms to be a **stable indicator**: Improving Women's Empowerment therefore requires **long-term policies** and above all a **deep cultural change**

N.B. The methodological revision of some KPIs may results in a change in scores.

Source: The European House – Ambrosetti elaboration, 2023

The results of the 2023 WEPI show once again France at the top of the ranking ...

	WEPI ranking 2023	WEPI score 2023	WEPI ranking 2022	WEPI score 2022	Recognition & representation	Access to resources & knowledge	Successful employment	Quality of life	Women Business and the Law Index
France	1	100.0	1	100.0	High (>75)	High (>75)	High (>75)	High (>75)	High (>75)
UK	2	99.2	6	90.6	High (>75)	High (>75)	High (>75)	High (>75)	High (>75)
Australia	3	93.0	2	90.7	High (>75)	High (>75)	High (>75)	High (>75)	High (>75)
Spain	4	89.6	3	93.4	High (>75)	High (>75)	High (>75)	High (>75)	High (>75)
Germany	5	83.9	7	77.5	High (>75)	High (>75)	High (>75)	High (>75)	High (>75)
Italy	6	83.1	5	90.8	High (>75)	High (>75)	High (>75)	High (>75)	High (>75)
Canada	7	83.1	4	84.2	High (>75)	High (>75)	High (>75)	Low (25-50)	High (>75)
USA	8	80.5	9	66.7	High (>75)	High (>75)	High (>75)	Low (25-50)	High (>75)
South Africa	9	70.5	8	66.5	High (>75)	High (>75)	High (>75)	Low (25-50)	High (>75)
Brazil	10	69.8	10	57.9	High (>75)	High (>75)	High (>75)	High (>75)	High (>75)
Argentina	11	64.9	12	52.6	High (>75)	High (>75)	High (>75)	Low (25-50)	Low (25-50)
Russia	12	53.4	11	49.3	Low (25-50)	High (>75)	High (>75)	High (>75)	High (>75)
China	13	42.3	16	36.3	Low (25-50)	High (>75)	Low (25-50)	High (>75)	High (>75)
South Korea	14	42.3	13	44.7	Low (25-50)	High (>75)	High (>75)	High (>75)	High (>75)
Mexico	15	41.6	14	45.9	High (>75)	Low (25-50)	High (>75)	Critical (<25)	High (>75)
Japan	16	37.6	15	37.3	Critical (<25)	Low (25-50)	High (>75)	Low (25-50)	High (>75)
Indonesia	17	25.2	19	14.1	Low (25-50)	Low (25-50)	High (>75)	Low (25-50)	Critical (<25)
Türkiye	18	23.5	17	22.4	Critical (<25)	Critical (<25)	Low (25-50)	High (>75)	High (>75)
Saudi Arabia	19	3.9	20	1.0	Critical (<25)	Critical (<25)	Low (25-50)	Critical (<25)	High (>75)
India	20	1	18	4.3	Critical (<25)	Critical (<25)	Critical (<25)	Critical (<25)	Low (25-50)



The Index ranges from 1=min to 100=max

N.B. The EU-27, formally a member of the G20, has been excluded from the final ranking in order to guarantee comparability among countries.

Source: The European House – Ambrosetti, 2023

... with few significant changes from the previous edition, both in Europe ...

UNITED KINGDOM

- The number of **women on the boards of publicly listed companies has increased**, reaching for the first time a **>40%** quota in 2022
- In 2021 the Government has implemented a new important **strategy to end Gender-Based Violence** based on 5 key areas: prevention, protection, prosecution, partnerships and research. The **share of women who declare to have experienced violence** has decreased from **29.0%** in 2019 to **12.3%** in 2023

GERMANY

- In the last two years the country has registered an **increase in the representation and participation of women both in politics and business**, following the constitution of the new 2021 Government and the adoption of **new (soft) measures for gender quotas**
- On another note, the Government has planned to reduce the **gender wage gap** – which is still above the EU average – to **10%** by 2030

ITALY

- Despite a new **female Prime Minister**, the share of **ministerial positions** occupied by women is **the lowest since 2011**; at the same time, **the share of women in Parliament has decreased** for the first time in about 20 years
- In contrast to most other countries, in Italy almost **1 woman out of 2 is not employed: female labour force participation rate remains low** (56.4%). The 2022 result positions Italy between South Africa (55.6%) and Argentina (59.4%)

Source: The European House – Ambrosetti elaboration on various sources, 2023

... and in the other countries of the G20 perimeter

INDIA

- An estimated **4 in 10 women** in India report having **experienced violence** in their lifetime in 2023, a **growing number** compared to 2019 data. Gender-Based Violence has a strong link also with **climate change-induced migration**, which risks to exacerbate it further
- Despite being one of the most populous countries, India has **less than 7% female ministers** (and 15% female parliamentarians), sharply down from the 2020 data of 23.1%

CHINA

- Despite a **steady decline of the female labor participation rate** in the last 20 years, China still has a rather high rate: after the 2020 fall, in 2022 the value has **returned to pre-pandemic levels**
- At the same time, the proportion of **director seats held by women** in publicly listed companies **has increased** between 2021 and 2022, although remaining below **15%**

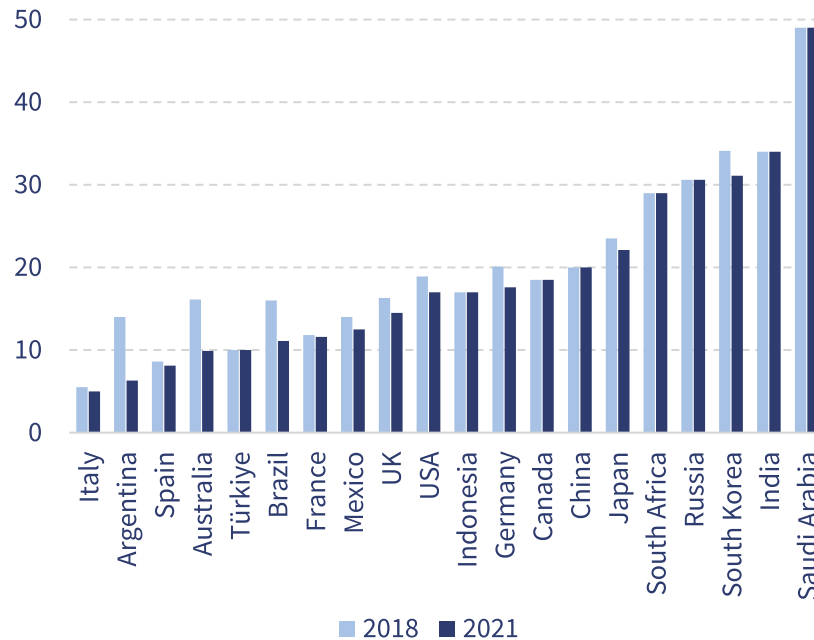
SAUDI ARABIA

- Saudi Arabia remain one of the **most dynamic countries** at the bottom of the ranking, with interesting variations in terms of **female participation in the labour market (36%)** and in **managerial positions (16.7%)**
- This rise is linked to various factors which include **regulatory reforms** focused on empowering women in the workplace and creating female entrepreneurs (*e.g., measures of access to credit, subsidies for transportation costs between workplace and home*)

Some good news: Two KPIs are improving (or stable) in all countries

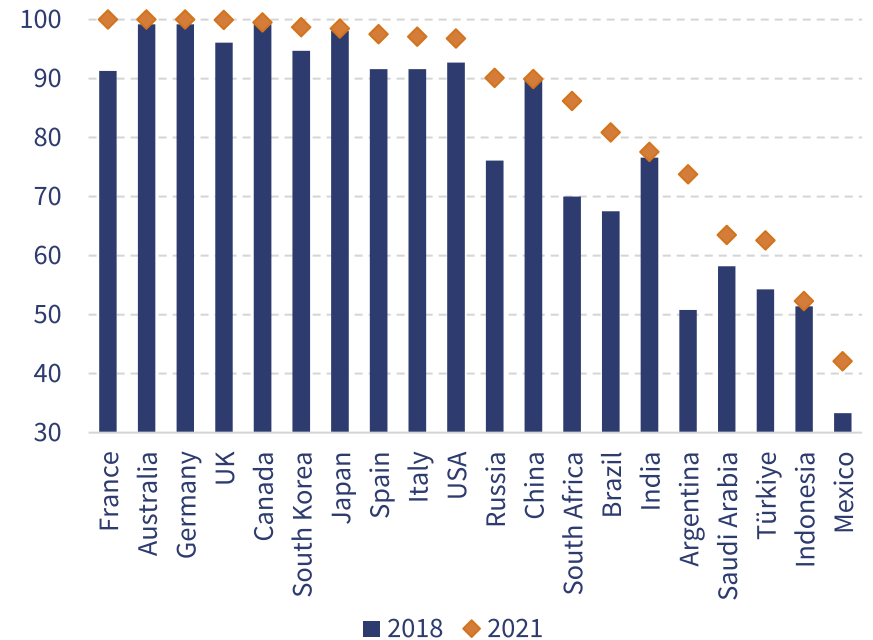
Gender wage gap in G20 countries + Spain

(ratio, %), 2018 and 2021



Women with account at a financial institution or mobile money-service provider

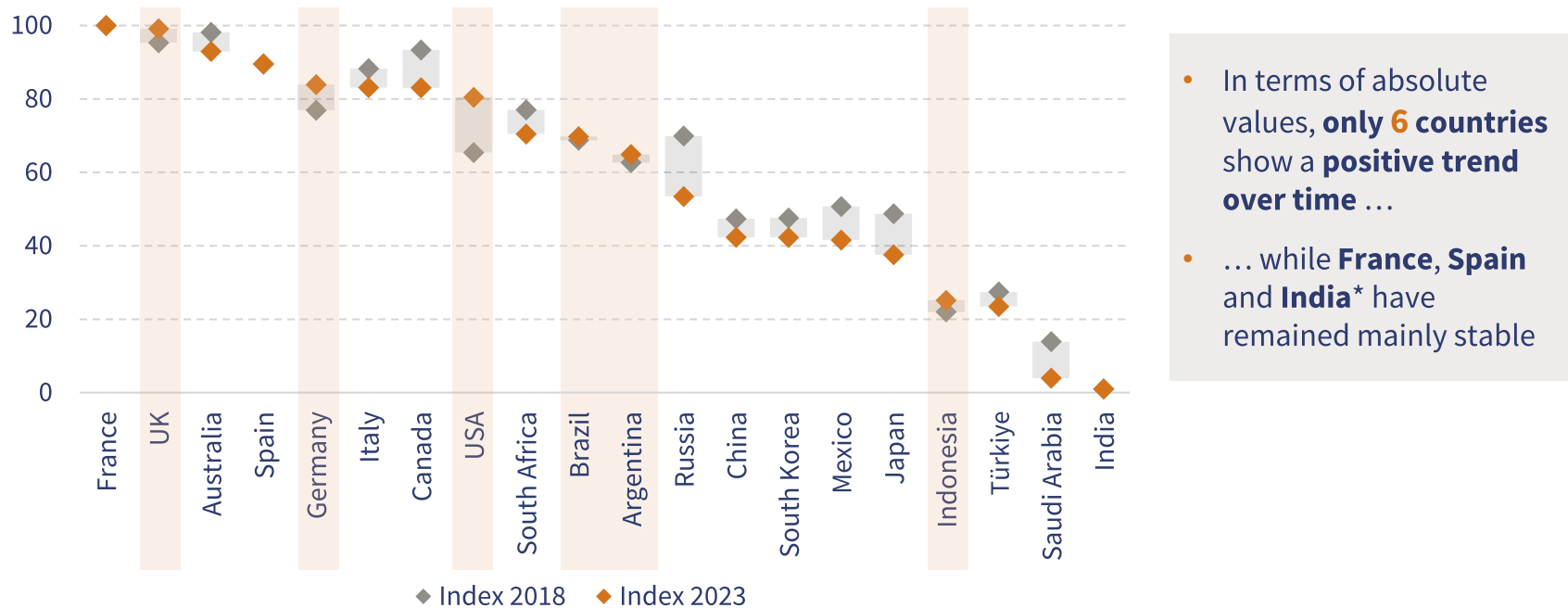
(% on female pop., age 15+), 2018 and 2021



Source: The European House – Ambrosetti elaboration on Eurostat and OECD data, 2023

Looking at the Index from a wider time period, the improvement trajectory concerns only 1/3 of the countries considered

WEPI performance over the last 5 years and comparison with 2023 results
(absolute values), 2018 and 2023



- In terms of absolute values, **only 6 countries** show a **positive trend over time ...**
- ... while **France, Spain and India*** have remained mainly stable

N.B. WEPI scores have been recalculated backwards, updating the time series for the KPIs affected by the methodological revision to guarantee comparability.

(*) India shows a fluctuating performance with a realignment to the 2018 Index data.

Source: The European House – Ambrosetti elaboration, 2023

3.2

The EU SheWorks Index aims at emphasizing the centrality of women’s access, inclusion and empowerment in the labour market to release their full potential

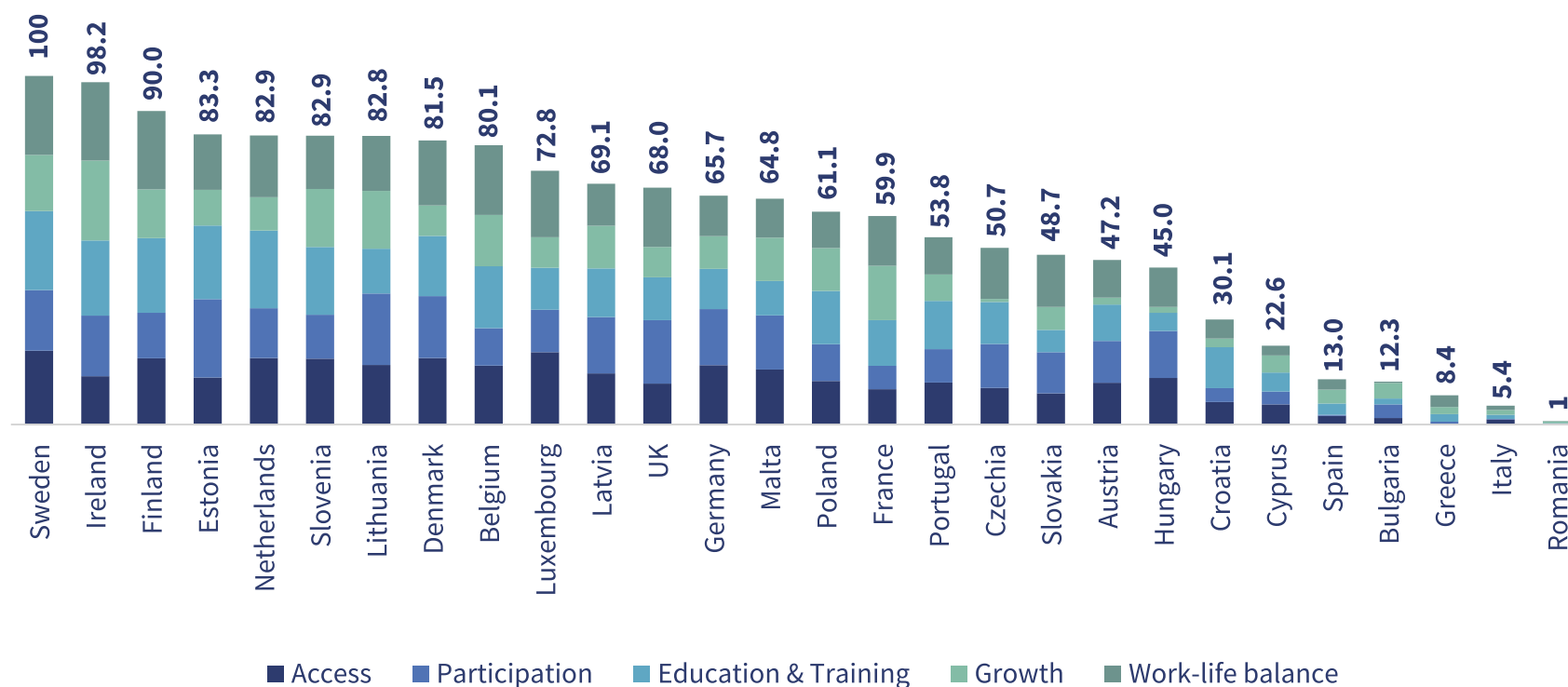
The KPIs included in the 2023 EU SheWorks Index

Access	Participation	Education & Training	Growth	Work-life balance
1. Women at risk of poverty	5. Female employment rate	9. Women’s scientific literacy	13. Employed women in managerial positions (middle)	17. Employed women working from home
2. Employment rate of recent female graduates	6. Women in temporary contracts	10. Participation rate in formal education and training	14. Employed women in senior managerial positions (executives)	18. Length of maternity leave
3. Transition from fixed term to permanent contracts	7. Women in involuntary part-time employment	11. Participation rate in non-formal education and training	15. Female labour transitions	19. Time spent on unpaid work by women
4. Women employed in science and technology	8. Duration of women’s working life	12. Early female leavers from education and training	16. Gender pay gap in unadjusted form	20. Inactive female population not seeking employment due to carework reasons

The preliminary results of the EU SheWorks Index show a strong concentration of Nordic countries among the best performers

EU SheWorks Index results of EU-27 countries and the UK

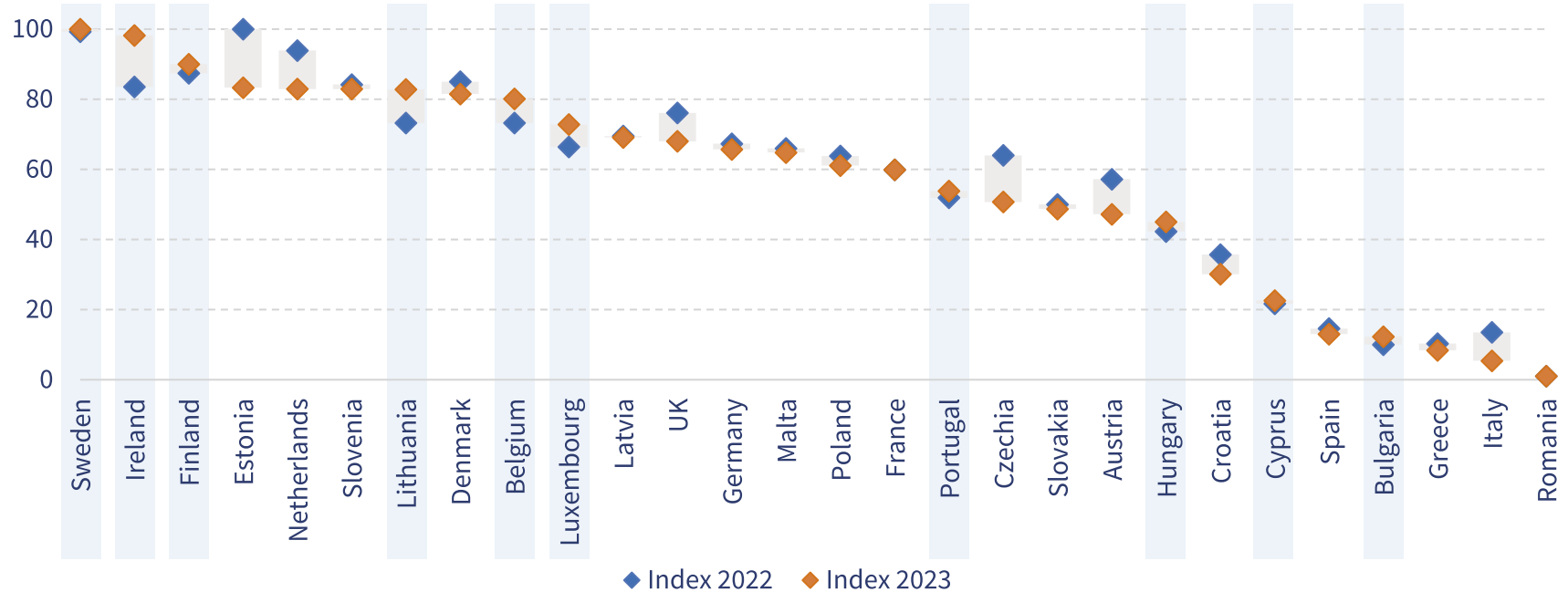
(overall result and detail by pillar), 2023



Source: The European House – Ambrosetti elaboration, 2023

Looking back at the previous year's performances, only 1/3 of European countries show a positive trend overtime

EU SheWorks Index performance comparison
(absolute values), 2022 vs. 2023



Source: The European House – Ambrosetti elaboration, 2023

If we assume that **Italy could reverse its trend** and start to improve its performance *(at half the rate of other improving countries)*, it will require:

- **64 years** to reach the current average score of **France, Germany and the UK**
- **74 years** to reach the current average score of the **2023 top 3 performers** (Sweden, Ireland and Finland)

Priority areas for action should be at least three: **increasing the female employment rate, strengthening participation in education and training and reducing involuntary part-time employment**

Key facts and numbers coming from the EU SheWorks Index

Mobility and growth in the labour market



In the last year, more than **8 French women out of 10** have changed their job position moving to the **same or higher qualification** (employment status and pay)

Participation and quality of work



Besides some improvement compared to 2020, female **employment rates** and **involuntary part-time** employment remain pressing issues, with **Italy as the tail-end**

Leadership in the corporate world



In 2022 **women's share of board seats** at **Britain's 350** biggest listed companies reached **40%**, 3 years ahead of the Government's plan and **without mandatory quotas**

Women in tech and digital



Eastern countries show some of the best performances in the share of **women in science and technology**, partly due to their historic legacy and strong **governmental push** towards science and math at school

Participation in the labour market



The right to **2 weeks paternity leave** has been introduced by a new EU Work-life Balance Directive for parents and carers: between 2019 and 2023, **in the EU-27 + UK the weeks went up** on average by **114.1%**

Source: The European House – Ambrosetti elaboration, 2023

04

The Observatory's priority areas for action

- 4.1 Work-life balance as a leverage for gender equity and Women's Empowerment 55**
- 4.2 The Green Transition: Women's inclusion in sustainability and decision making 103**
- 4.3 Women, STEM and employment: Key facts and best practices to share 107**

As a result of our previous work and the precious inputs of our Advisors, Partners and Club members, we have identified **3 priority areas for action** in the field of Women's Empowerment:

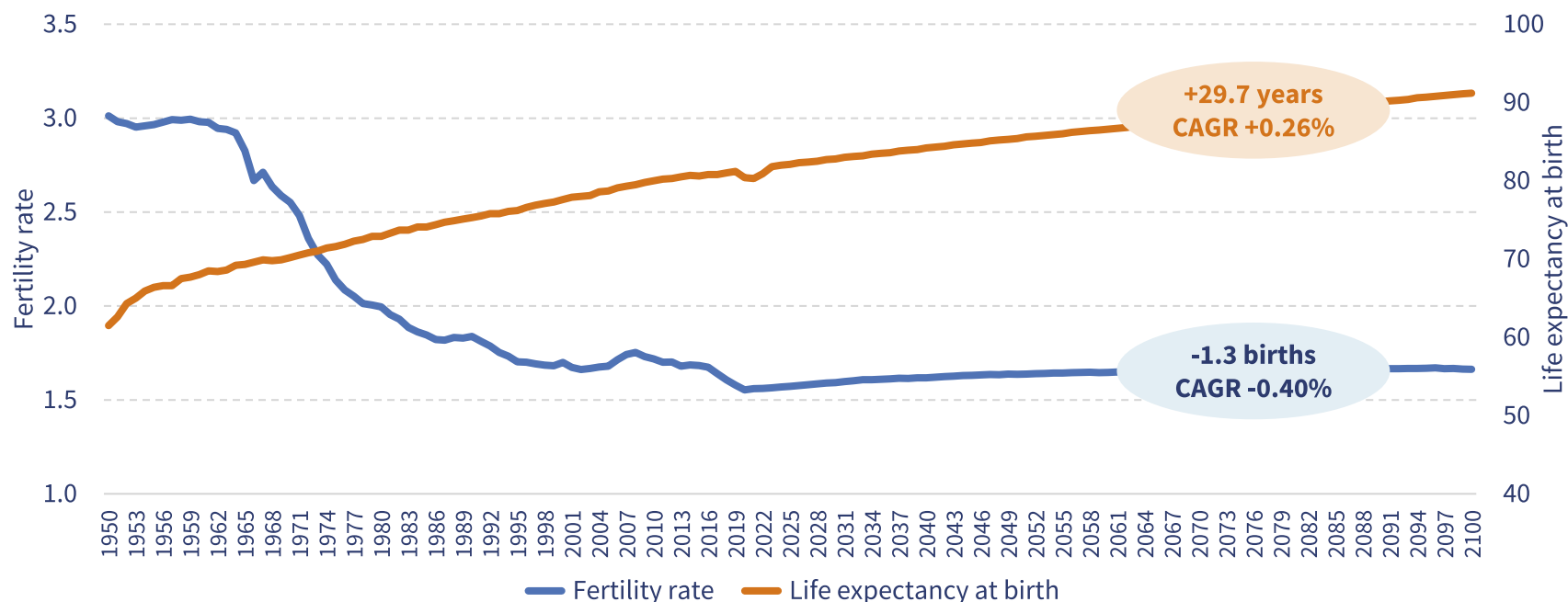
- 1 Work-life balance**
- 2 Sustainability and decision making**
- 3 STEM and employment**



We believe that these 3 high impact areas could significantly benefit from a **successful collaboration between the public sector and the corporate world**

Moved by fertility and mortality declines, the demographic transition appears to be a “quiet revolution” for high-income countries ...

Life expectancy at birth and fertility rate in countries with GNI per capita > \$13,205*
(years, births every 1,000 inhabitants, absolute change and CAGR**), 1950-2100e

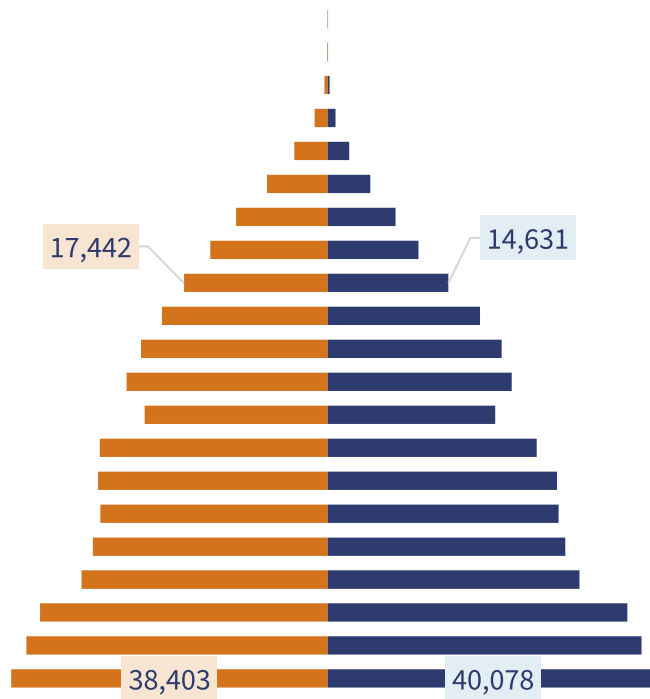


N.B. GNI: Gross National Income.
 (*) Hereafter cited as high-income countries.
 (**) Compound annual growth rate.

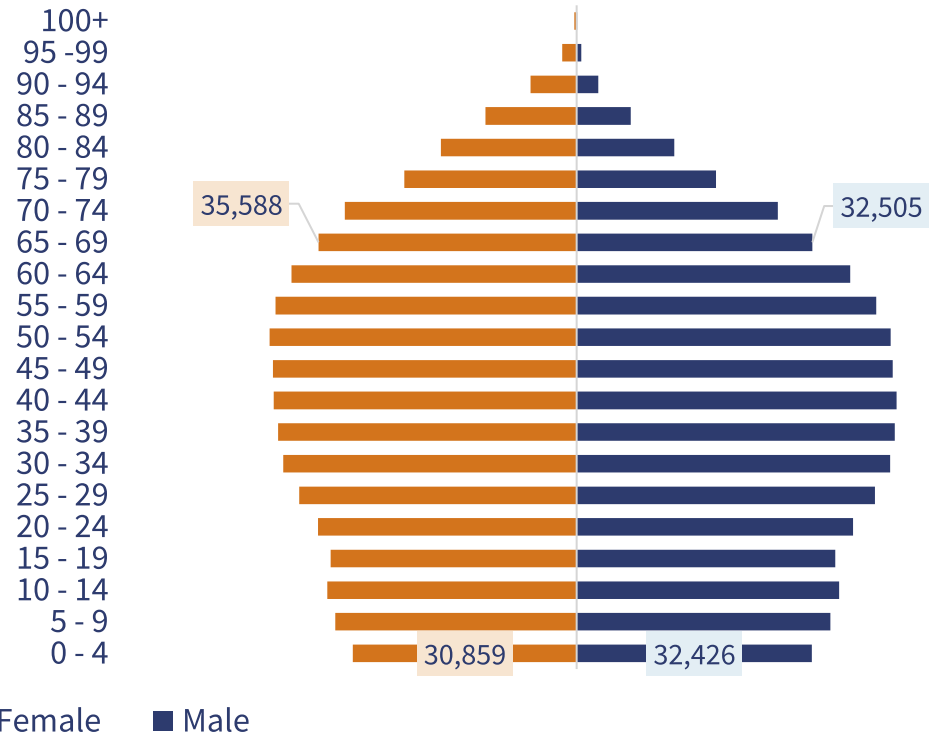
Source: The European House – Ambrosetti elaboration on UN and Our World in Data data, 2023

... that is progressively leading to significant changes in the age composition of our population

Population by age group in high-income countries
(thousands), 1960



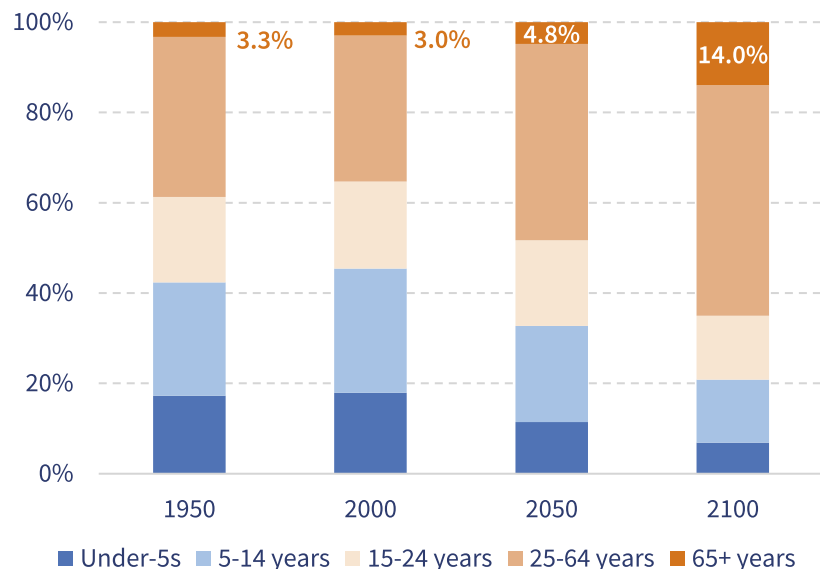
Population by age group in high-income countries
(thousands), 2021



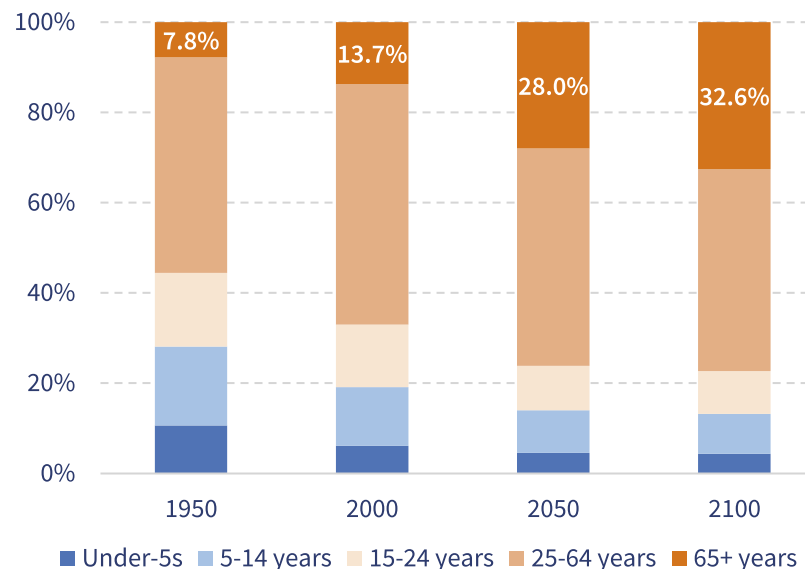
Source: The European House – Ambrosetti elaboration on UNPD data, 2023

The increasing proportion of people aged 65+ outline the prospects of an incumbent “demographic winter”, even if at different speeds ...

Projected population by broad age group in low-income countries* (billion), 1950-2100e



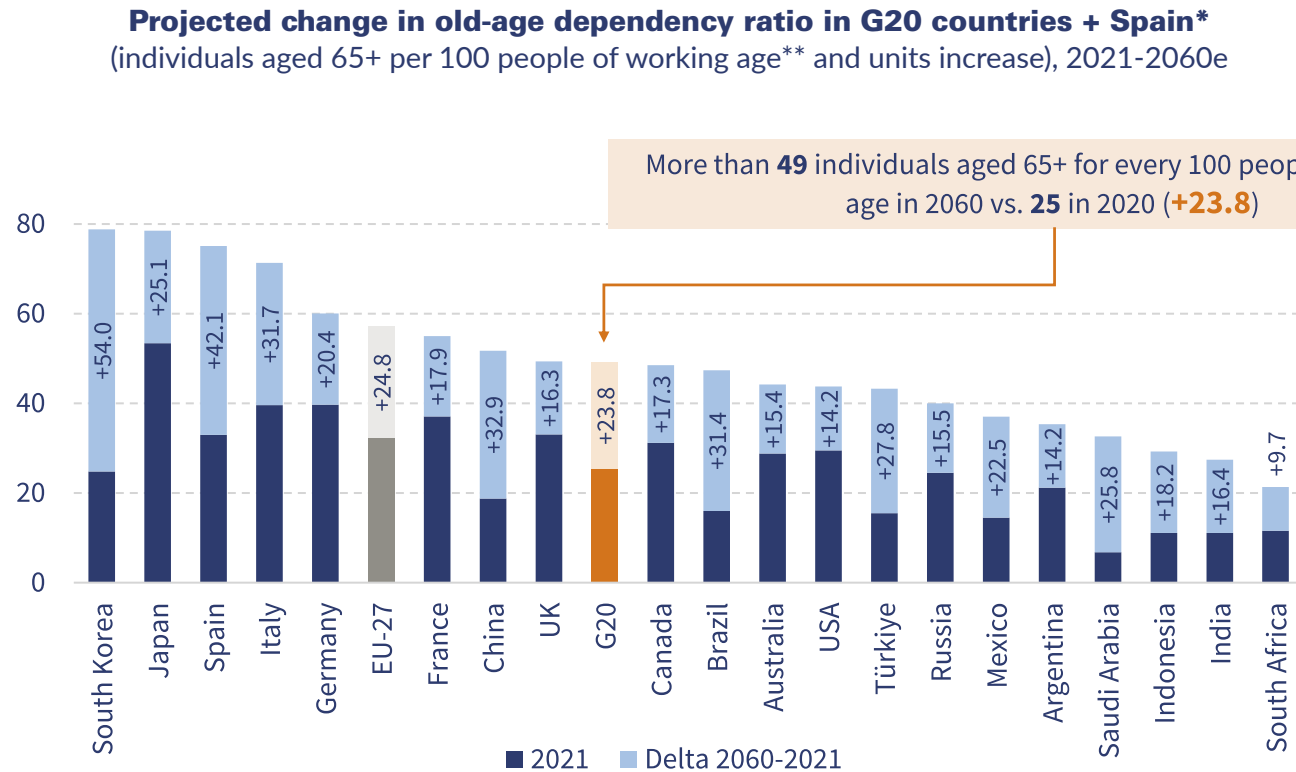
Projected population by broad age group in high-income countries (billion), 1950-2100e



(*) Countries with Gross National Income per capita ≤ \$1,085.

Source: The European House – Ambrosetti elaboration on Our World in Data data, 2023

... which results in a significant increase in dependency ratios, with severe implications for the economic and social sustainability of countries



(*) Spain included as permanent guest.

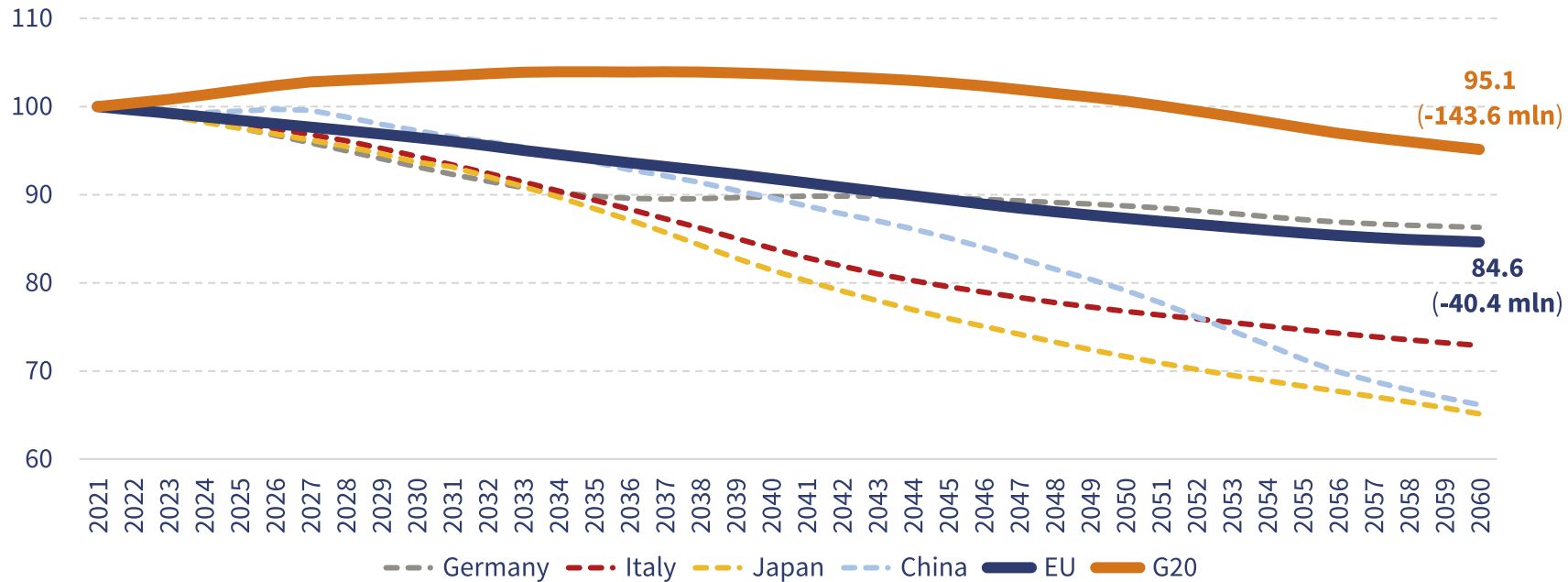
(**) People of working age are defined as those aged 15 to 64.

Source: The European House – Ambrosetti elaboration on OECD data, 2023

A strong decline in the working-age population, especially in countries such as Japan, Italy and Germany, implies lower labour productivity and tax revenues ...

Projected change in working-age population in G20, EU-27 and selected countries

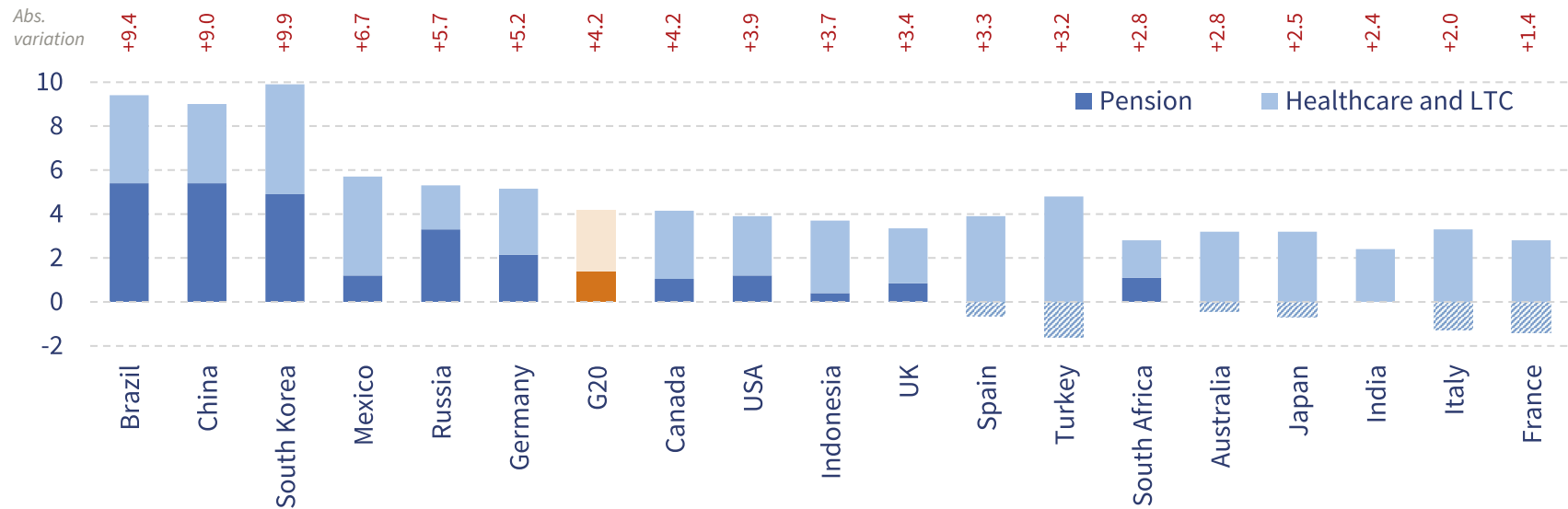
(20-64 years, with 2021=100), 2021-2060e



Source: The European House – Ambrosetti elaboration on OECD data, 2023

... which collides with the projections of higher spending on healthcare, pensions and other benefits – at the risk of outpacing GDP growth

Projected change of public expenditure on pensions, healthcare and long-term care* as a % of GDP in a selection of G20 countries + Spain (percentage points variation), 2010-2060e***



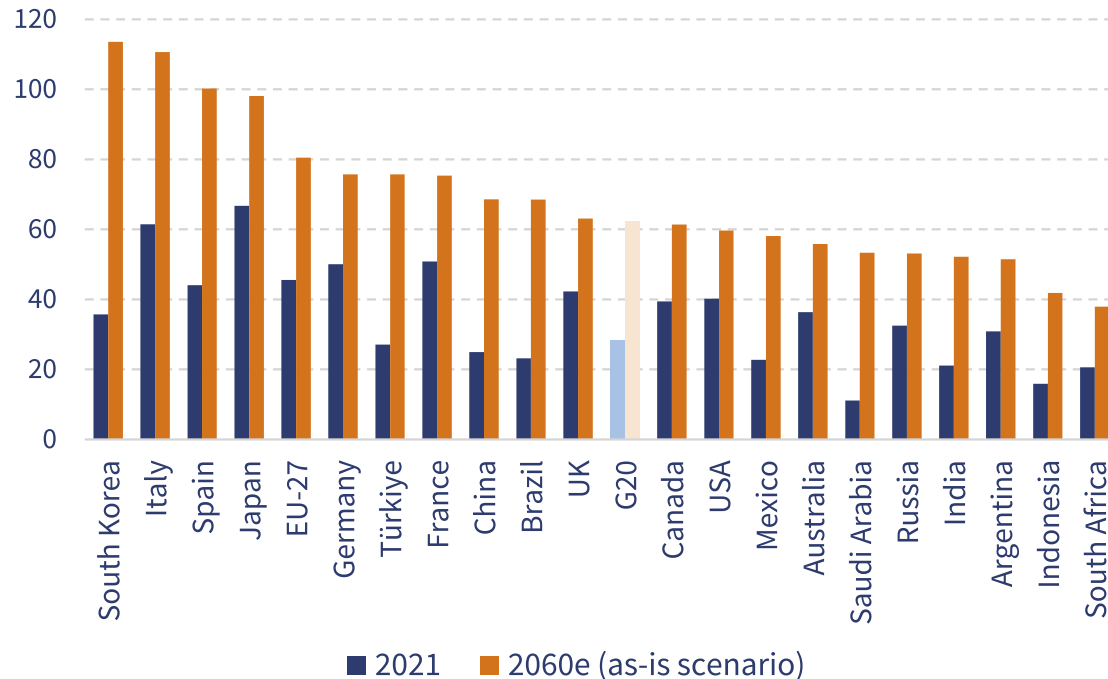
According to the OECD, **real GDP growth for the G20** is expected to decrease **from around 3% post-COVID to 1.5% in 2060**, mainly due to a deceleration of large emerging-market economies and the decline of working-age population in developed ones

(*). Considering a cost-containment scenario. (**). Included as permanent guest. N.B. Data incomplete for Argentina and Saudi Arabia. Latest available projections.

Source: The European House – Ambrosetti elaboration on OECD data, 2023

Increasing labour supply is crucial for long-term sustainability: considering only the employed population, the old-age dependency ratio grows further

Ratio of individuals aged 65+ per 100 people employed in G20 countries + Spain* (units), 2021-2060e**



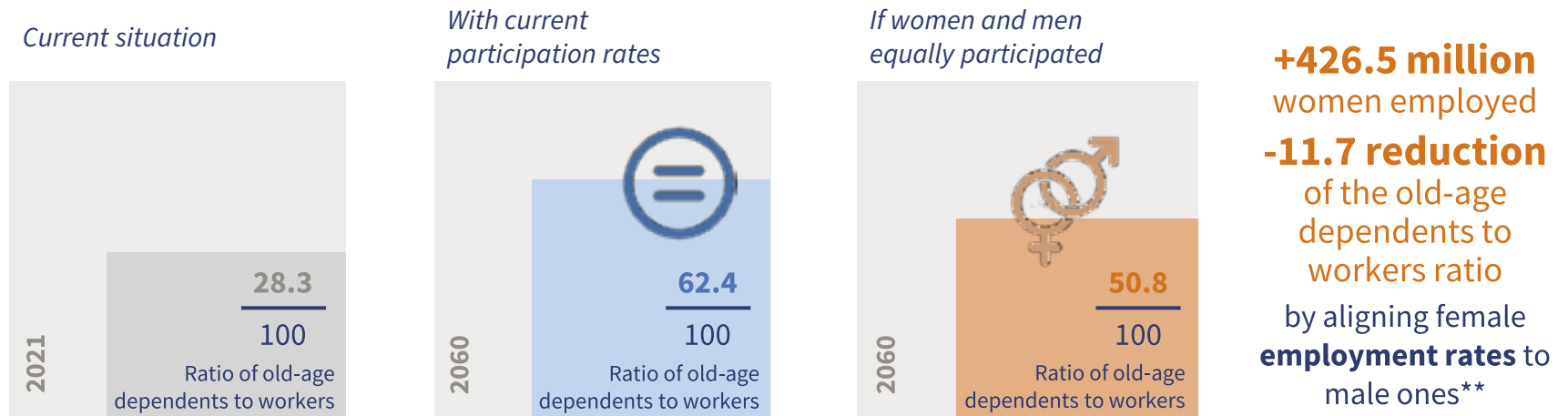
- The **increase of labour supply** is the key to limit and counter the social and economic implications of an ageing population. Possible **solutions** include:
 - Increasing **retirement and retirement age**
 - Encouraging **immigration**
 - Increasing **labour market participation**
- Additional solutions, although more complex and more difficult to implement, include measures such as **raising income tax** and/or **private expenditure** in pensions and healthcare services

(*) Spain included as permanent guest.

(**) Estimate based on the as-is scenario, considering actual employment rates on working-age population projections.

Boosting labour participation rates will most likely result in higher labour supply: fostering female employment is thus not only fair, but also strategic

Ratio of individuals aged 65+ per 100 people employed in G20 countries + Spain*, current and projections (ratio), 2021 and 2060e**



Increasing labour force participation represents the most effective way to cope with population ageing and limit the dependency burden: **unlocking women's potential** is therefore **fundamental**

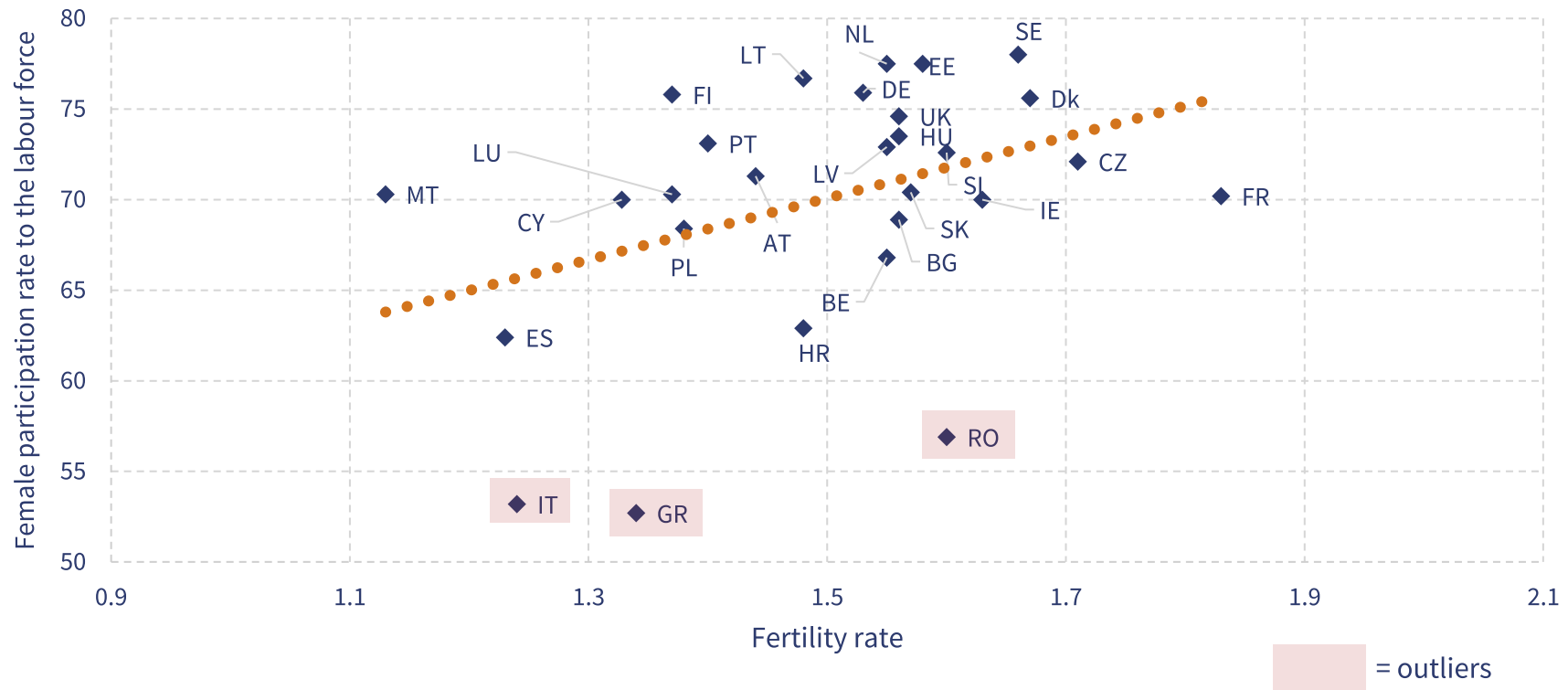
(*) Spain included as permanent guest. (**) All the other factors constant.

Source: The European House – Ambrosetti elaboration on OECD, UN and WorldBank data, 2023

The case of Europe shows how a positive correlation between women's labor force participation and fertility is possible ...

Correlation between fertility rate and female participation rate to the labour force

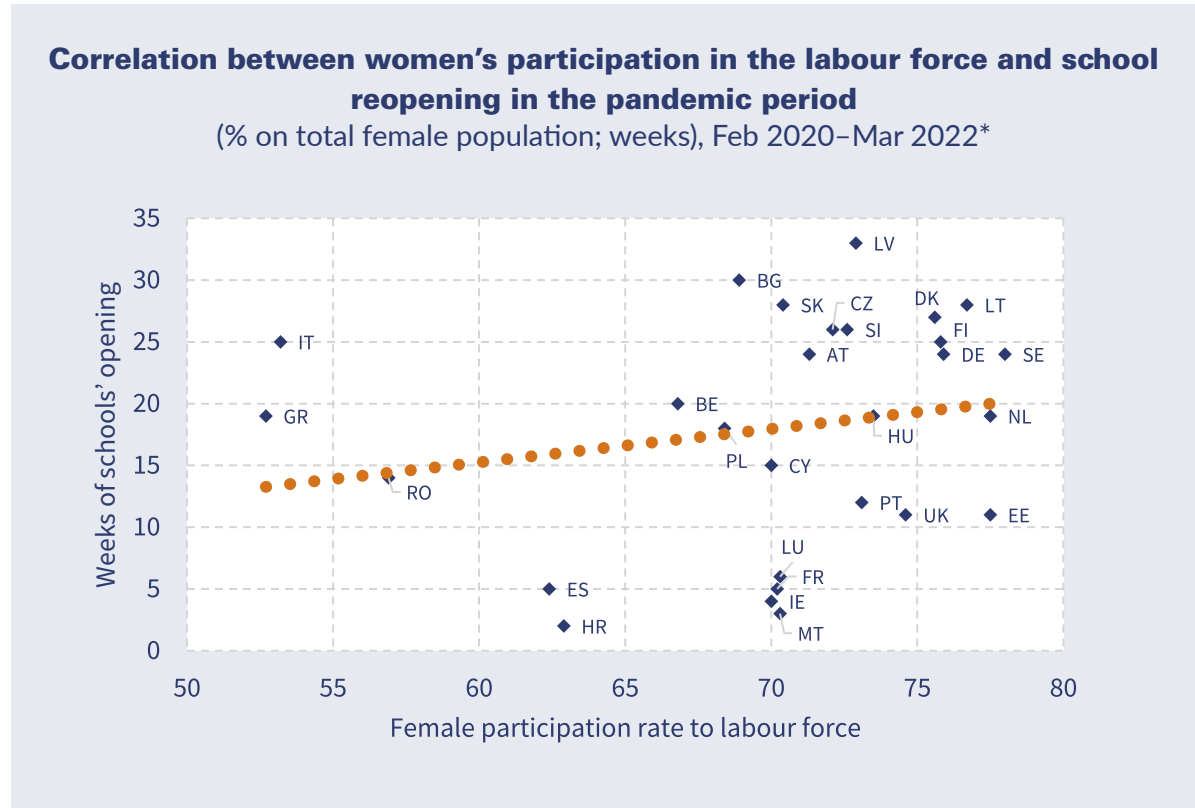
(n. of births per woman; % values), latest data available



Source: The European House – Ambrosetti elaboration on World Bank and Eurostat data, 2023

... with beneficial spillovers also on other dimensions

- Evidence shows that higher female participation rates in the labour market can lead to the implementation of further **supportive actions and policies towards female employment**
 - An example coming from the recent past is the **positive correlation** between **female employment rates and the weeks of partial opening of schools** in European countries since the start of the COVID-19 outbreak



(*) Data relative to female participation rate to labour force refer to 2021.

Source: The European House – Ambrosetti elaboration on Nitsche N., Hudde A. “Countries Embracing Maternal Employment Opened Schools Sooner after Covid-19 Lockdowns” (2022), Eurostat and UNESCO data, 2023

In light of current and future challenges, increasing women's participation in the labour force must become a priority

The Observatory's mantra → Women's Empowerment is not only an issue of rights, but also an opportunity for **social and economic growth**, at least for three reasons:



TO UNLOCK THE ECONOMIC POTENTIAL GENERATED BY EQUAL EMPLOYMENT RATE

up to **\$12 trillion**
~**13.6%** of G20 GDP in
2022* if female and male
wages and employment
rates were the same



TO MAKE THE GREEN & DIGITAL TRANSITIONS FAIR AND INCLUSIVE

By 2030 only in EU:

- Up to **1 million** additional jobs from green transition
- At least **20 million** employed in ICT (vs. 8.9 mln in 2022, 81% of which men)

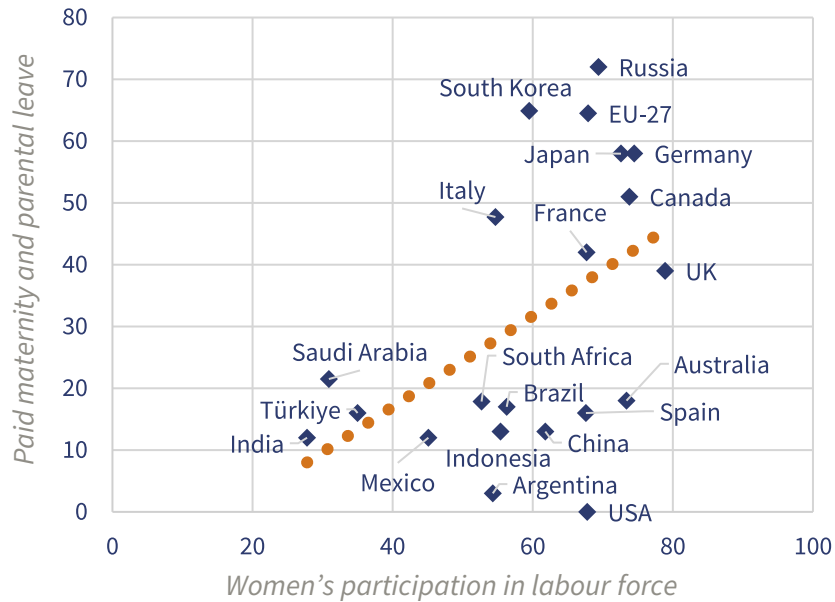


TO INCREASE RESILIENCE AGAINST POSSIBLE FUTURE SHOCKS (PERMA-CRISIS)

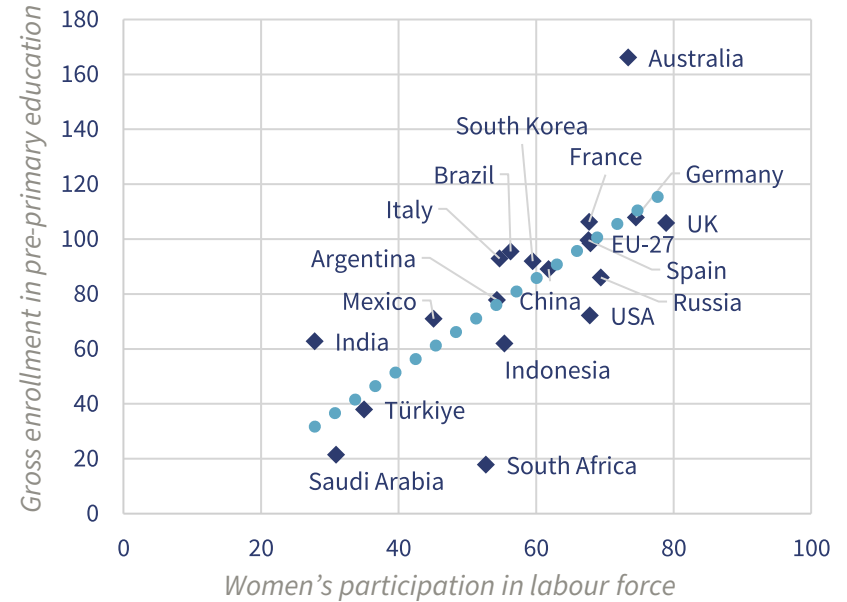
- Women's jobs and livelihoods proved to be **more vulnerable** to **COVID-19** and to **climate change** effects
- Acting on **existing gender inequalities** means building more resilient societies

Data show how women's labour force participation is strongly correlated with childcare

Correlation between women's participation in labour force and total length of paid maternity and parental leave (% on total; weeks), latest data available



Correlation between women's participation in labour force and gross enrollment in pre-primary education (% on total; weeks), latest data available



N.B. Data for Canada and Japan for enrollment in pre-primary education are not available.

Source: The European House – Ambrosetti elaboration on ILOSTAT, OECD, UNHDR and World Bank data, 2023

In this sense, an effective work-life balance supports women in achieving both personal and professional goals

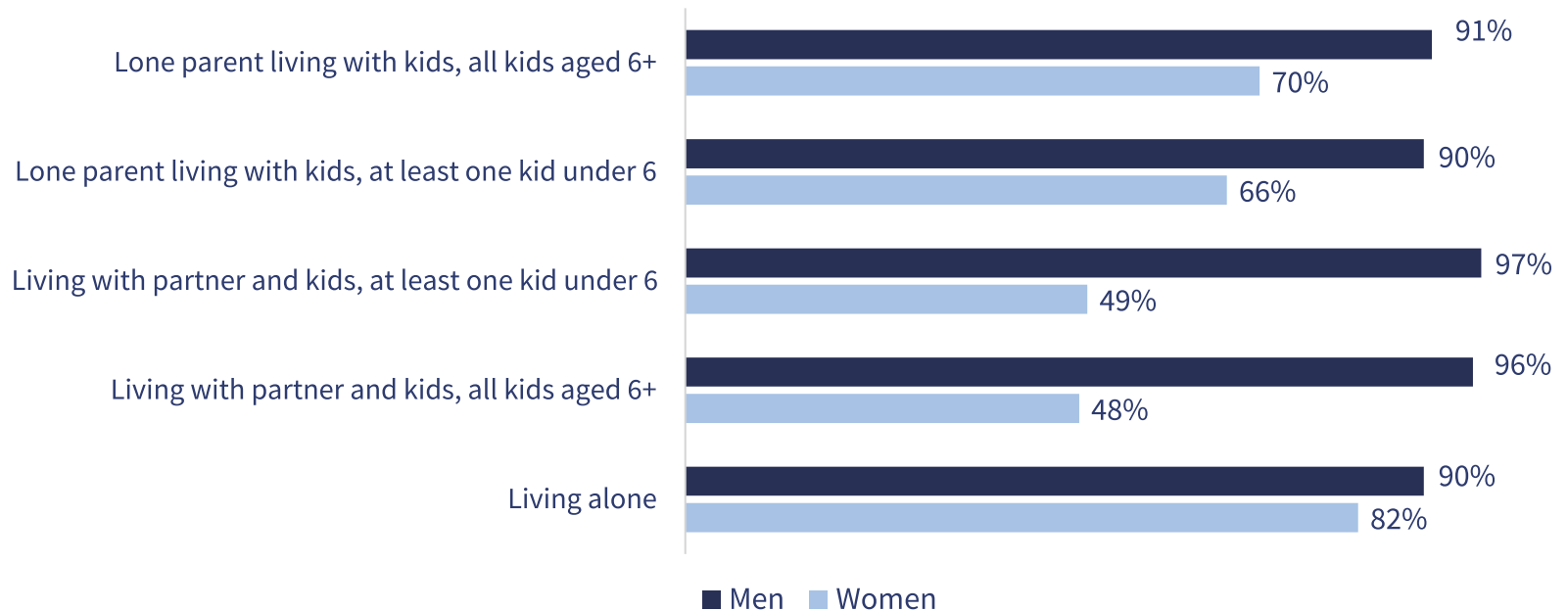
- **Work-life balance** can be defined as the **optimal arrangement of an individual's professional and private life** to facilitate health and personal satisfaction without negatively impacting productivity and professional success
- With the rise of globalization and rapid technological developments, the **boundaries between work and private life** have become **increasingly blurred** and demands on workers and enterprises are higher than ever. This means greater challenges for workers to be able to **successfully reconcile the conflicting demands of paid work and their personal lives**
- Dramatic increases in women's labour force participation and the resulting demise of the so-called "male breadwinner model" have often resulted in a **"double burden" for women of both paid and unpaid work**



A healthy work-life balance is a **pre-requisite** for Women's Empowerment and female employment, as well as women's career advancement and overall well-being

Work-life balance challenges include family care and parenthood, which negatively impact women's labour force participation rate ...

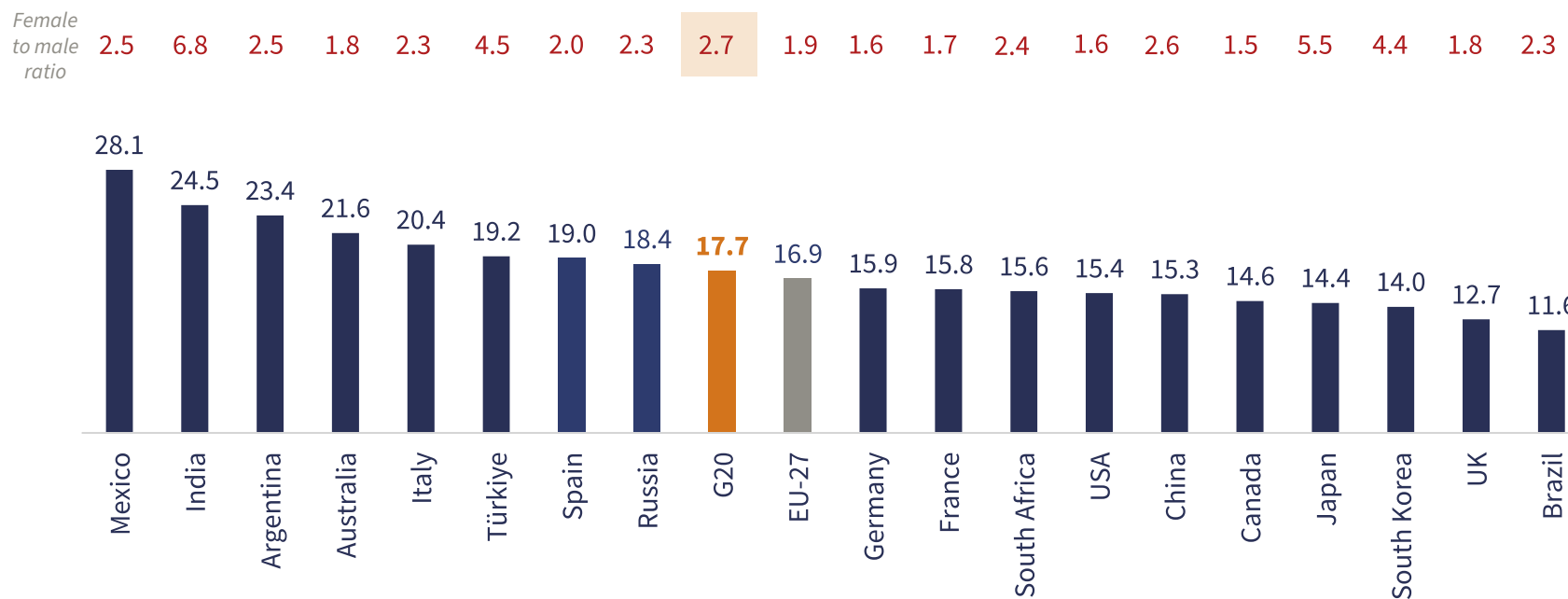
Global labour force participation rate of people aged 25 to 54 by family situation and age of children
(% values), 2020



Source: The European House – Ambrosetti elaboration on ILOSTAT data, 2023

... as well as an unequal distribution of domestic chores and carework, accounting for more than 17% of women's daily time

Time spent on unpaid domestic chores and care work by women in G20 countries + Spain*
(% of 24-hour day), 2021

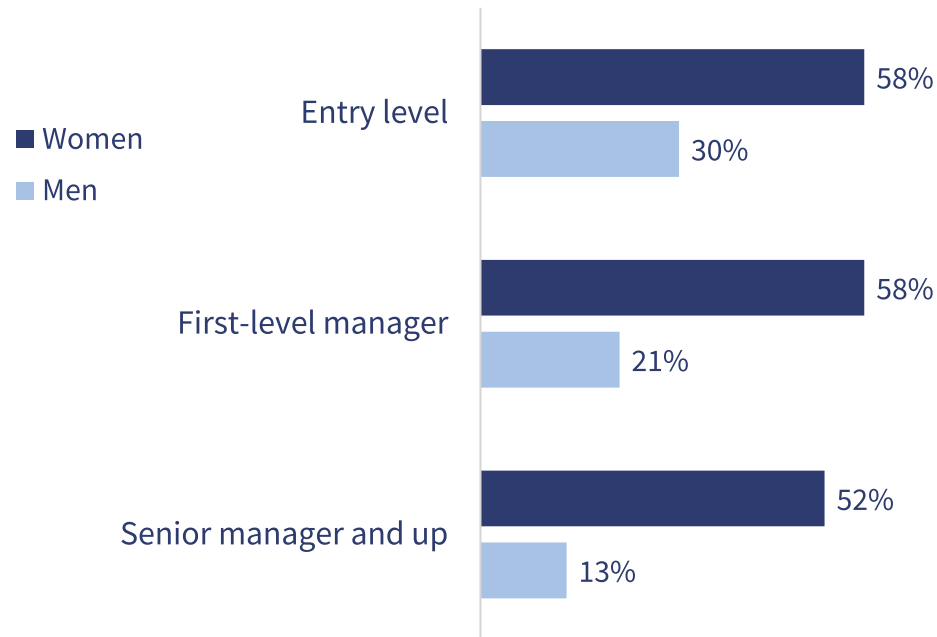


(*) Spain included as permanent guest. N.B. No data available for Indonesia and Saudi Arabia.

Source: The European House – Ambrosetti elaboration on OECD data, 2023

Gender disparity in domestic workloads increases with career advancement, often forcing women to quit their jobs ...

Men and women at different career levels who are responsible for most or all of the family housework and/or childcare*
(% values), 2022



In 2022, three years after the outbreak of the COVID-19 pandemic, almost **1 in 2 female workers** (47%) reported having **poor or extremely poor work-life balance ...**

... a condition that forced **18% of women** to leave their former employment

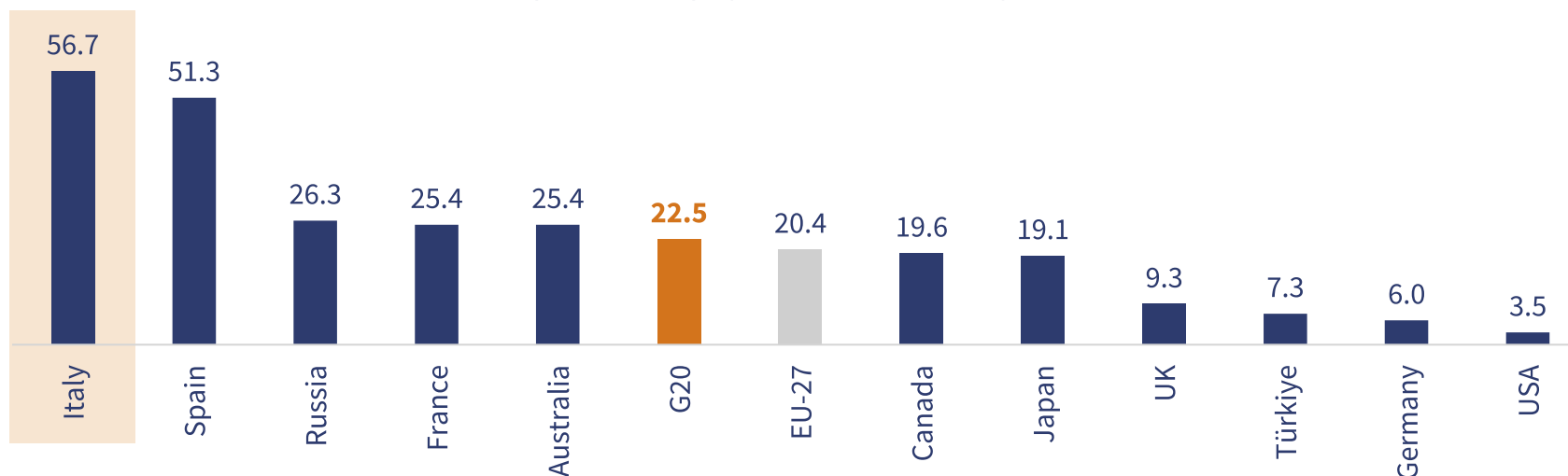
(*) Results of a survey conducted on 5,000 women across 10 countries: Australia, Brazil, Canada, China, Germany, India, Japan, South Africa, the United Kingdom, and the United States.

Source: The European House – Ambrosetti elaboration on LeanIn and Women at Work data, 2023

... or to unwillingly accept part-time working conditions

Share of female involuntary part-timers (IPTs) in a selection of G20 countries + Spain*

(as % of part-time employment), 2021 or latest year available



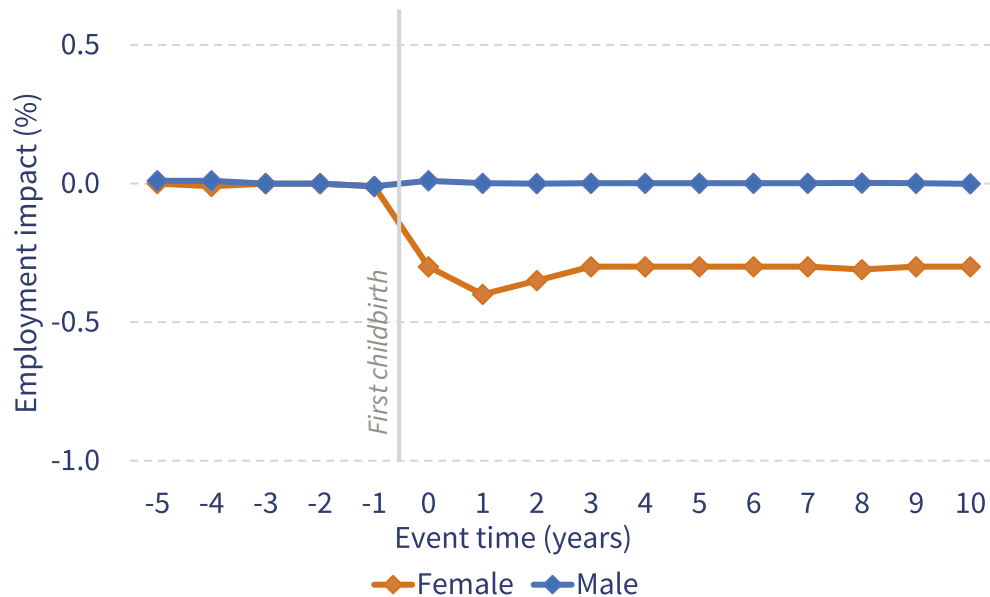
Research shows that **individual and household characteristics** count more than professional ones in determining IPT status. Indeed, there is a **growing polarization for female workers**, driven not only by inequality in the work-family balance distribution but also by structural elements of the labour market

(*) Spain included as permanent guest.

Source: The European House – Ambrosetti elaboration on Busilacchi G., Gallo G., Luppi M., “I would like to but I cannot. The determinants of involuntary part-time employment: Evidence from Italy” (2022) and OECD data, 2023

Although parenthood is only one of the many dimensions of the multi-faceted concept of work-life balance, it does have significant relevance

Employment impact of first childbirth in Europe (% var.), 2021



- Even though significant differences between men and women's earnings, wages and employment exist in virtually all countries, a large share of gender inequality can be explained by the so called "**child penalty**"
- This term refers to the causal impact of having children on outcomes of women relative to men, such as **reduction of earnings** and **employment rates** relative to the event
 - **Gender norms** are just one factor identified as a potential underlying driver

Source: The European House – Ambrosetti elaboration on Kleven H., Landais C., Leite-Mariante G. "The Child Penalty Atlas" (2022) data, 2023

Childcare facilities, family benefits and parental leaves are 3 key drivers for public policies to advance gender parity and Women's Empowerment

Due to the robust **correlation between WOMEN'S LABOUR FORCE PARTICIPATION and CHILDCARE**, investing in **strengthening infrastructures and expanding access to quality, affordable services** can simultaneously benefit mothers, families and children (impacts e.g., improved school readiness, reduced repetition and drop-out rates)



0.3% of GDP, average public expenditure in G20 countries for pre-primary care

A **positive correlation** exists also between **FERTILITY RATES** and **PUBLIC EXPENDITURE IN FAMILY SERVICES AND PARENTAL LEAVES**. Family policies' effectiveness depends on **policy coherence** (how well are different policy instruments mutually compatible and geared towards the existing labor market), **stability, predictability** and **flexibility** in responding to the needs and aspirations of different families

- Coherence
- Stability
- Predictability
- Flexibility

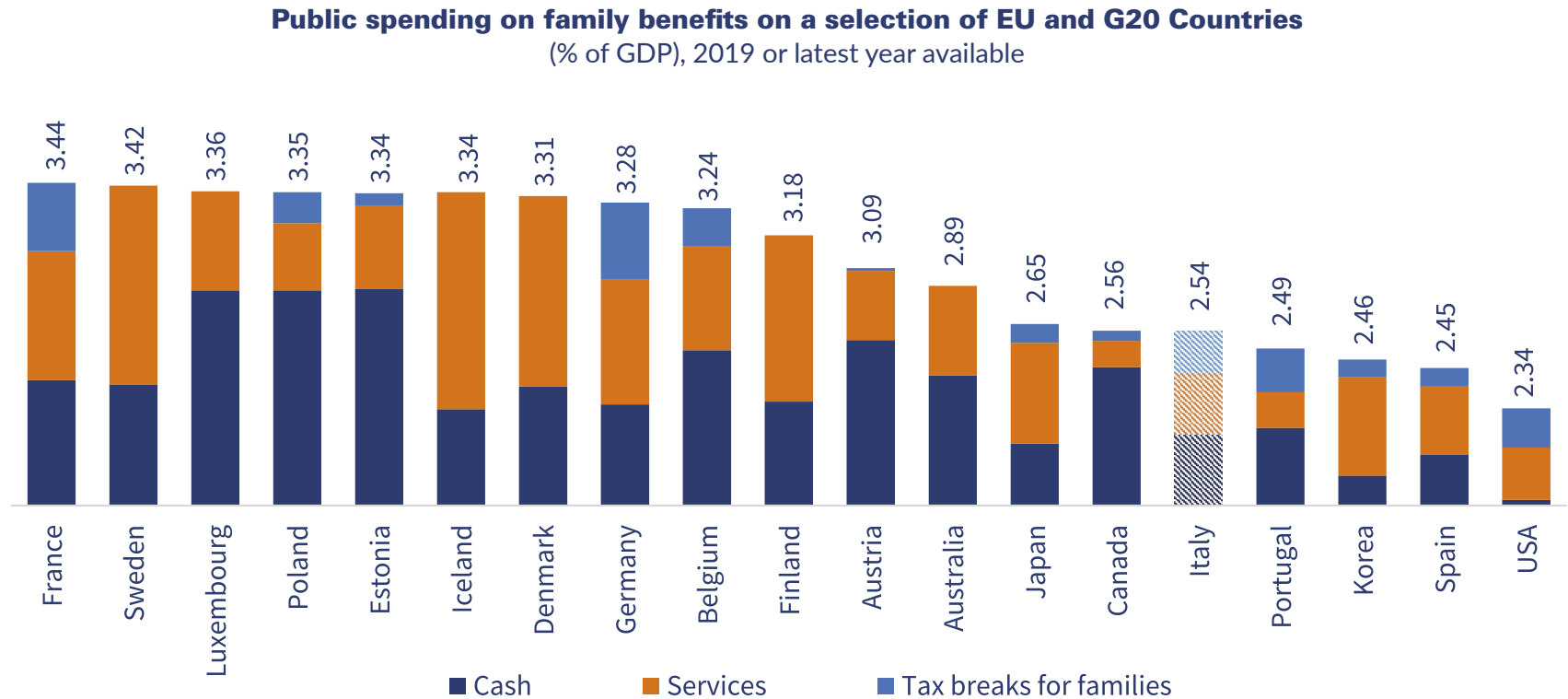


As data show **HIGHER FERTILITY RATES** in countries with a **MORE EQUAL DIVISION OF DOMESTIC WORK**, public policies should also target incentives for women to **access and participate in the labour market** (e.g., in terms of personal income or firms' taxation), as well as investments in appropriate infrastructure and public services (also including transportation and Internet access)



Women in countries with higher Internet access spend significantly **less time on unpaid work**

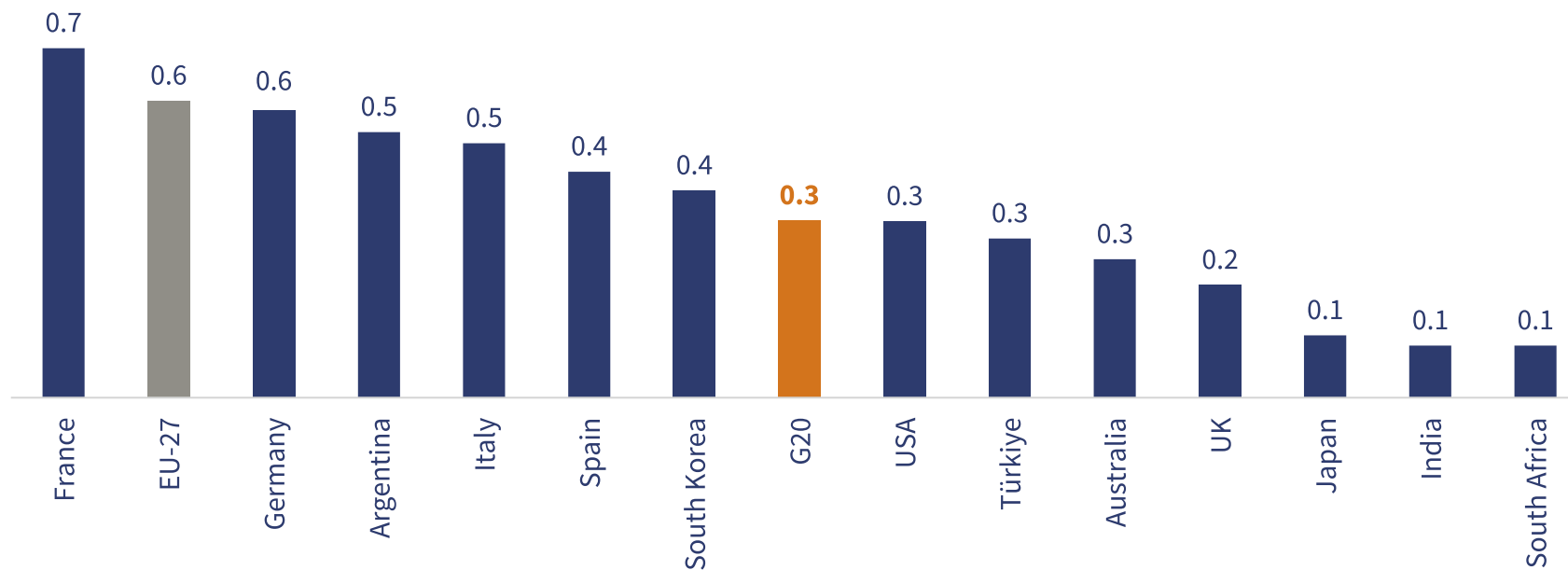
Public spending on family benefits largely varies across countries ...



Source: The European House – Ambrosetti elaboration on OECD data, 2023

... with only a residual part being devoted to pre-primary education services ...

Government expenditure in pre-primary education* in a selection of G20 countries + Spain
(as % of GDP), 2020 or latest year available

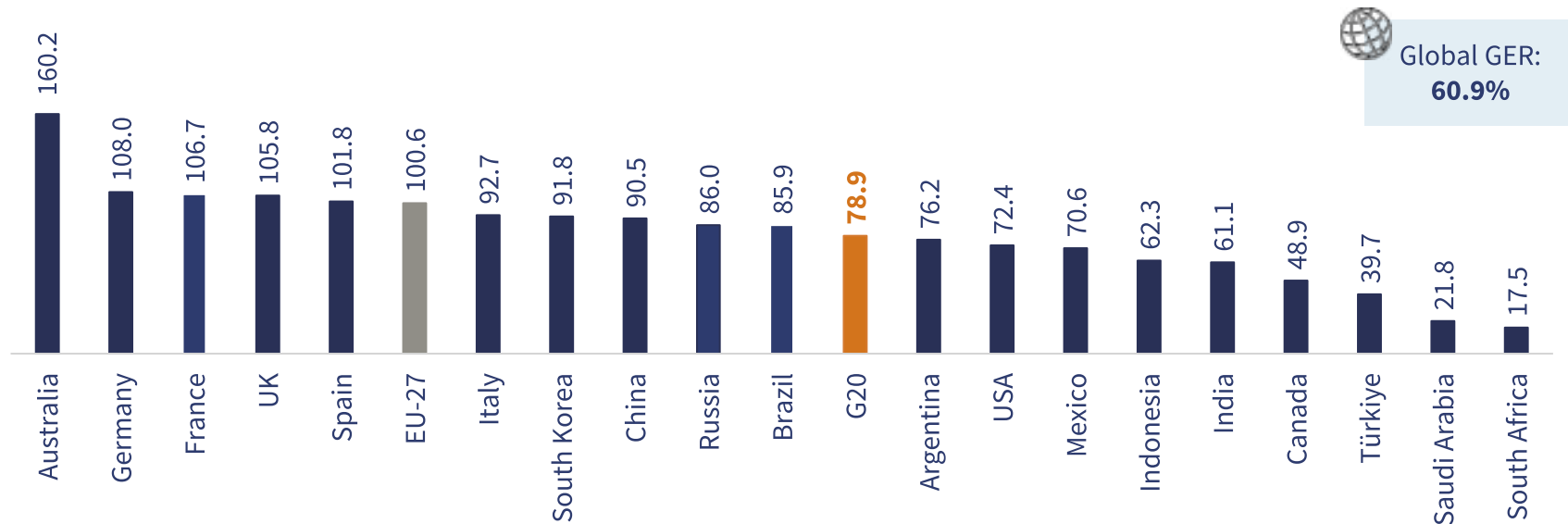


(*) This item falls within the “services” category of public spending devoted to families.
N.B. No data available for Brazil, Canada, China, Indonesia, Mexico, Russia, Saudi Arabia, EU-27.

Source: The European House – Ambrosetti elaboration on OECD data, 2023

... as well as a heterogeneous gross enrollment rate in pre-primary education across G20 countries

Gross enrollment rate (GER)* in pre-primary education in G20 countries + Spain**
(% values), 2020 or latest year available



(*) The GER is defined as the total enrollment in pre-primary education, regardless of age, expressed as a percentage of the population in the official age group corresponding to this level of education. The GER can be over 100% as it includes students who may be older or younger than the official age group. (**) Spain included as permanent guest. N.B. No data available for Japan.

Source: The European House – Ambrosetti elaboration on World Bank data, 2023

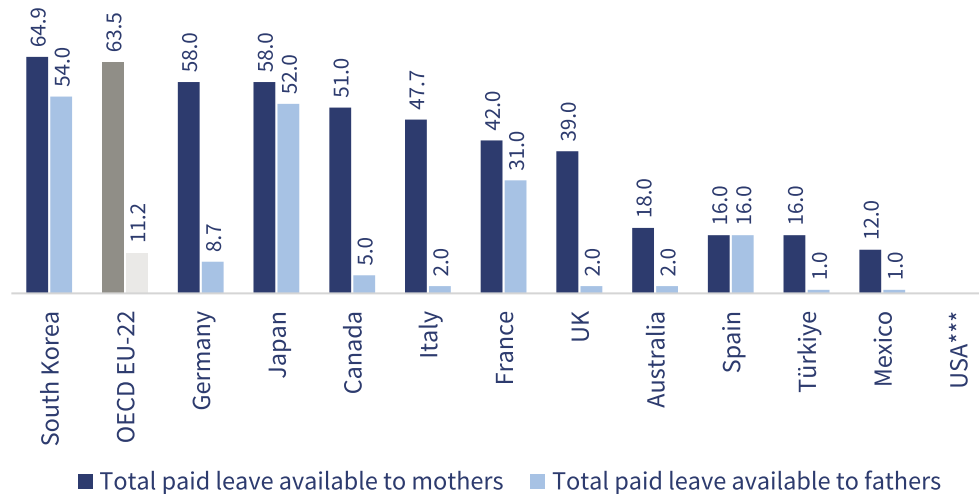
Parental leaves represent a **fundamental tool** for the promotion of work-life balance:

- Fathers who take parental leaves, regardless of their length, tend to **participate more in childcare and housework**
- In countries where men take parental leaves more frequently, there is a **greater sensitivity to gender equality**



Paid maternity and paternity leaves are still inadequate in some G20 countries ...

Total length of paid leave available to mothers and fathers* in a selection of G20 countries + Spain (weeks), 2022**



SOME HIGHLIGHTS

CHINA: parental leaves vary widely across different regions.

Maternity leave range: 30-90 days

Paternity leave range: 0-30 days

RUSSIA: although a paternity leave of 18 weeks is formally legislated, the policy is **not effectively implemented**

USA: only OECD country to not mandate any paid leave for new parents. Since 2019, only **federal employees** are entitled to 12 weeks of maternity and paternity leave

(*) The total length of paid leave available to mothers is calculated as the sum of paid maternity leave and paid parental and home care leave reserved for mothers. Total paid leave available to fathers refers to the number of paid weeks reserved for the exclusive use of fathers.

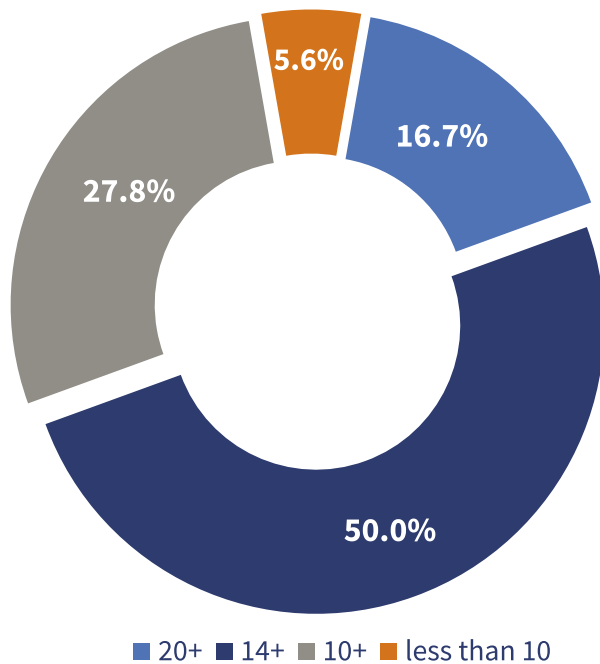
(**) Spain included as permanent guest.

(***) The USA is the only country among OECD nations that does not mandate any paid leave for new parents.

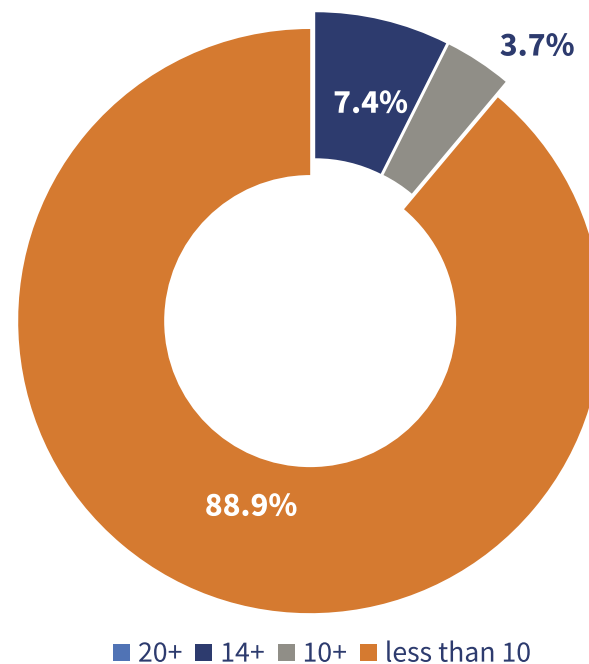
Source: The European House – Ambrosetti elaboration on OECD data, 2023

... with a substantial difference between the two, which hinders the equal management of parenting

Length of paid maternity leave in G20 countries + Spain* (weeks), latest year available



Length of paid paternity leave in G20 countries + Spain (weeks), latest year available

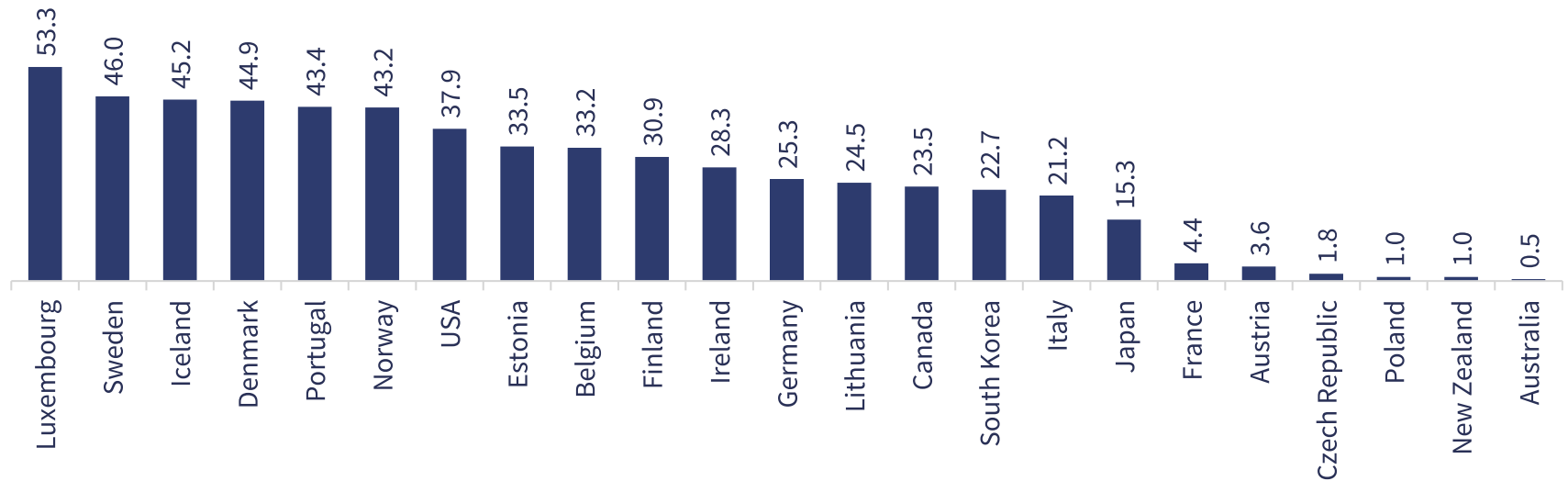


(*) Spain included as permanent guest.

Source: The European House – Ambrosetti elaboration on Governments and various sources data, 2023

As a result, despite the importance of parental leaves for the reduction of the gender employment gap, their use among fathers is still minor in many countries

Male share of users of publicly-administered parental leave benefits per publicly-administered paid parental leave in a selection of EU and G20 countries (% values on total male recipients), 2021 or latest year available

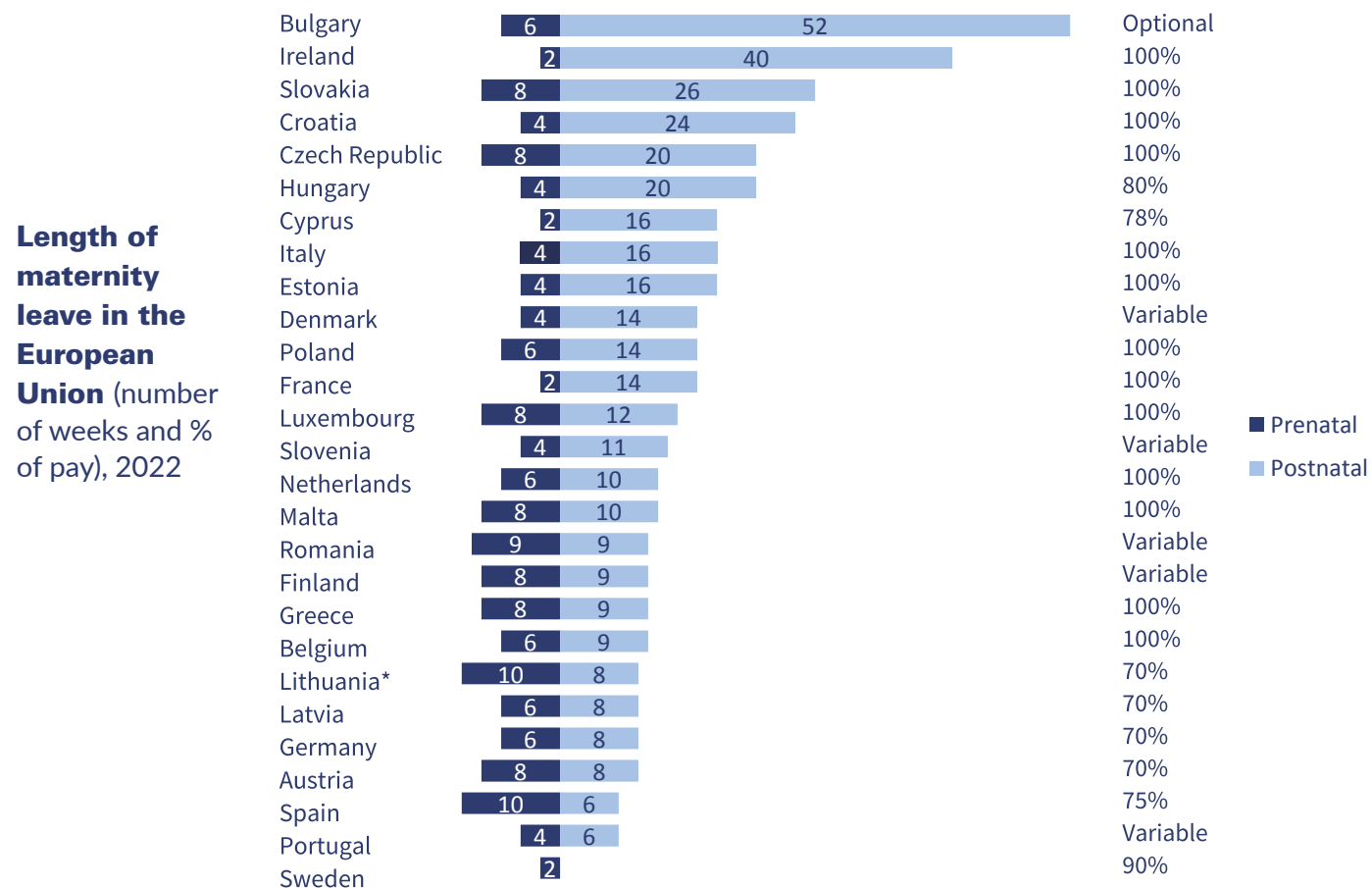


Although fathers' use of parental and paternity leaves is slowly increasing, there is still **margin for improvement**, especially considering the persisting **disproportion of length in comparison to maternity leaves**

N.B. In Spain, 48.8% of men with biological or adopted children have taken paternity leave for at least one of their children in 2019.

Source: The European House – Ambrosetti elaboration on OECD and INE data and other sources, 2023

The European Union, in particular, shows great heterogeneity among its Members States regarding the length and remuneration of both maternity leaves ...



The current European legislation requires a **minimum of 14 weeks**, 2 of which must be **mandatory**



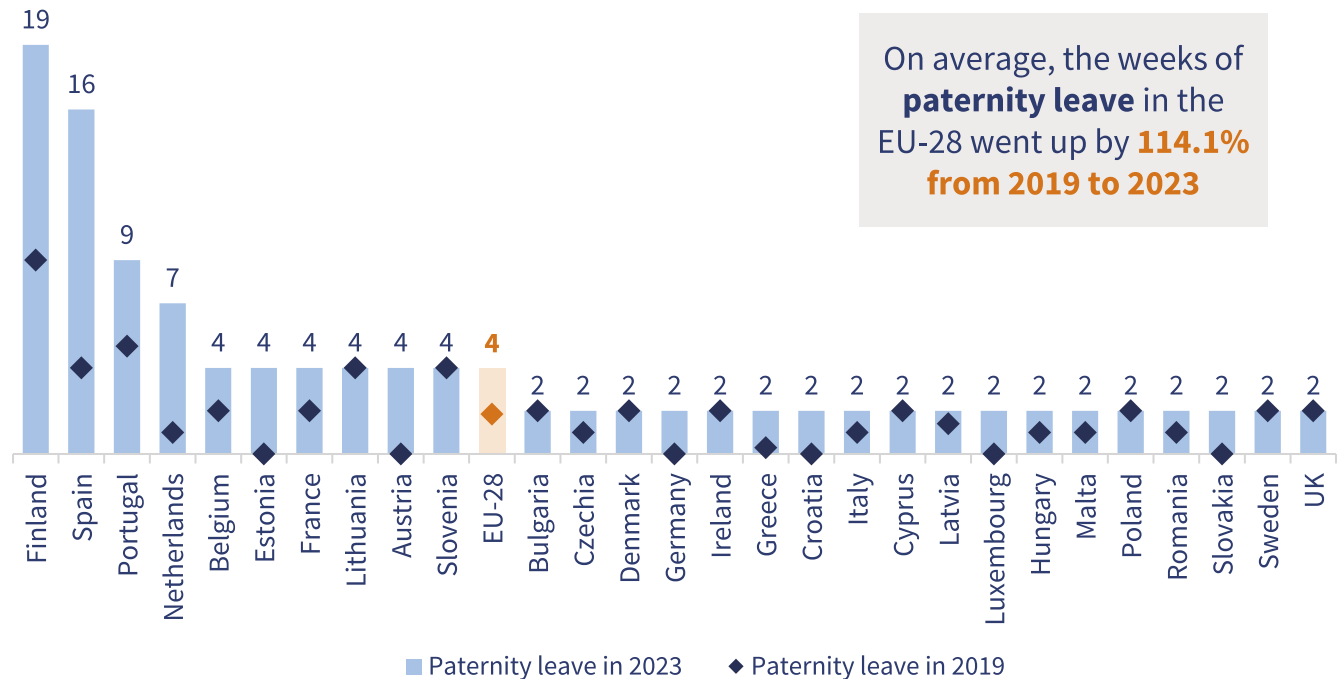
(*) In Lithuania the pay received for postnatal weeks of leave can be variable.

... and paternity leaves, for which there is still considerable room for improvement



The right to **2 weeks paternity leave** was introduced in a new **EU Work-life Balance Directive** for parents and carers, which entered into force on **August 1, 2019**. Member States had until **August 2, 2022** to comply.

Evolution of paternity leave length in the EU-27 + UK (weeks), 2019 -2023



Source: The European House – Ambrosetti elaboration on European Commission data, 2023

In this context, which actions could be the most effective to equally balance family responsibilities between parents?

What could Governments do to narrow the gender gap and foster female employment?

Our proposal: to standardize the length of parental leaves for fathers and mothers and to make paternity leave compulsory for at least 2/3 of its length, while companies should facilitate fathers who are willing to take it

But what if there was a different solution?



Introduction of a Father-Footprint Fee (FFF) for companies not granting the full length of paternity leave to fathers, following the Carbon Tax model



In addition to parental leaves, G20 countries have implemented several policies related to the work-life balance of parents

Policies dedicated to work-life balance and childcare in a selection of G20 countries + Spain (policies in force), latest data available

	Paid maternity leave: 14+ weeks	Paid paternity leave: 10+ days	Pregnancy Bonus*	Child Disability Benefit**
Argentina			✓	✓
Canada	✓	✓		✓
France	✓	✓	✓	<i>Free choice of Care Supplement</i>
India	✓	✓	✓	
Italy	✓	✓	✓	✓
Japan	✓	✓	N.A.	✓
Mexico			<i>Various programs</i>	✓
Spain	✓	✓	✓	✓
Türkiye	✓	✓	✓	
UK	✓	✓	✓	✓
USA			✓	✓

BEST PERFORMER

Even if both Spain and the UK meet all 4 requirements, only **Spain has equal paid maternity and paternity leave length**

(*) Pregnancy bonus: one-off payment to help towards the costs of having a child.

(**) Child Disability Benefit: financial aid that provides support for the extra costs of raising a disabled child.

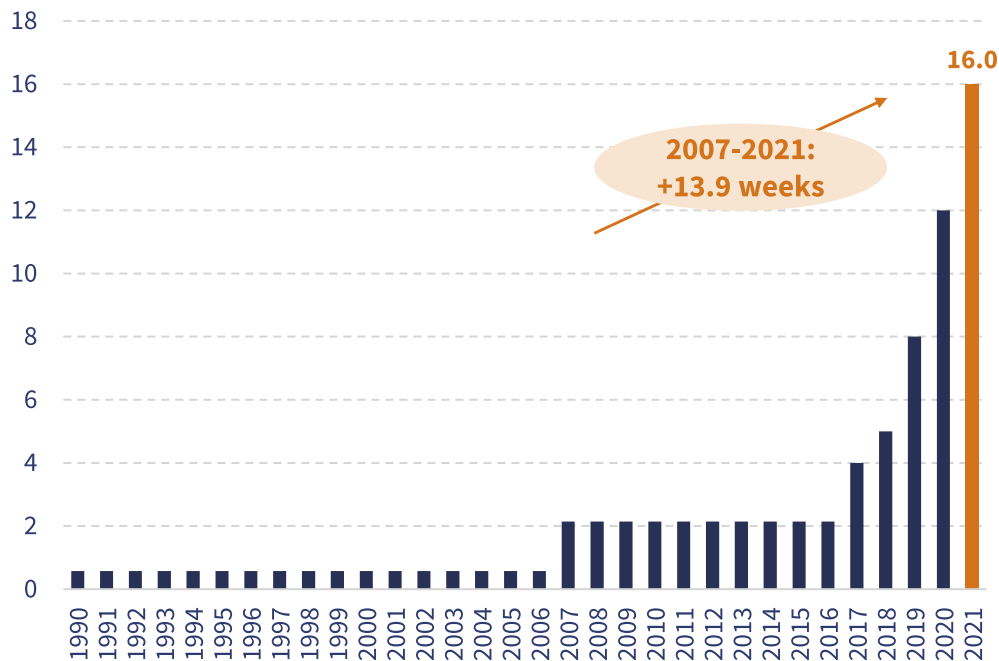
N.B. Spain included as permanent guest.

Source: The European House – Ambrosetti elaboration on Government data and various sources, 2023

Spain has recently become a pioneer in gender equal-parental leaves, establishing 16 weeks of non-transferable and fully paid leave also for fathers



Evolution of paternity leave length in Spain (weeks) 1990-2021



- **Paternity leave** first appeared in the **Organic Law 3/2007**, equal to **15 days**
- In March **2019**, Social Security economic benefits for birth and childcare replaced maternity and paternity benefits, **tracing a path for the equalization of permits**
- Following this progressive plan, the second parent's leave has been extended first to **8 weeks in 2019** then to **12 weeks in 2020**, with 4 weeks mandatory after birth and the rest voluntary
- In **2021**, Spain introduced **4 additional weeks** of paid paternity leave, making the country's paternity leave **equal** to the maternity one

Spain's parental leave reform is part of the country's broader plan to advance gender equality, affecting many dimensions central to women's lives



In 2023 the **budget of the Ministry of Equality** increased by **€47 million** (+ 9% more than the one approved in 2022)

On December 15, 2022, the Spanish Parliament approved the **Organic Law 2/2010 reform on Sexual and Reproductive Health and the Voluntary Termination of Pregnancy**

New provisions include:

SPECIAL SICK LEAVE DUE TO VOLUNTARY OR INVOLUNTARY PREGNANCY TERMINATION

The termination of a pregnancy (voluntary or not), which leads to the employee being unable to work, will be considered as **sickness unrelated to work**. The employer must pay full salary for the first day of sickness absence (from the following day, benefits will be paid by Social Security)

SPECIAL SICK LEAVE DUE TO ILLNESS FROM THE FIRST DAY OF THE 39TH WEEK OF PREGNANCY

New pre-birth leave available from the 39th week of pregnancy, which can be taken **in addition to maternity leave***. The employer must pay the full salary for the first day of absence (from the following day, sickness benefits will be paid by Social Security)

PAID MENSTRUAL LEAVE

The right to menstrual health appears **for the first time** in Spanish law as part of the fundamental right to health for all women. For this new unpaid sick leave, the employer must continue to pay Social Security contributions, while sickness benefits will be paid by Social Security

(*) Provided the employee was not previously on sick leave due to risks related to pregnancy.

Source: The European House – Ambrosetti elaboration on Spanish Government data, 2023

Italy is characterized by a downward spiral of denatality and low female employment ...



- While in other European countries, such as France, high fertility is matched by high female employment, Italy appears to be anchored to a **non-virtuous mix of low birth rate and few employed women**
- However, the phenomenon of low birth rates is not new to the country: after a phase of growth between 2000 and 2008 (+13% vs. previous period), **births have been steadily declining**
- Reasons can be traced back to at least **3 dimensions**:
 - Increasing uncertainty of the younger generation in the **labour market** and difficulty of reaching good wages at an earlier stage of their working life
 - Limited and unevenly distributed **children's education services**, with significant costs for families
 - Limited availability and use of **parental leaves**, especially by fathers

Fertility rate	1.25	1.53	26 th before Spain and Malta
Female employment rate (% on total, women 20-64 years)	53.2	70.0	27 th after Greece
Mean age of women at childbirth	31.6	29.7	1 st (highest)

29.6% coverage of pre-primary facilities vs. residents under the age of 3

28.0% average incidence of childcare services on the **net income** of a household with two recipients* (vs. **16% in OCSE countries**)

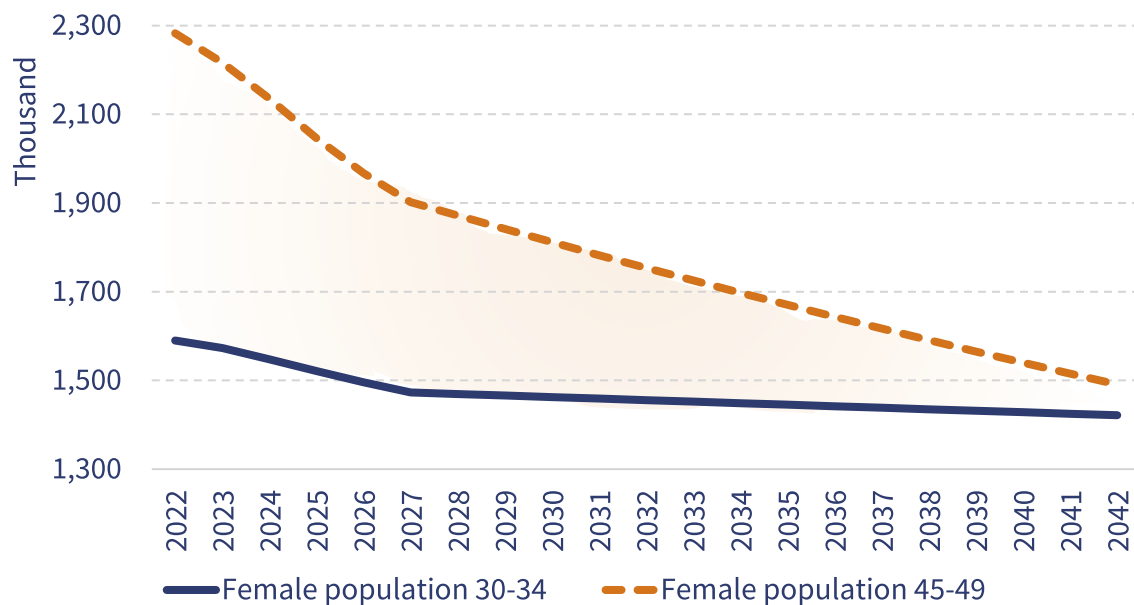
(*) Which collectively have an average income.

Source: The European House – Ambrosetti elaboration on Istat, EU Commission, OCSE data and other sources, 2023

... a trend that can potentially trigger a demographic trap, where lower birth rates lead to less potential mothers



Projection of women population by age group in Italy
(n. of women in age groups 30-34 and 45-49, thousands), 2022-2042e



Year	Female population with fertility age (thousands)
2022	1,590
2027	1,473
2032	1,455
2037	1,438
2042	1,421

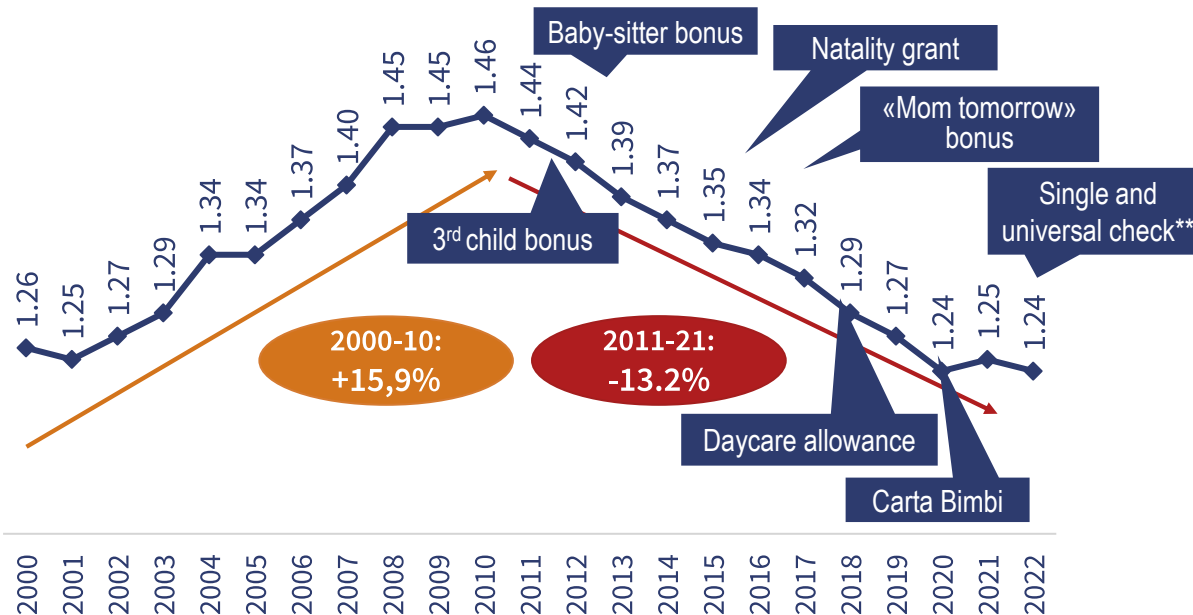
Source: The European House – Ambrosetti elaboration on World Bank data, 2023



Policies implemented in the country since 2010 have been poorly effective, neither increasing the national birth rate ...

Fertility rate in Italy

(average n. of children per women and % variation), 2000-2022*



- Despite the positive trend the country experienced between 2000 and 2010, the fertility rate has been **declining steadily** since 2010*
- In 2022, **new births** in Italy decreased by **-1.9% vs. 2021** – when the country reached a **new low, falling below 400,000 births** and touching the lowest value ever recorded since 1861, the year of Italy's unification

(*) Not considering 2020, due to the significant impact of Covid-19 on the variable under analysis.

(**) Estimated cost of €20 billion.

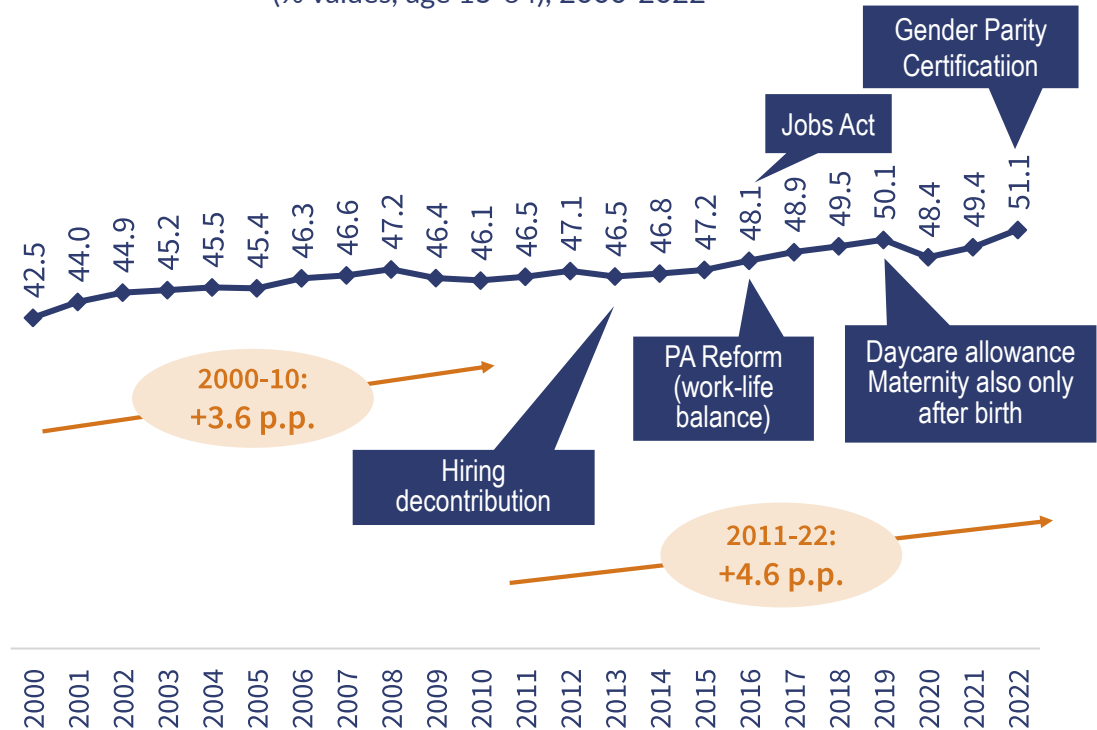
Source: The European House – Ambrosetti elaboration on Istat data, 2023

... or the female employment rate



Female employment rate in Italy
(% values, age 15-64), 2000-2022*

- Between 2011 and 2022, Italy experienced an increase in the female employment rate of **only 4.6 percentage points** (8.6 p.p. since 2000)
- After the **severe decrease of 2020** due to the COVID-19 pandemic (48.4%), 2021 and 2022 show **gradual signs of improvement**
- Even in the face of targeted policies, however, the overall trend since 2000 shows **very slow and at times erratic growth**



(*) Not considering 2020, due to the significant impact of Covid-19 on the variable under analysis.

Source: The European House – Ambrosetti elaboration on Istat data, 2023

In this context, the National Recovery and Resilience Plan is a paramount opportunity for Italy's inclusive and sustainable growth



Within the Mission "Education and Research" in the vertical "Strengthening the supply of education services: from kindergartens to universities"

Investment 1.1:
New places in kindergartens and renovated buildings

€4.6 billion

- Specifically, resources have been allocated for the creation of **264,480 new kindergarten places** (+73% vs. the current allocation)

Within the Mission "Inclusion and Cohesion", in the vertical "Active Employment Policies"

Investment 1.2:
Creation of women's enterprises

€400 million

- Specifically, resources have been allocated to secure funding for entrepreneurial initiatives aimed at **2,400 highly innovative enterprises**

Expected increase in female employment rate: +3.7% in 2026

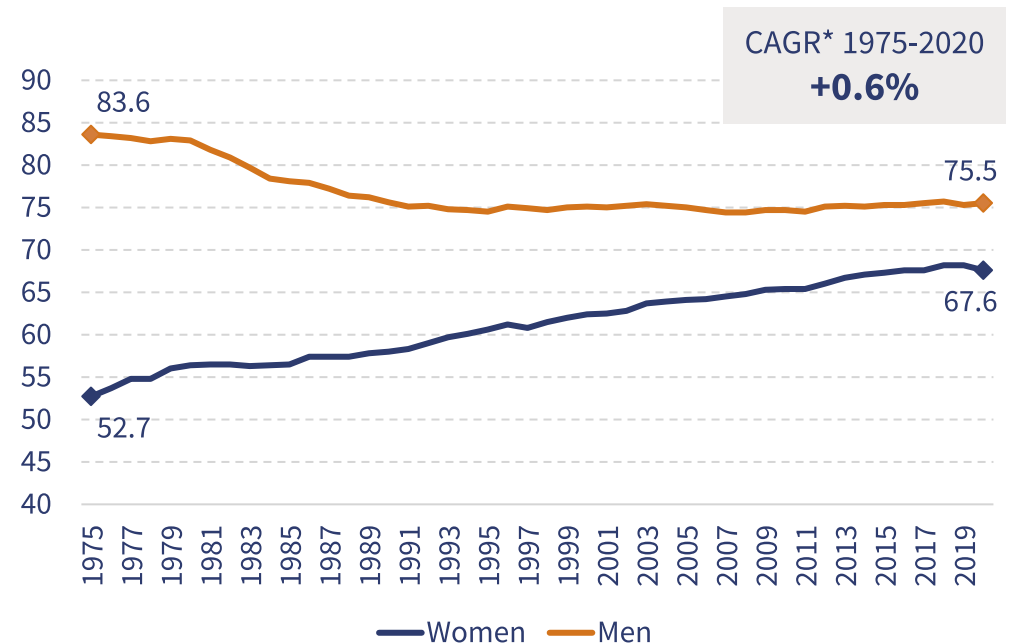


Public policies in France have been mostly successful in narrowing the gender gap in the labour market, especially regarding managerial and executive positions ...



- Although there is still room for improvement, the national **gender gap in employment rates** has been **significantly reduced** over the last decades
- From 1982, the percentage of **women in managerial positions** rose **from 21% to 43%**, also thanks to the implementation of policies such as:
 - **THE ROUNDY ACT ON PROFESSIONAL EQUALITY** (1983)
 - **THE COPÉ-ZIMMERMANN ACT** (2011)
 - **THE LAW FOR REAL EQUALITY BETWEEN WOMEN AND MEN** (2014)
- In 2021, France introduced **gender quotas in management** positions for large companies, setting the goal of **40% of women executives by 2030**
- In 2021 - in case of divorce - a new service has been introduced to help the parent **cover the costs of everyday life** or more exceptional situations. More than **110,000 families** have benefited from it by the end of 2022

Employment rates by sex in France
(% values), 1975-2020

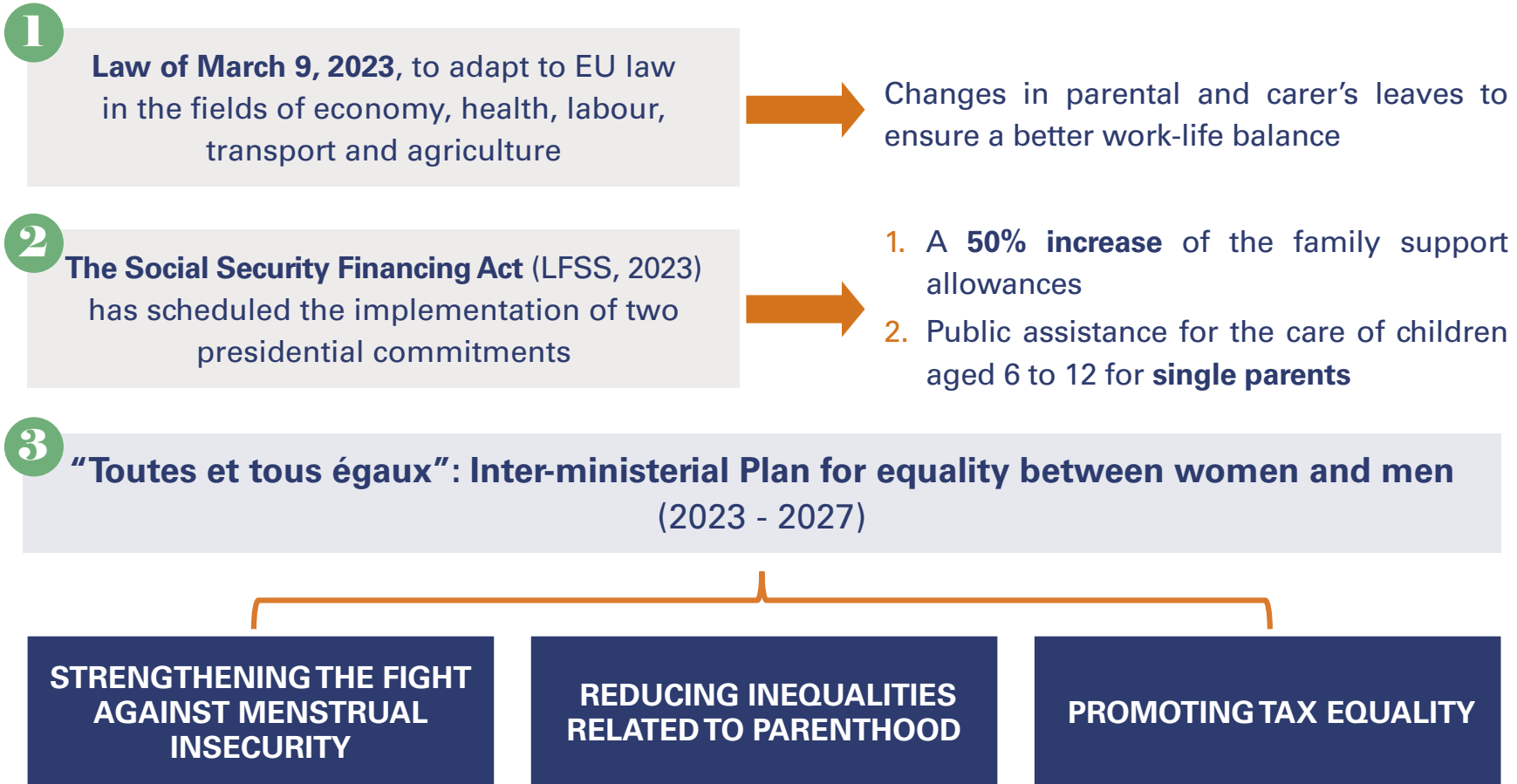


N.B. Despite improvements, childbirth in France continues to affect the employment of mothers more than the one of fathers. Indeed, benefits such as the Shared Child Education Benefit (PreParE, 2015) are still mostly used by women.

(*) Annual compound growth rate.

Source: The European House – Ambrosetti elaboration on INSEE data, 2023

... and the country plans on further increasing efforts to support families and female workers in 2023





In Canada, the effects of public policies on the wellbeing of both men and women have been remarkable ...

EI PARENTAL SHARING BENEFIT (2019): parents can receive extra weeks of Employment Insurance in addition to parental benefits in order to equally share childcare



+40% of men receiving benefits since 2019 ✓

PROJECTS FUNDS (2021) supporting women and girls' leadership and decision-making roles



+1.4 million women and girls with access to services and support to reach leadership positions between 2015 and 2022 ✓

CANADA CHILD BENEFIT (CCB, 2015): tax-free monthly payment made to eligible families to help with the cost of raising children under 18

GUARANTEED INCOME SUPPLEMENT (1966): monthly benefit for Canadians who are over the age of 65 years old, who may already be getting Old Age Security (OAS) payments but receive an overall income below a certain threshold

CANADA WORKERS BENEFIT (2007): refundable tax credit to help individuals and families who are working and earning a low income



2.5 million Canadians lifted out of poverty between 2015 and 2020 ✓

Source: The European House – Ambrosetti elaboration on Canadian Government data, 2023

... policies that add up to other Government actions increasingly aimed at Women's Empowerment in multiple dimensions



GENDER-BASED ANALYSIS PLUS (GBA PLUS, 2005): an analytical process used to assess how differently women, men and gender diverse individuals may experience policies, programs and initiatives

+40% of public policies being analyzed in 2022 (vs. 25% in 2019)* ✓

NATIONAL HOUSING STRATEGY (2017) supporting the progressive realization of the right to adequate housing

26% of this fund benefits women and girls ✓

CANADA'S AROUND THE WORLD CONTRIBUTION (2021): \$100 million investment to support a more equal distribution of care responsibilities

Investments are dedicated to childcare, eldercare and decent working conditions for domestic workers ✓



LABOUR PROTECTION MECHANISMS FOR WORKERS EXPERIENCING PREGNANCY LOSS, by ensuring they have access to the necessary recovery time after the physical and psychological trauma resulting from a pregnancy loss

(*) For example: 67% of the 2023 Budget healthcare policies are gender-balanced, considering women's predominant role as caregivers.

Source: The European House – Ambrosetti elaboration on Statement and Impacts Report on Gender, Diversity, and Quality of Life and Canadian Government data, 2023

What levers should companies invest in?

- Private actors can contribute to the enhancement of employees' work-life balance through multiple solutions, such as:
 - Provision of **longer parental leaves** (in addition to legislative ones)
 - Solutions of **part-time work, shorter hours, flexible** workday
 - Better use of **remote working** and digital solutions
- While offering flexibility may facilitate attracting and/or retaining women in the workforce, until **flexibility is negatively priced** in the labour market this will not be sufficient to reduce the gender gap. What is needed is therefore an intervention in terms of **job design**, through the:
 - Creation of **good substitutes** for particular workers
 - Reduction of **travels and meetings**... while avoiding the marginalization of female workers

There is a **risk** that these policies may backfire:

- **Higher costs** for employers who hire women of child-bearing age due to longer parental leaves
- Employers' decision to **not assign women** the most important jobs or clients
- Women are **kept out of the workforce** for "too long" to ensure a re-entry on the fast-track

By offering equal opportunities, the final goal is to **gender-neutralize family care and housework**, avoiding exclusive attribution to women and contributing to a **broader change** in attitudes and behaviors



To gain a comprehensive understanding of **business leaders' perceptions of the challenges and opportunities** of implementing initiatives in support of employees' **work-life balance**, Ambrosetti Club carried out an **in-depth survey**

The general sentiment and commitment of business leaders regarding Diversity & Inclusion and Women's Empowerment



The **survey** has been submitted to the Observatory's partners and extended to all Ambrosetti Club members

37.1%

The average percentage of female employees within companies

66.7%

Companies with D&I* professionals or planning to hire them

72.2%

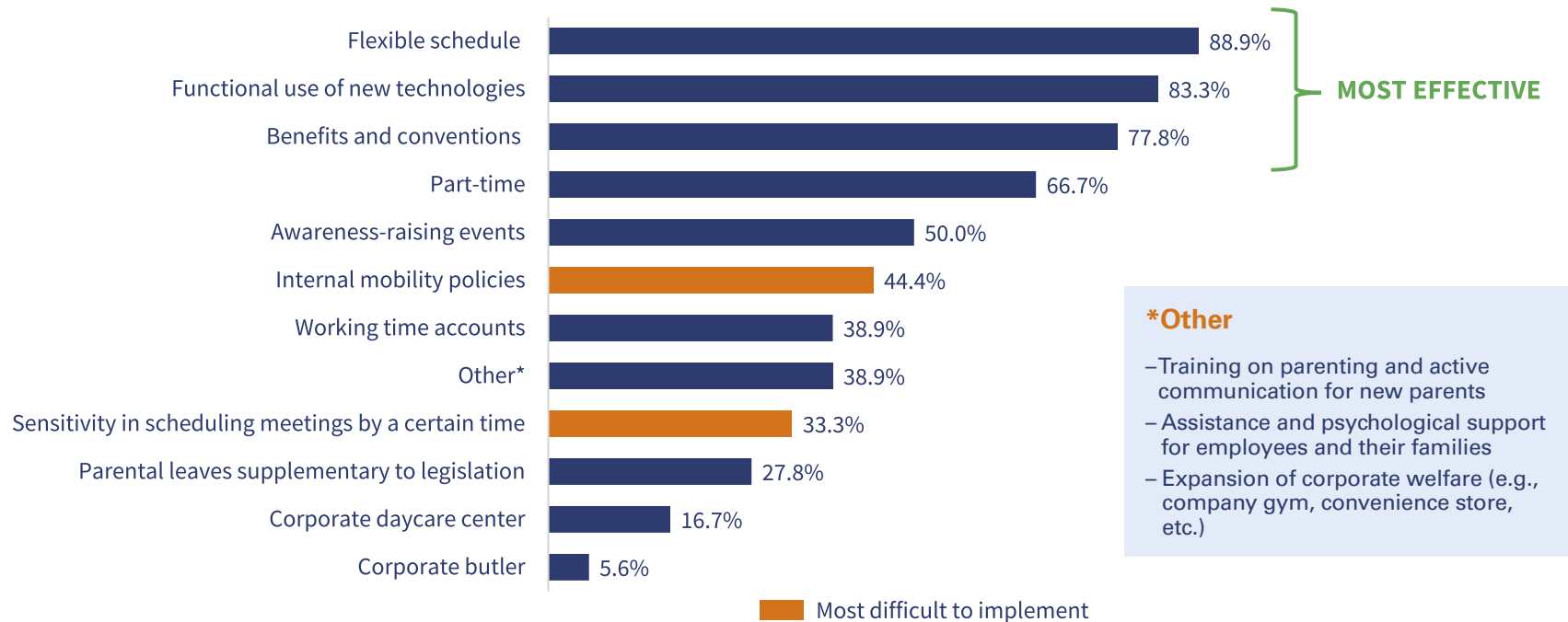
Companies that have set specific D&I goals or plan to set them

(*) Diversity & Inclusion.

Source: The European House – Ambrosetti elaboration on corporate survey results, 2023

Results show more than 90% of responding companies have implemented policies to actively support the work-life balance of their employees

Type of policies to support employees' work-life balance
(% of companies that claim to have active policies)



Source: The European House – Ambrosetti elaboration on corporate survey results, 2023

Trend, planning and targeting of the initiatives implemented by companies

78%

of respondents said that initiatives to support work-life balance **have increased** in recent years



67%

of respondents stated that initiatives are designed/planned with **both bottom-up and top-down** logic



72%

of respondents said they **do not have gender-specific initiatives**, but 1 in 3 companies plan to activate them in the future

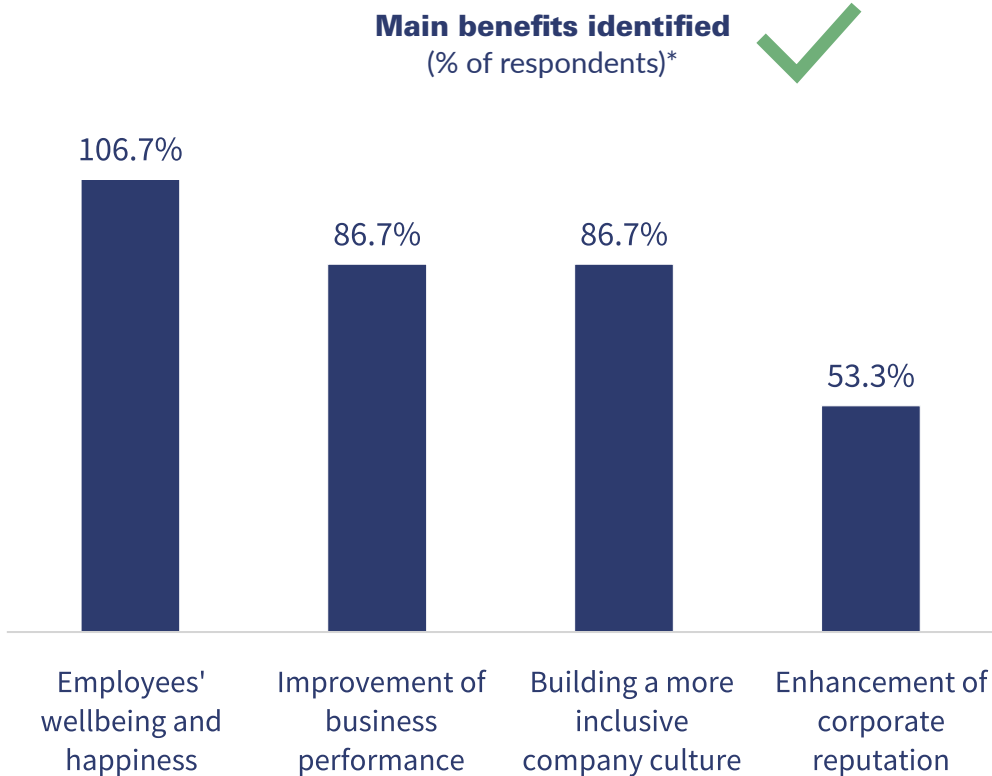


Women-focused initiatives (28%)

- **Training programs** (e.g., female role models, leadership, empowerment, ...)
- **Coaching** and mentoring
- **Events**, among which:
 - Communication campaigns to enhance female talent and raise awareness on gender issues by setting specific behavioral goals
 - Recruiting
 - Employer branding
- **Policies for talent recruitment and retention**, including the funding of STEM scholarships for female students

Source: The European House – Ambrosetti elaboration on corporate survey results, 2023

The main benefits and critical issues identified in implementing policies to support work-life balance within companies



(*) N.B. The total sum of the percentage values does not equal 100% because, since this was a multiple-choice question, firms were able to select more than one identified benefit.

Source: The European House – Ambrosetti elaboration on corporate survey results, 2023

Our corporate policy suggestions for the achievement of employees' work-life balance and the promotion of female employment



SOCIAL INITIATIVES

- To support employees in their **caring responsibilities** (children*, elders, etc.)
- **Unconscious** bias training
- To offer **psychological support**



CONTINUOUS ANALYSIS AND MONITORING

- **Data collection and analysis** (also through periodical anonymous surveys)
- Formulation of **policies based on data**



WORK-LIFE BALANCE INITIATIVES

- **Remote working**
- **Flexible schedule**
- To schedule meetings at **reasonable times**

To achieve gender equality in employment, **cooperation among companies** must be encouraged, as well as the **successful integration between corporate and public policies**

(*) When supporting employees in their parenting duties, it is important to not only focus on first children and newborns, but also 2nd and 3rd children and teenagers.

Source: The European House – Ambrosetti elaboration on various sources, 2023

Women's Empowerment can also be approached through an environmental and sustainability perspective



- Women are often not equal participants in the management of financial and corporate institutions whose **decision-making most significantly affects environmental quality**



- Sectors such as energy, transport and technological development are highly important for environmental issues but **tend to be dominated by men in the workforce**



- Managerial and policy-making positions in these sectors are mainly entrusted to men. **Women are absent from leadership, political and entrepreneurial decision-making** – from the workforce, companies' ownership, technical schools and scientific educational institutions where the future labour force is trained



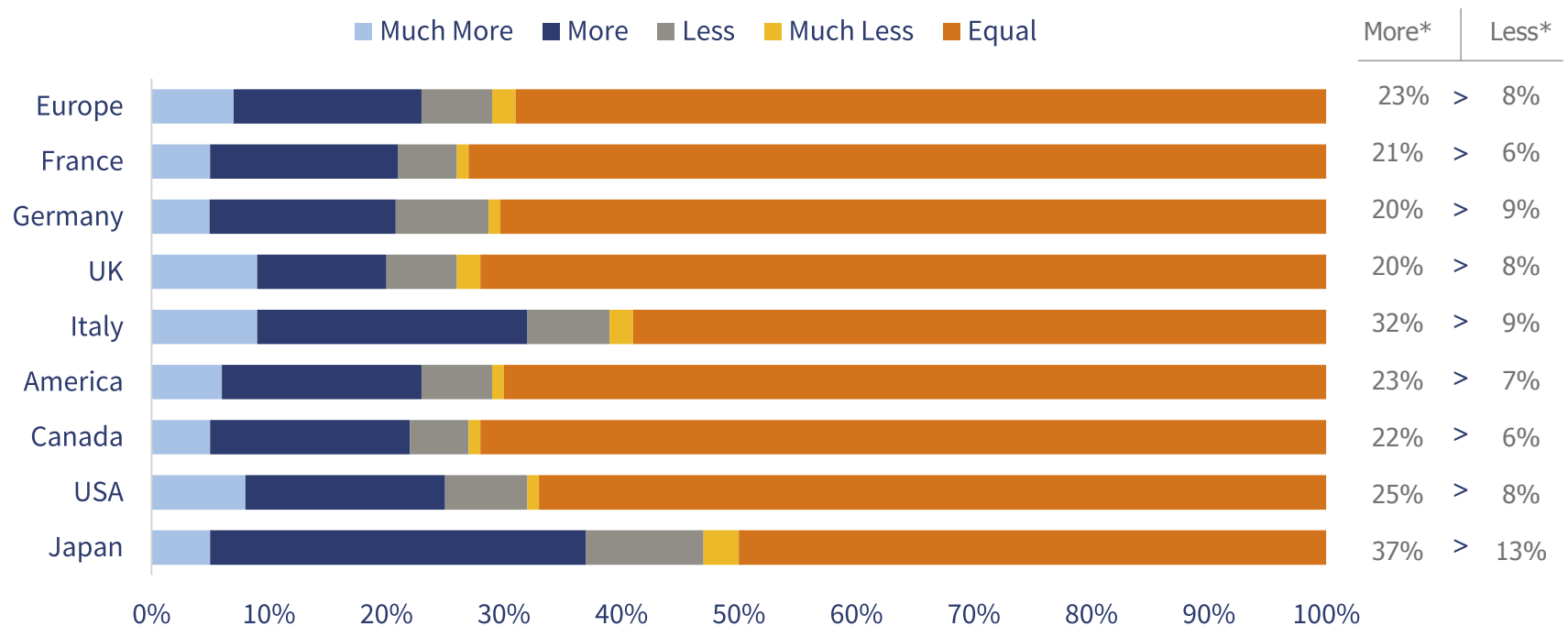
- The majority of agricultural workers are women, so in case of severe drought, as seen currently in East Africa, their income can be drastically cut. The UN has estimated that **80% of people displaced by climate change are women**

Source: The European House – Ambrosetti elaboration on Beijing Declaration and Platform for Equality, Development and Peace (BPfA, 1995) and European Institute for Gender Equality (EIGE) data, 2023

Despite an increasing awareness on the impact of climate change on women ...

Perception of the impact of climate change on women in a selection of G20 countries

(% of answers to the question "Do you think women are more, less or equally impacted than men by climate change?"), 2021

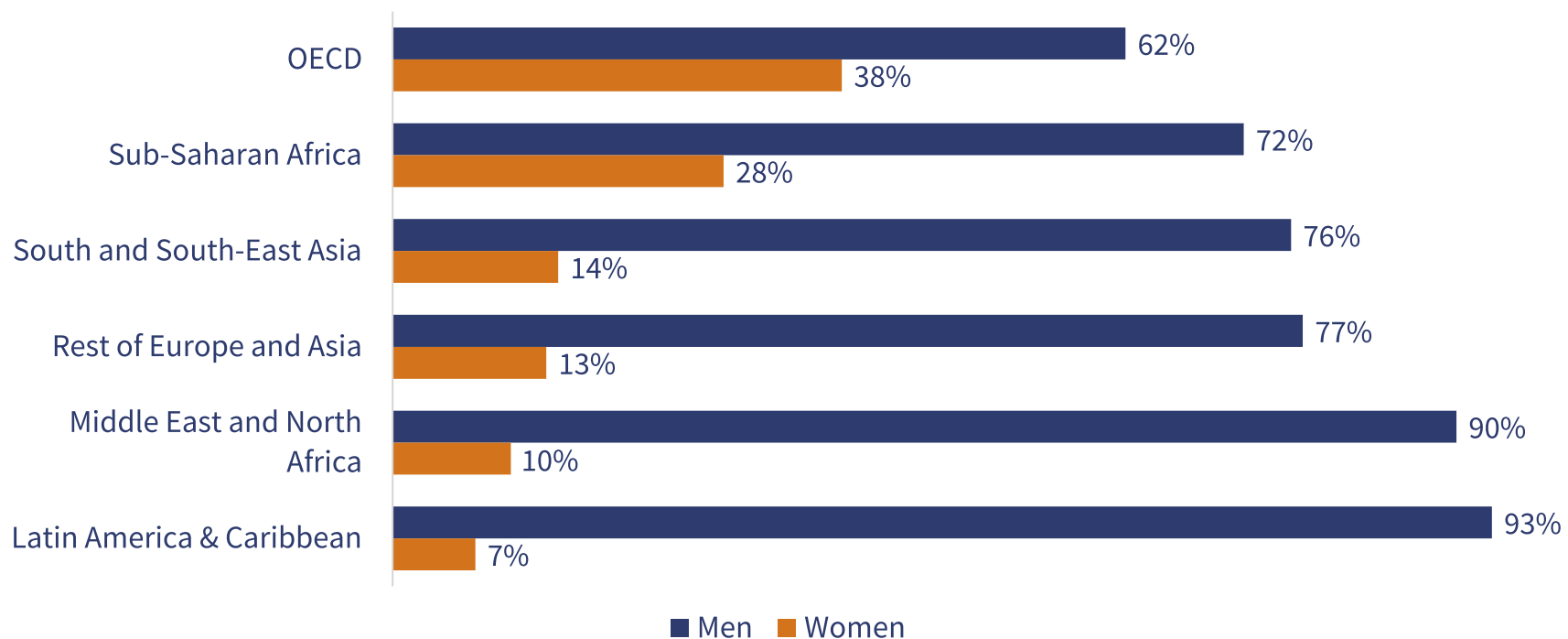


(*) "More" average comprises of "Much more" and "More", while "Less" comprises of "Less" and "Much Less".

Source: The European House – Ambrosetti elaboration on EU Barometer data, 2023

... there is an overall lack of representation in decision-making bodies for the management of environmental issues ...

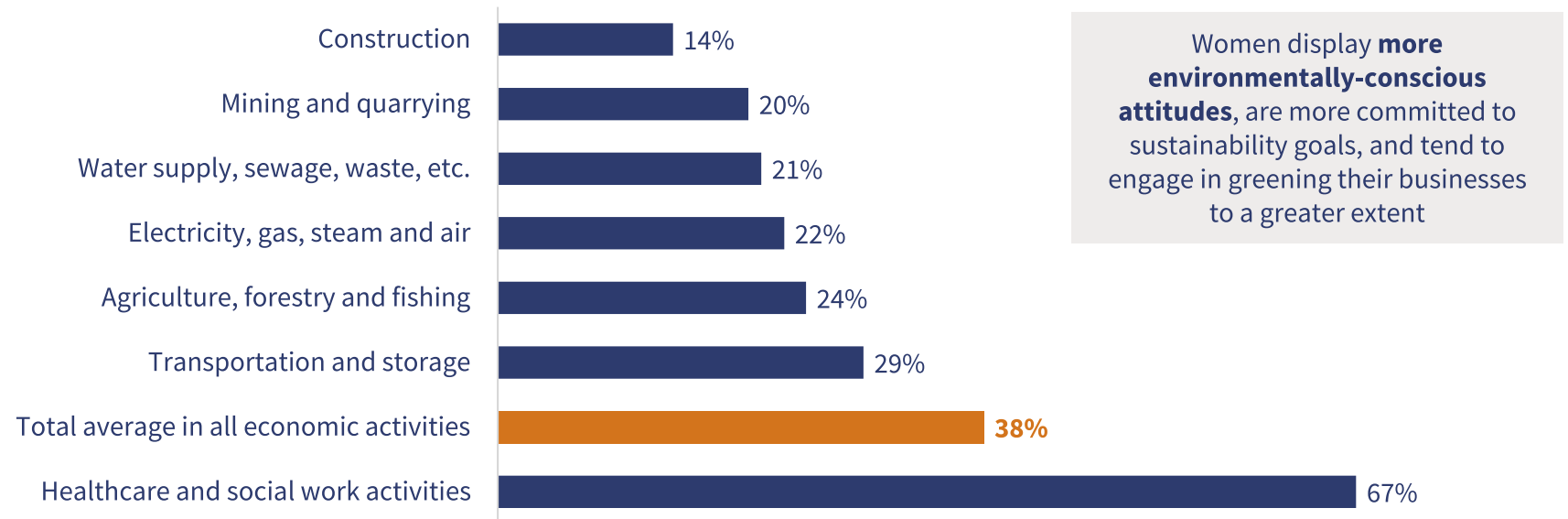
Environment Ministers by gender and world region (% values), 2021



Source: The European House – Ambrosetti elaboration on OECD data, 2023

... and a low participation of women in environmentally-sensitive sectors

Women in management in environmentally-sensitive sectors in a selection of G20 countries*
(% values), 2020



(*) Weighted averages, based on 14 G20 countries. Women's share of employment in managerial positions is calculated as a percentage of the total employment in management.

Source: The European House – Ambrosetti elaboration on OECD data, 2023

In addition to safeguarding the planet, the green transition will contribute significantly to global economic growth ...

Green transition refers to the transition or **transformation from an intensive and unsustainable production system** in terms of resource use to a model that instead has **environmental, social and economic sustainability** as its focus



WORLD

As a result of the green transition, there will be an **additional global GDP growth** of about **3.5%**

30 million new jobs are expected in clean energy, efficiency and low-emission technologies **by 2030**



EUROPE

In view of European climate goals, jobs in this sector will increase by about **24 million** **by 2030**

About **40%** of all jobs could be **affected by the green transition**



ITALY

Between 2016 and 2020, more than **441,000** companies (21.4% of the total) decided to **invest in green technologies and products**

In the period 2021-2025, **38%** of the jobs needed will require **green skills**, amounting to about **1.4 million employees**

... and will be closely linked to the digital one, the processes of which will be an additional enabler of the configuration of a Society 4.0

Digital transition refers to the **process of adopting digital tools and methods** in all aspects of human society - establishing a set of technological, cultural, organizational, social, creative and managerial changes



WORLD

By 2025, Artificial Intelligence and robotics are estimated to generate **60 million new jobs**

Today, among OECD countries, it is the most technologically advanced companies that experience the **greatest productivity gains**



EUROPE

In support of the transition:

- Data professionals will increase from 5.7 million to **10.9 million**
- The percentage of EU population with basic digital skills will increase from 57% to **65%** by 2025
- **80%** of the population will need basic digital skills by 2030



ITALY

60.3% of SMEs* have reached the **basic level of digitization** vs. 59% of German SMEs and 47% of French SMEs

Only **6.2%** of companies reported using **Artificial Intelligence software** (vs. EU average of 8%)

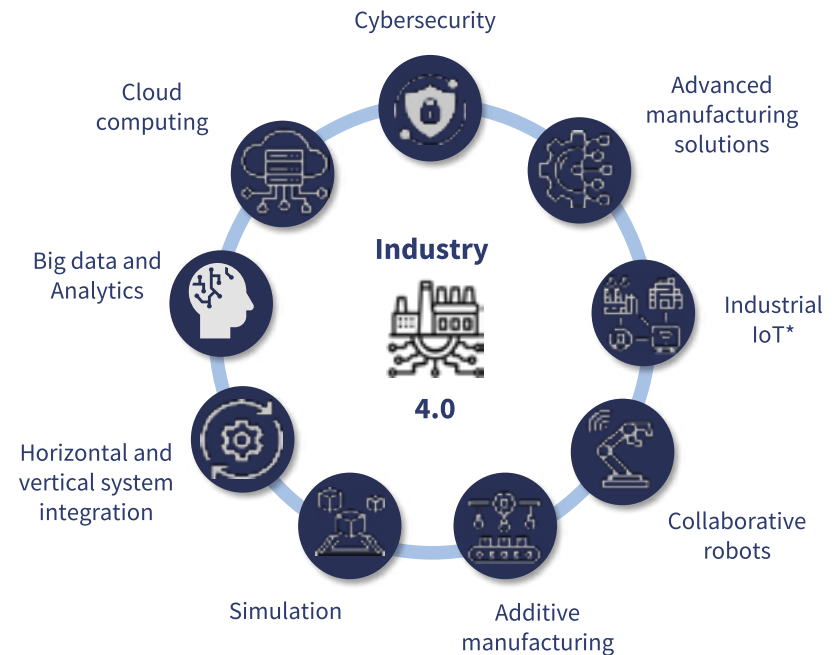
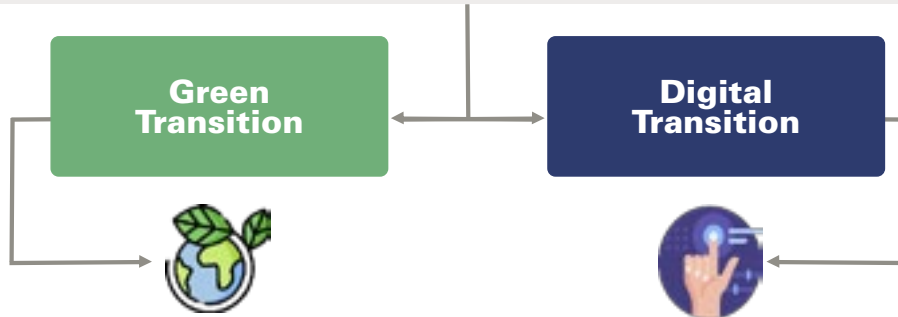
(*) Small-Medium Enterprises.

Source: The European House – Ambrosetti elaboration on European Commission, OECD and ISTAT data, 2023

Today, companies face a double transition: The so-called Twin Transition, whose pillars are the Blue (digital) Transition and the Green (ecological) Transition

Twin Transition

It is referred to as the **Twin Transition** because, as underlined by the European Commission, without digitization it will not be possible to achieve the levels of efficiency and sustainability needed to decrease the anthropogenic impact on climate



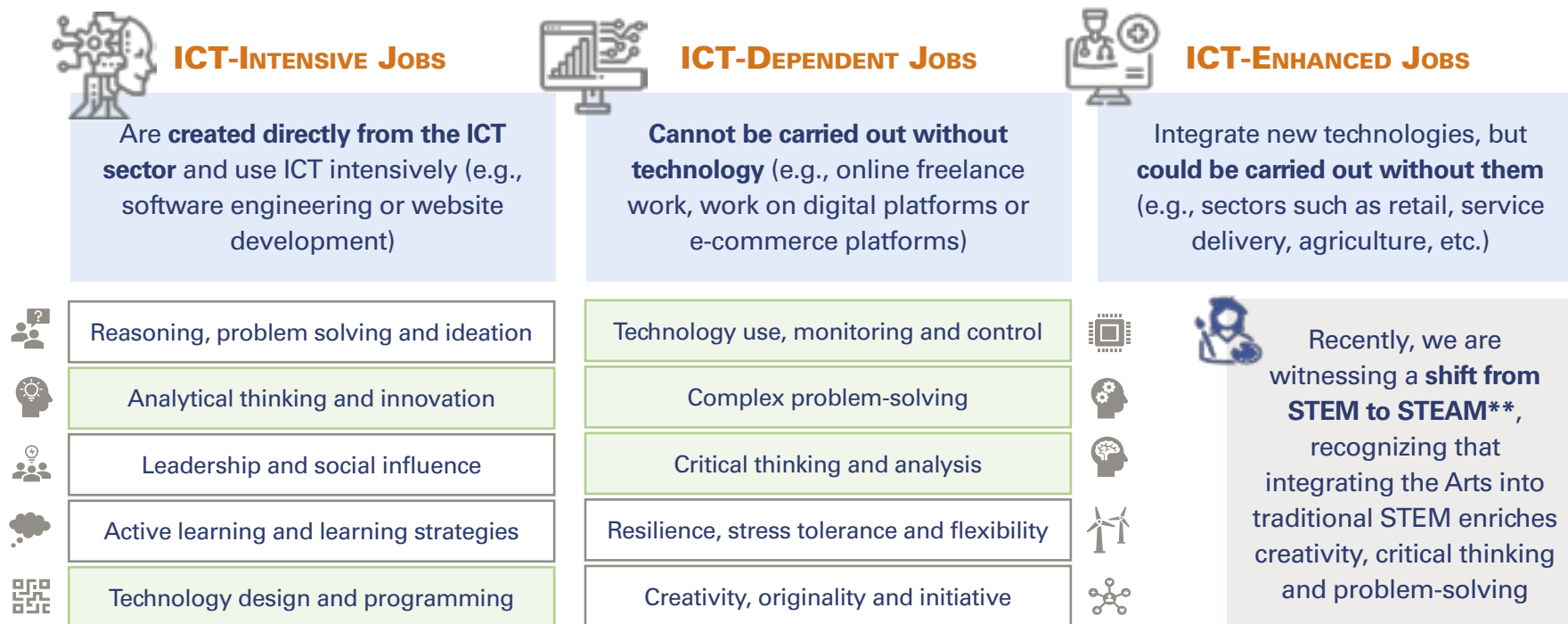
In Italy alone, between 2020 and 2030, **digital** will contribute to the **decrease of up to 7.3% of emissions** compared to 2012 levels and **23%** of the total emissions that Italy has pledged to reduce by 2030

(*) Internet of Things.

Source: The European House – Ambrosetti elaboration on European Commission and InnoTech Report data, 2023

The digital transition will result in a significant transformation of the job market, both in terms of types of occupations and of skills required

New **digital jobs** are not only intrinsically related to the **ICT* world**, but involve all economic sectors:



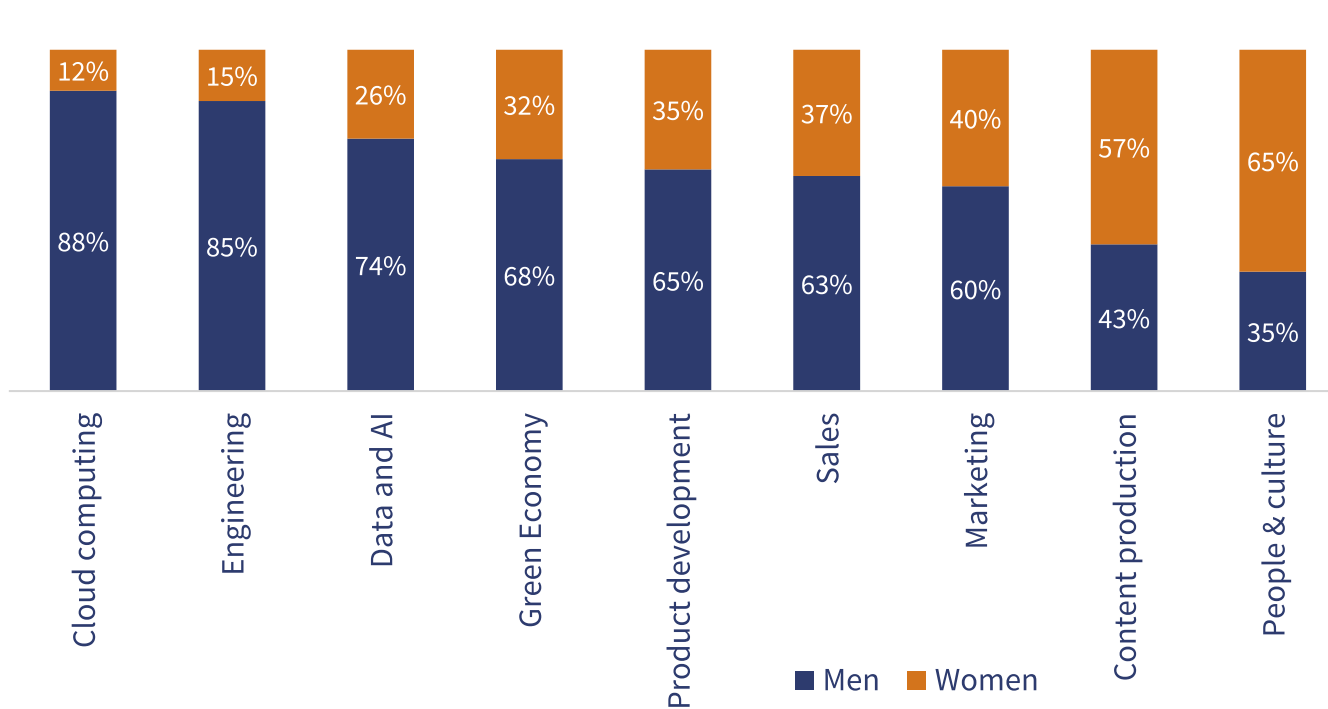
 = Quantitative and technology-linked skills

(*) Information and Communications Technology. (**) Science, Technology, Engineering, Arts and Mathematics.

Source: The European House – Ambrosetti elaboration on various sources, 2023

In this context, given current labour participation rates, women risk being excluded from the growth and benefits associated with the transitions in place

Share of workers by gender in a selection of economic sectors (% values), 2020



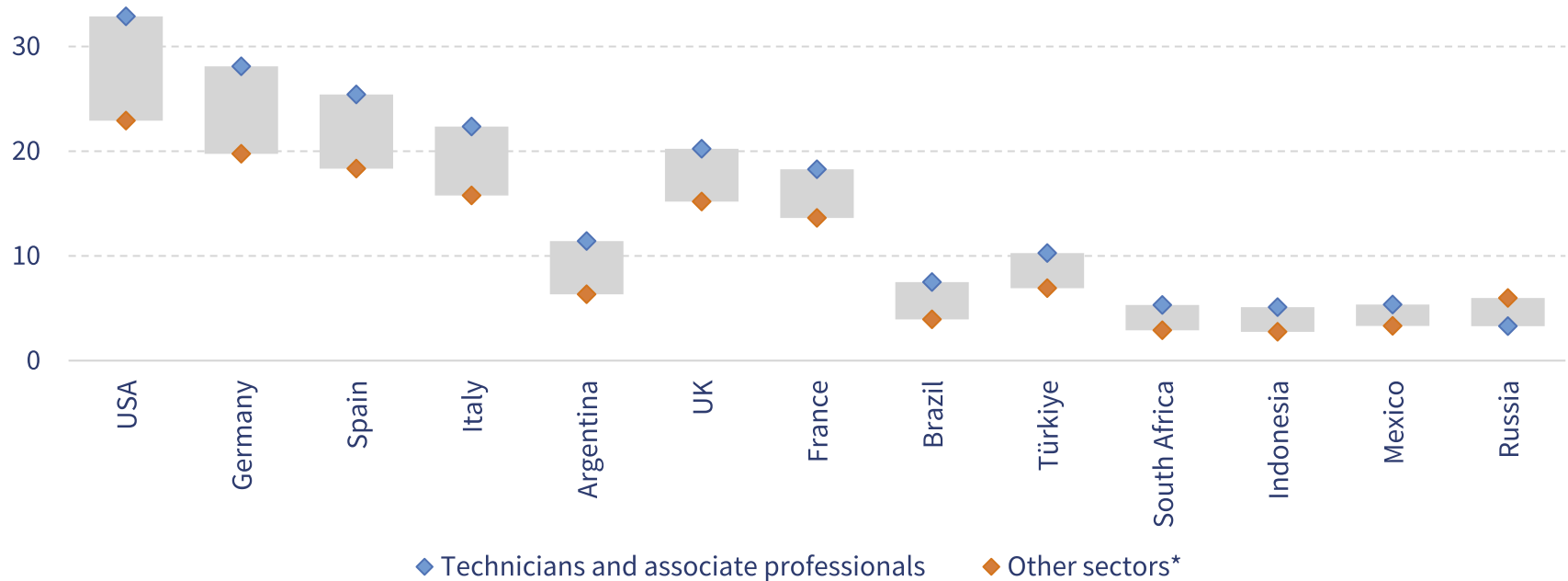
23% of occupations are expected to undergo transformations by 2027, creating **69 million new jobs worldwide**

N.B. The share is calculated by taking into account both economically advanced and emerging countries. The Green Economy data, on the other hand, takes into account the U.S. perimeter only.

Source: The European House – Ambrosetti elaboration on UNICEF data and other sources, 2023

Implications also concern the quality of employment and remuneration levels, that in most cases are higher for technical professions

Average hourly earnings of employees by sex and occupation in a selection of G20 countries
(PPP \$), 2021 or latest year available



(*) Other sectors comprise of Clerical support, Service and sales, Skilled agricultural, Forestry and fishery workers, Craft and related trades workers, Plant and machine operators and assemblers, Elementary occupations.

N.B. No data available for Australia, Canada, China, India, Japan, Saudi Arabia, South Korea, Spain.

Source: The European House – Ambrosetti elaboration on ILOSTAT data, 2023

Women's inclusion in the Twin Transition would promote the creation of a virtuous cycle, benefiting society at large

In the wake of the Twin Transition, by 2030 **between 40 and 160 million women** worldwide will need **reskilling** for the inclusion in the Industry 4.0*

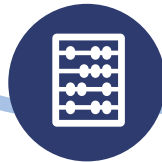


Closing the gender gap in STEM education would contribute to an increase in EU GDP per capita of **0.7-0.9% by 2030** and **of 2.2-3.0% by 2050**

Including women in the development processes of new technologies **would reduce the risk of reproducing male-dominated patterns** and integrating gender differences



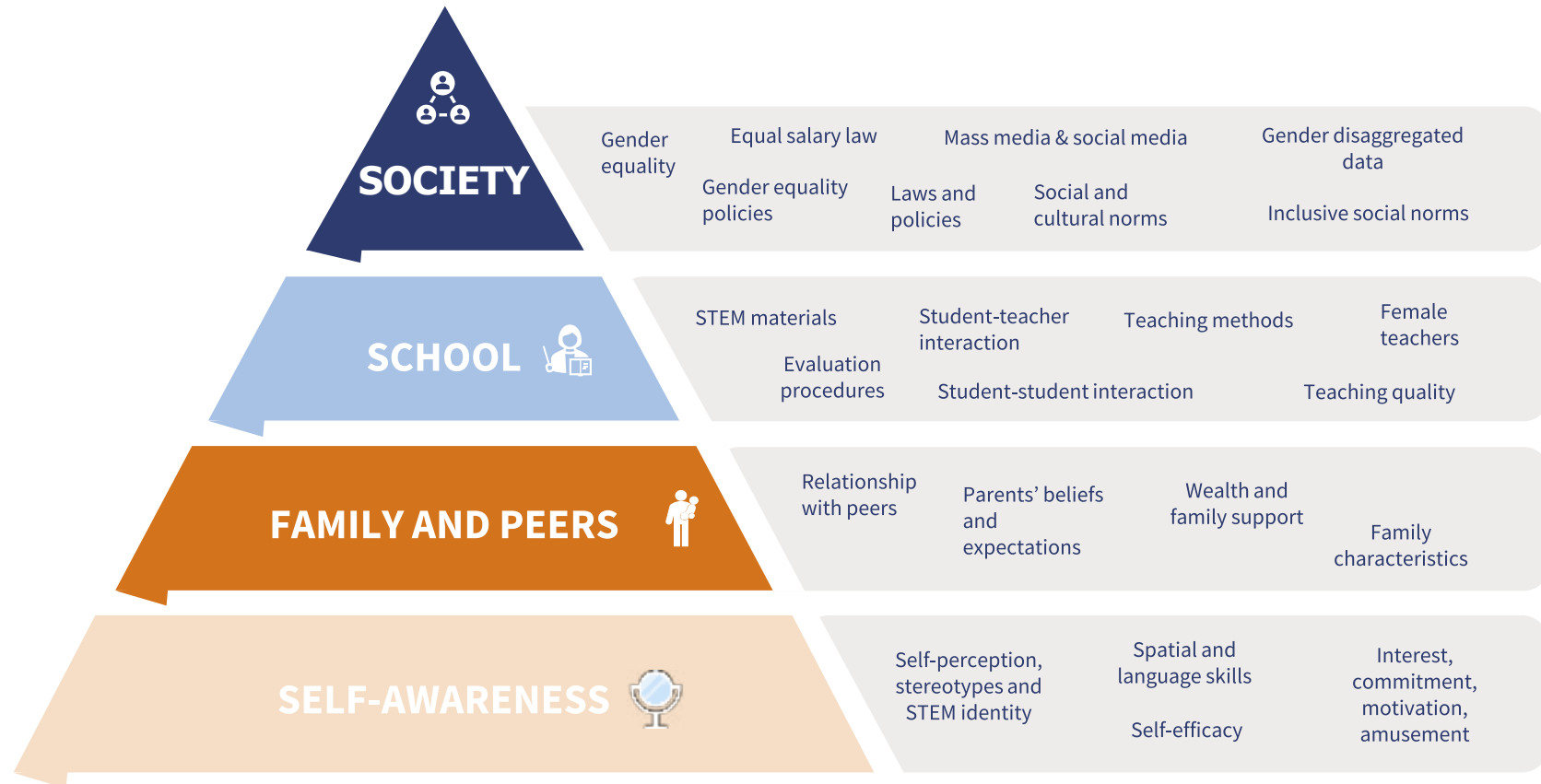
By accessing digital careers and higher salaries, women would enjoy **greater economic security**



Greater female presence fosters **diversity, inclusion, and creativity** in STEM teams

(*) "Industry 4.0" refers to a model of business production and management. The elements that characterize the phenomenon are: connection between physical and digital systems, complex analysis through Big Data and real-time adaptations..

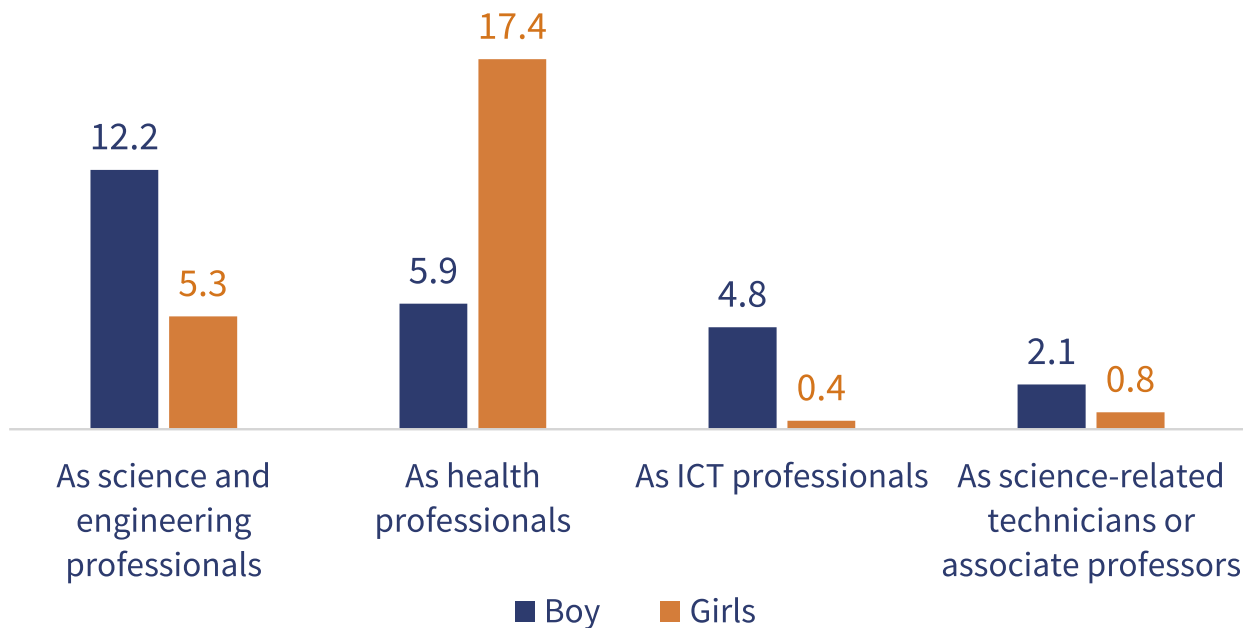
There are several factors that influence girls' and women's participation and progression in STEM ...



Source: The European House – Ambrosetti elaboration on UNICEF data, 2023

... starting with career expectations that persist globally and are culturally rooted

15-year-olds who expect to work in a science-related occupation by the age of 30, by type of science professional, OECD average (% values), 2015

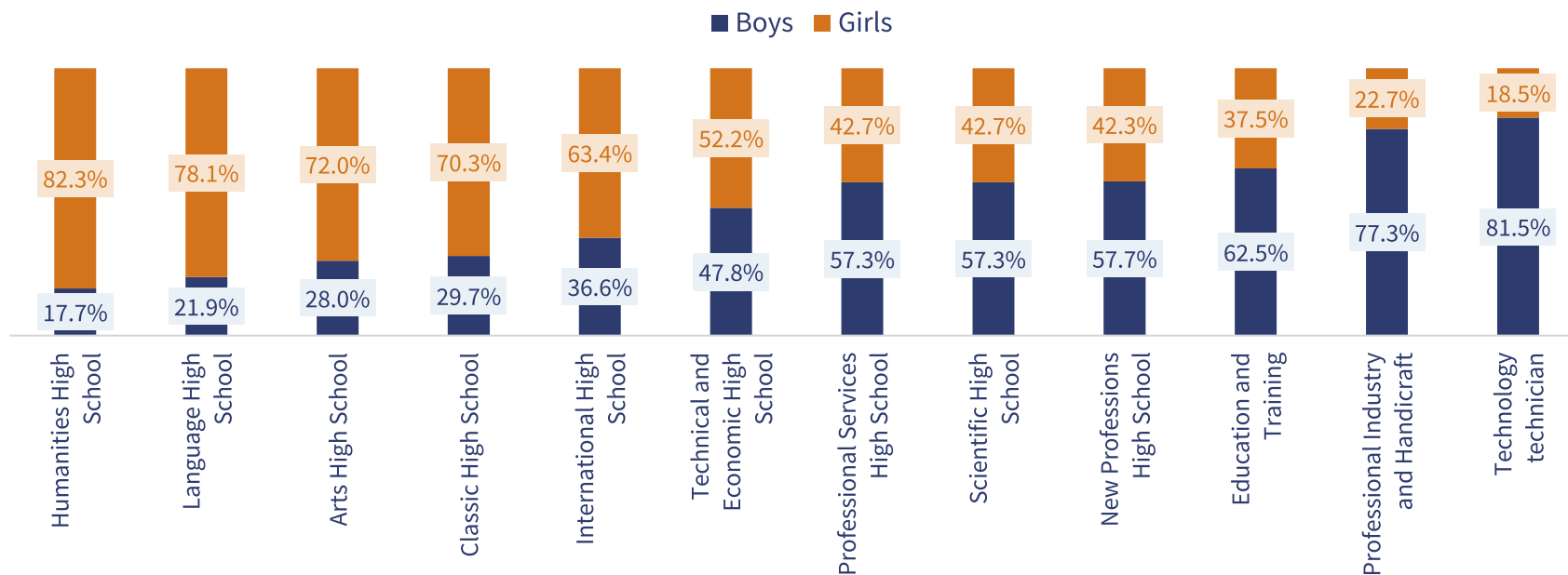


Across the world:

- **Media:** only **37%** of STEM professionals portrayed in the media are women
- **School materials:** **75%** of professionals in the scientific field are portrayed as men (vs. **25%** of women)
- **Representation:** when asked to draw a scientist, only **28%** of children draw a woman

In Italy, gender inequality and differences are already evident from the choice of type of secondary education

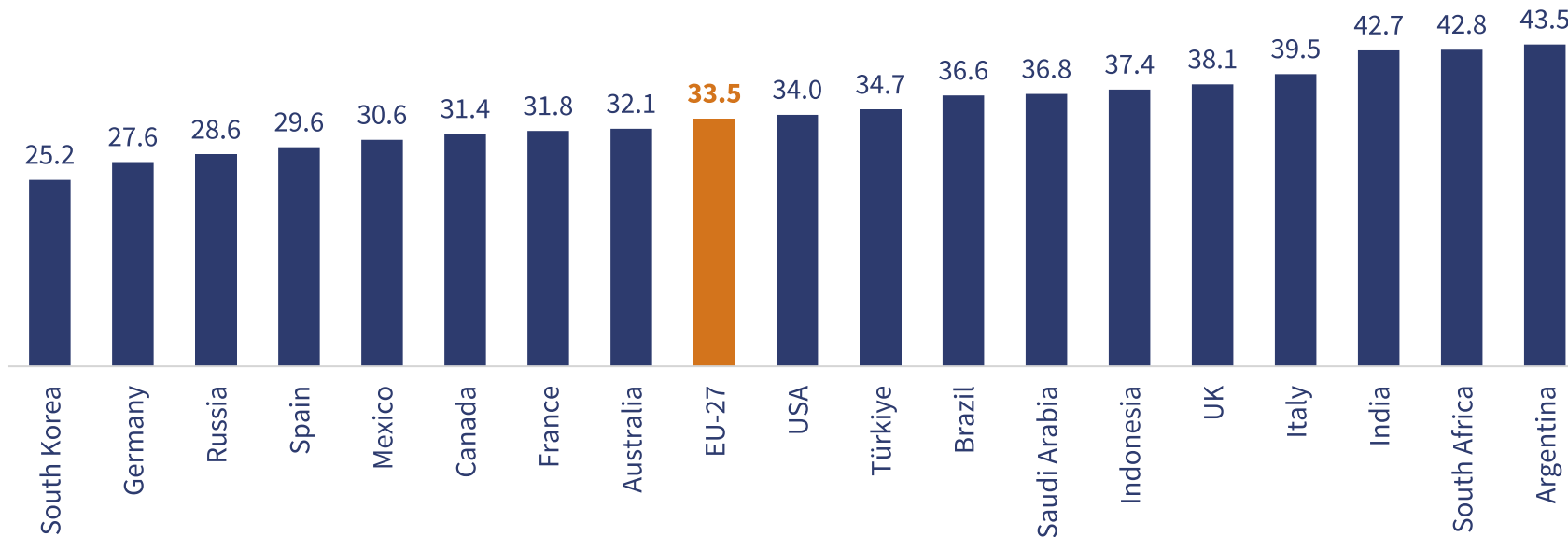
Students enrolled in high schools and technical institutes by gender in Italy
(% values), school year 2020-2021



Source: The European House – Ambrosetti on MIUR data, 2023

Continuing with the course of study, in a university context of shortage of STEM graduates ...

Share of graduates of tertiary programmes in Science, Technology, Engineering and Mathematics in G20 countries + Spain* (% on total graduates), 2019 or latest year available

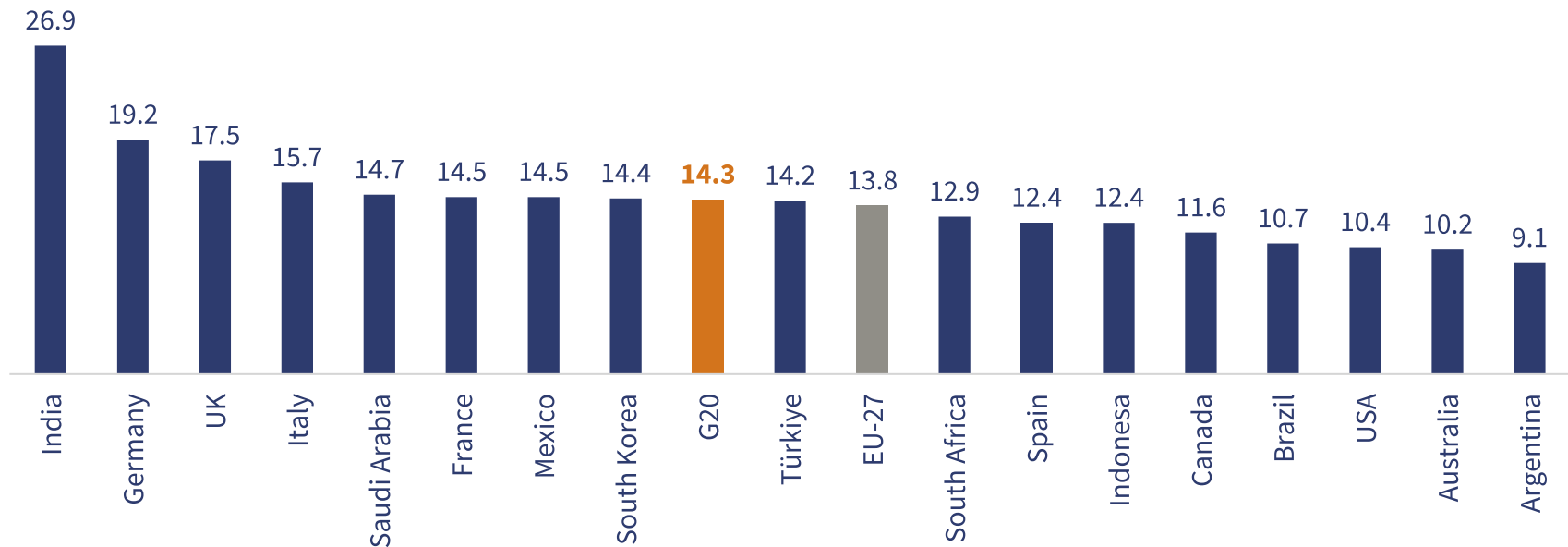


(*) Spain included as permanent guest.
N.B. No data available for China and Japan.

Source: The European House – Ambrosetti elaboration on World Bank data, 2023

... only 14.3% of women across G20 countries choose to graduate in STEM programmes

Share of female tertiary graduates in Science, Technology, Engineering and Mathematics programmes in G20 countries + Spain* (% on total female tertiary graduates), 2019 or latest year available

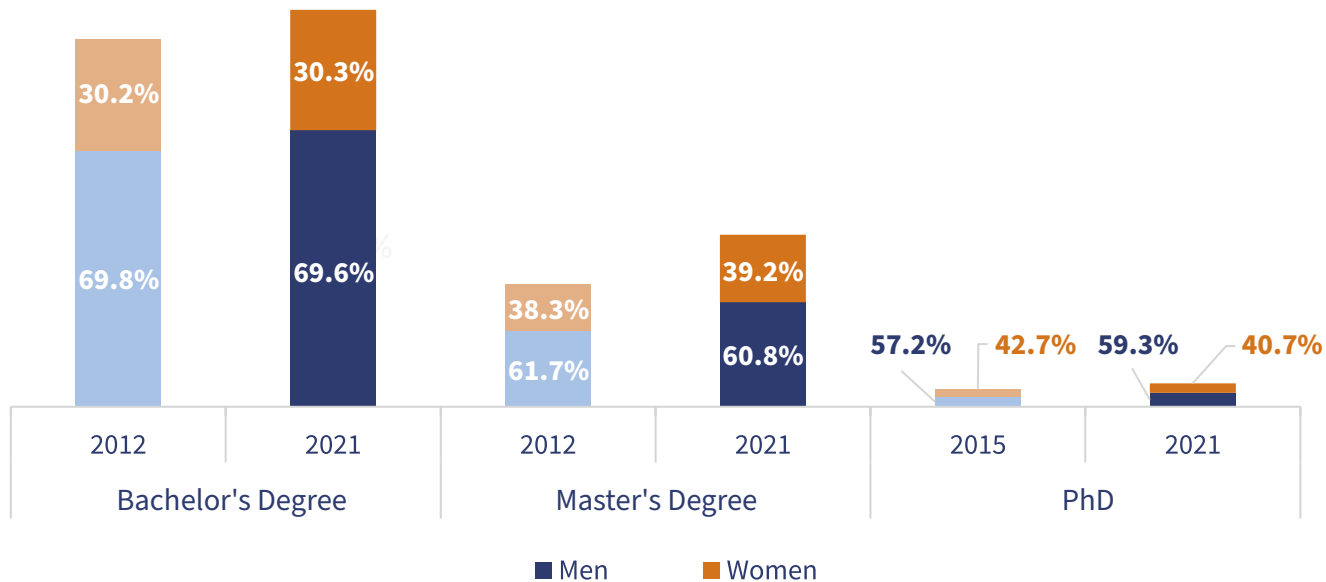


(*) Spain included as permanent guest.
N.B. No data available for China, Japan and Russia.

Source: The European House – Ambrosetti elaboration on Human Development Report data, 2023

In Italy, despite a general increase of students enrolled in STEM faculties, the percentage of women on total has remained virtually unchanged in the last 10 years

Students enrolled in STEM faculties by university degree and gender in Italy
(% values), 2012-2021 and 2015-2021



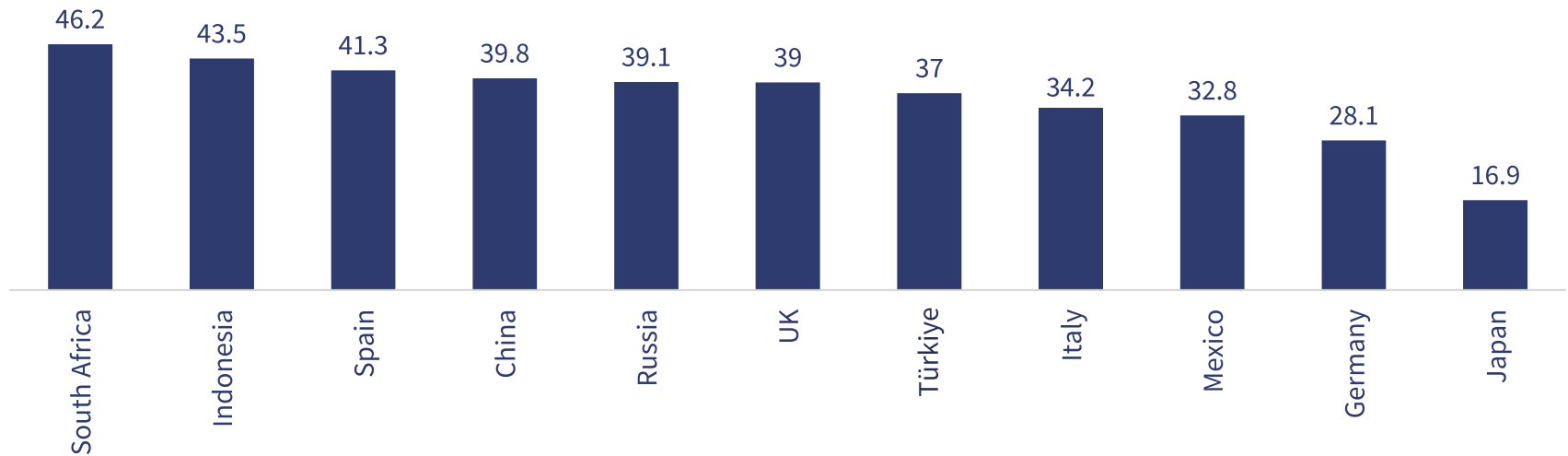
- Between 2012 and 2021, **enrollments** in STEM faculties in Italy increased by **16.5%**
- However, **to meet the demand** for Data Professionals by 2025, the total number of graduates should increase by **+43.8%** compared to the current trend
- In 2025, there will be a **gap** of over **300,000 STEM graduates**

N.B. Information and Communication Technologies (ICT); Engineering, Production, and Construction; Natural Sciences, Mathematics, and Statistics.

Source: The European House – Ambrosetti elaboration on MIUR data, 2023

Also in academia, women continue to be a minority, representing only 1 in 3 researchers ...

Female researchers as percentage of total researches in a selection of G20 countries + Spain* (% values), 2019



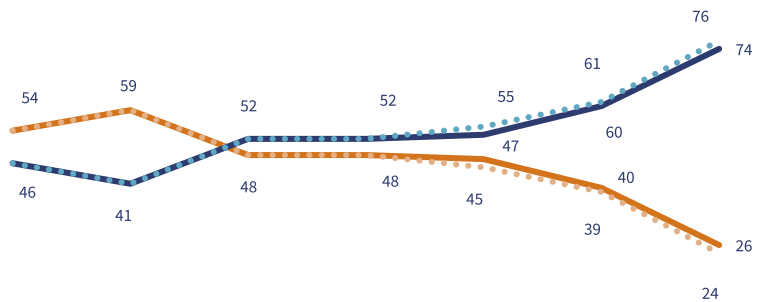
Similarly to other sectors, **progress regarding gender equality in the research and innovation field** has been particularly slow when it comes to **leadership positions**

(*) Spain included as permanent guest.

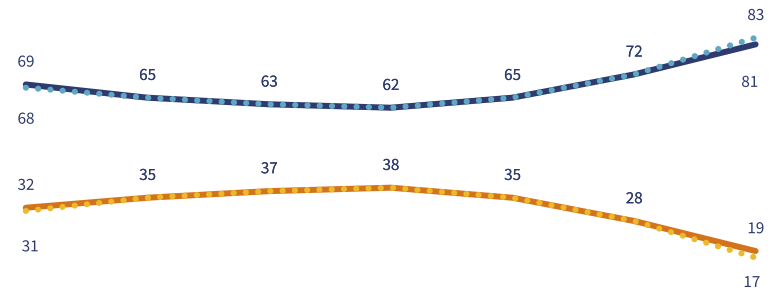
Source: The European House – Ambrosetti elaboration on UNESCO, data 2023

... and experiencing a double segregation: the vertical one (concentration in positions of low responsibility) and the horizontal one (low concentration in STEM fields)

Proportion of men and women in a typical academic career, students and academic staff in the EU (% values), 2015-2018



Proportion of men and women in a typical academic career in S&E*, students and academic staff in the EU (% values), 2015-2018



ISCED 6&7 Students ISCED 6&7 Graduates ISCED 8 Students ISCED 8 Graduates GRADE C GRADE B GRADE A
 — Women 2018 - - - Women 2015 — Men 2018 - - - Men 2015

ISCED 6&7 Students ISCED 6&7 Graduates ISCED 8 Students ISCED 8 Graduates GRADE C GRADE B GRADE A
 — Women 2018 - - - Women 2015 — Men 2018 - - - Men 2015

ISCED 6: Bachelor's or equivalent level
ISCED 7: Master or equivalent level
ISCED 8: Doctoral or equivalent level

GRADE A: The single highest grade/post at which research is normally conducted
GRADE B: Researchers in less senior positions than A-graders, but higher than ISCED level 8

GRADE C: The first grade/post into which a newly qualified doctoral graduate would normally be recruited

(*) Science & Engineering.

Source: The European House – Ambrosetti elaboration on European Commission data, 2023

In the field of Artificial Intelligence, which will play a central role in the digital transition, the share of women in research is increasing

Publications on AI* with at least one female author in a selection of G20 countries + Spain (% values), 2010-2022



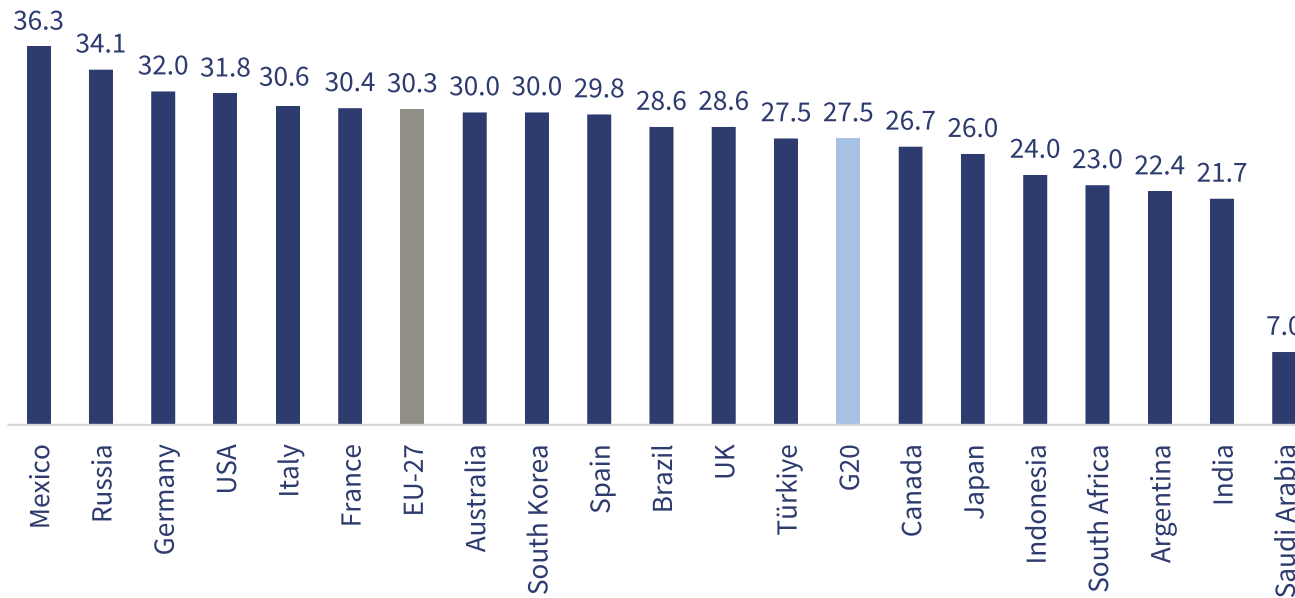
An Artificial Intelligence predominantly conceived, designed, and developed by men can significantly shape society's future

(*) Artificial intelligence. (**) The EU has been excluded from the top 3 performers ranking in terms of the total number of publications on AI to ensure comparability between countries. N.B. Spain included as permanent guest.

Source: The European House – Ambrosetti elaboration on OECD data, 2023

The result is a general underrepresentation of the female population in STEM occupations, both in terms of employees ...

Women employed in the ICT sector on total in G20 countries + Spain*
(% values), 2022 or latest year available



Across the world:

- Only **5%** of **laboratory directors** are women (vs. **86%** men)
- Women hold 26% of leadership roles in STEM fields
- From 2013 to 2019, women accounted for only **8%** of **CEOs of STEM companies**

N.B. No data available for China.

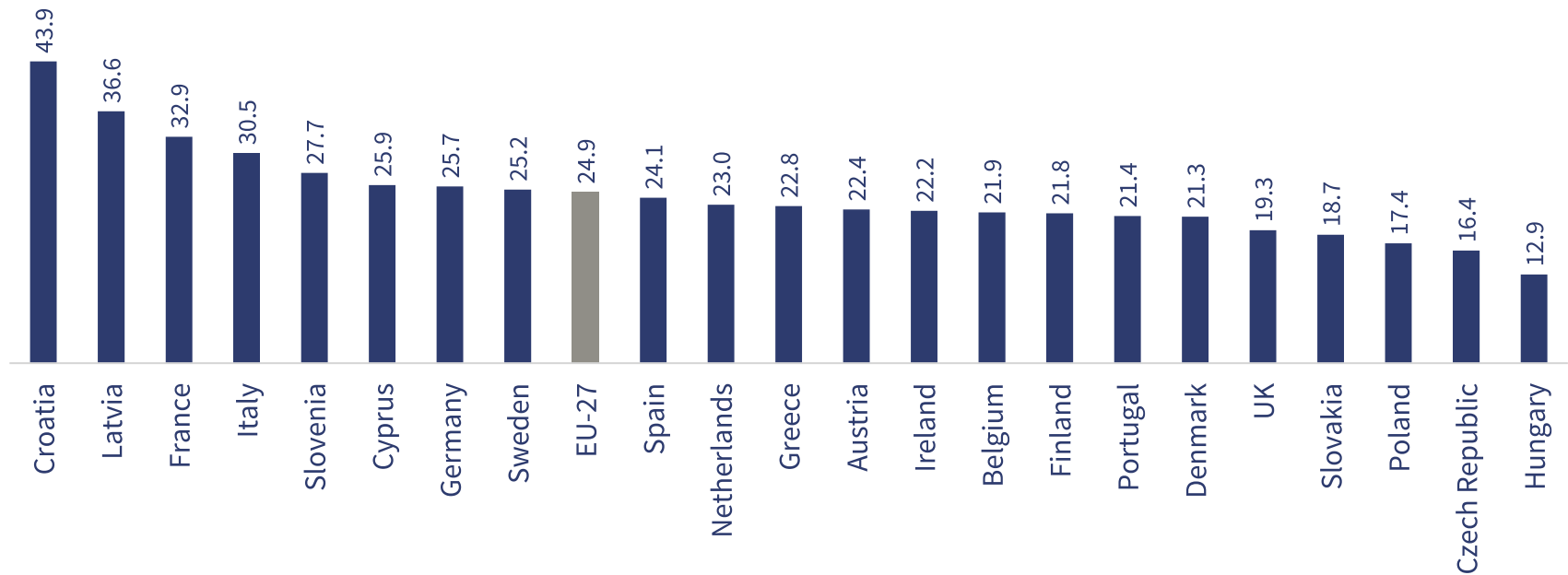
(*) Spain included as permanent guest.

Source: The European House – Ambrosetti elaboration ILOSTAT and Yale data, 2023

... and entrepreneurs

Self-employed women among professionals in S&E* and ICT in a selection of EU Member States + UK

(% values), 2018



(*) Science & Engineering.

Source: The European House – Ambrosetti elaboration on She Figures data, 2023

Policy analysis: Women in tech and digital

Country	Female STEM graduates			Women Technicians and Associate Professionals		
	F.Y.A.*	2017	CAGR	2018	2021	CAGR
Average		34.7%	0.1%	37.5%	44.8%	7.9%
Argentina	N.A.	43.5%	N.A.	22.0	40.0	10.5%
Australia ✓	30.7%	32.1%	1.1%	30.0	52.9	9.9%
Brazil	32.3%	36.6%	2.5%	29.0	41.6	6.2%
Canada ✓	32.9%	31.4%	-1.2%	26.7	61.9	15.0%
China	N.A.	N.A.	N.A.	N.A.	49.3	N.A.
EU-27	30.3%	59.0%	N.A.	30.3	48.8	8.3%
France	30.3%	31.8%	1.0%	31.0	50.4	8.4%
Germany ✓	26.8%	27.6%	1.5%	33.0	54.0	8.6%
India	42.1%	42.7%	0.4%	N.A.	33.9	N.A.
Indonesia	37.5%	37.4%	-0.1%	24.0	29.1	3.3%
Italy	45.3%	39.5%	-2.7%	29.0	39.4	5.2%
Japan	N.A.	N.A.	N.A.	26.0	40.3	7.6%
Mexico	31.9%	30.6%	-1.0%	36.0	48.2	5.0%
Russia	N.A.	28.6%	N.A.	35.0	58.8	9.0%
Saudi Arabia	39.4%	36.8%	-1.4%	7.0	5.4	-4.2%
South Africa	41.2%	42.8%	1.3%	23.0	60.4	17.5%
South Korea	27.6%	25.2%	-1.8%	30.0	50.7	9.1%
Spain	30.9%	29.6%	-0.9%	29.0	39.6	5.3%
Turkey	N.A.	34.7%	N.A.	23.0	28.5	3.6%
UK	37.3%	38.1%	0.5%	28.0	52.9	11.2%
USA	31.0%	34.0%	1.9%	31.0	55.4	10.2%

(*) First Year Available

Source: The European House – Ambrosetti on ILOSTAT and UNHCR data, 2023

- Over the last years, **7 countries out of 21** registered a **decrease** in the share of female STEM graduates. In general, only **minor improvements** (with Brazil in a leading position) have been reached in the field. Today, women account for only **34.7%** of STEM graduates in G20 countries + Spain
- As for **women Technicians and Associate Professionals**, among G20 countries + Spain there is an **overall positive trend**, with only Saudi Arabia recording a negative CAGR
 - **South Africa, Canada, United Kingdom, United States and Argentina** are the best performers, with a recorded **year-on-year trend of >10%**

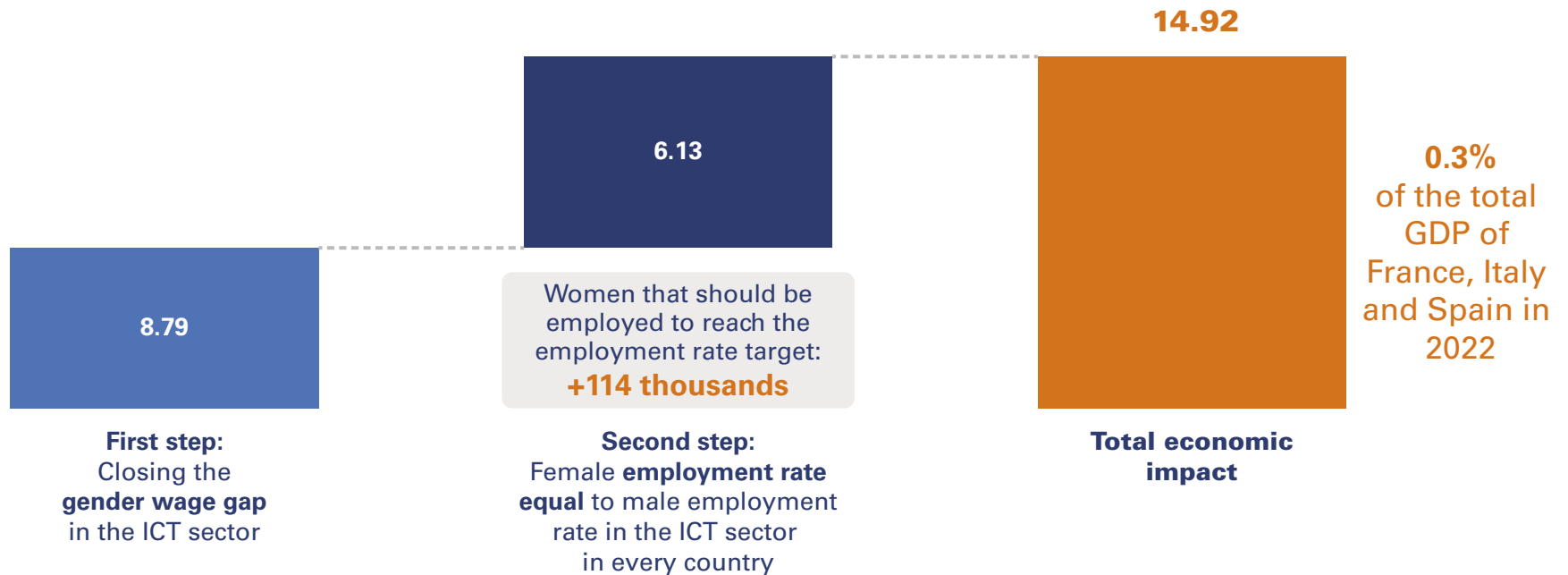
 = CAGR ≥ 0

 = CAGR < 0

 = countries that have adopted relevant **policies and state-level initiatives** for women in tech and digital

In France, Italy and Spain alone, closing the gender gap only in the ICT sector is a paramount economic opportunity, worth up to €15 billion (~0.3% of their GDP)

Economic impact generated if in France, Italy and Spain* female and male wages and employment rates in the ICT sector were the same (billion €), 2022



(*) Selected as representative of countries with high potential but low performance.

Source: The European House – Ambrosetti elaboration on ILOSTAT and World Bank data, 2023

Business leaders' perceptions of the challenges and opportunities of women in Sustainability and STEM professions



The **survey** has been submitted to the Observatory's partners and extended to all Ambrosetti Club members

42%

The average women on total

91%

Companies with functions dedicated to sustainability management

73%

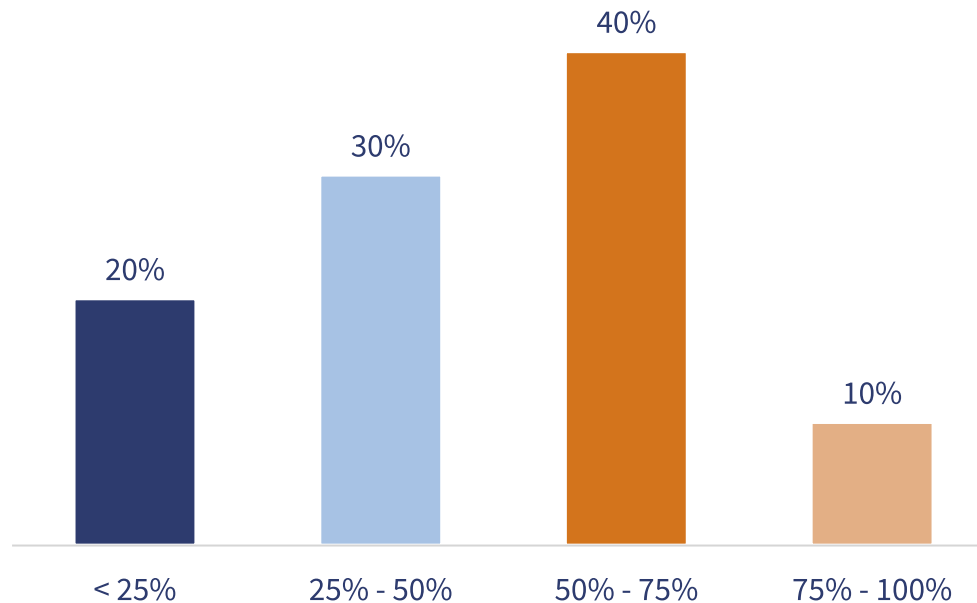
Responding companies operating in an industry related to STEM disciplines*

(*) Of which 72% employ female workers in the Digital, Information Technology and Engineering fields.

Source: The European House – Ambrosetti elaboration on corporate survey results, 2023

73% of respondents believe that the presence of women within corporate decision-making bodies can influence the adoption of sustainable practices

Percentage of women on the Sustainability Team
(% on total respondents)



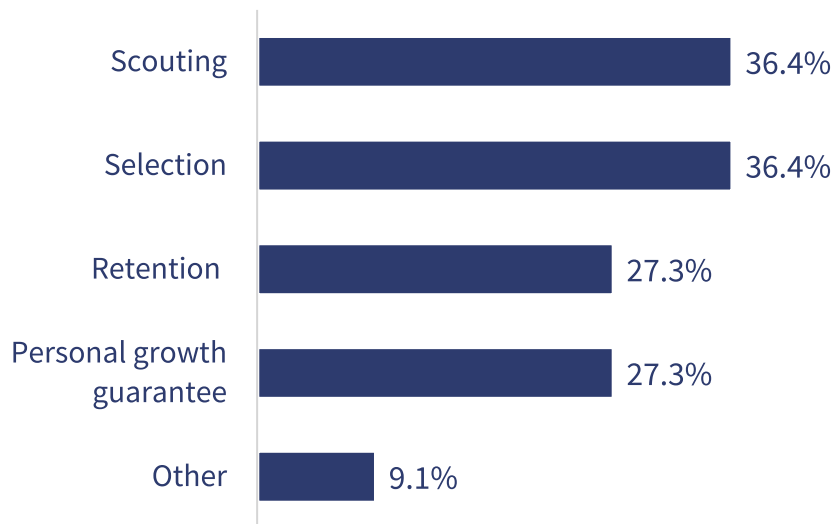
In **60%** of responding companies, the Sustainability Team **reports directly** to the Board of Directors

Within the Teams, in **67%** of cases women hold predominantly roles of **medium responsibility**, assuming **leadership positions** in only **11%** of cases

Source: The European House – Ambrosetti elaboration on corporate survey results, 2023

On average, slightly more than 1 in 10 employees with STEM skills are women, albeit with wide variability among companies

Difficulties encountered in bringing women with STEM profiles into the company (% of respondents)



66% of companies have **hiring goals*** related to female candidates with STEM profiles.

The remaining **33%** **plans to introduce them** in the near future

*Some examples of business goals:

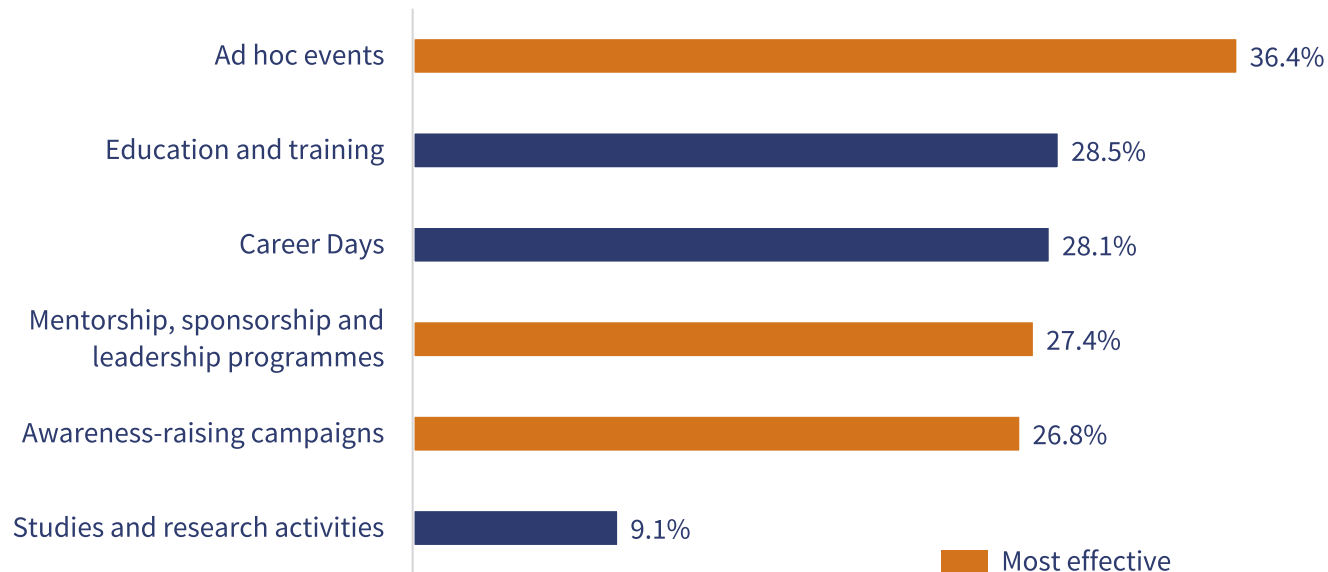
- Increasing the presence of women in top positions, also for STEM profiles
- Reaching 50% of women with STEM profiles
- Reaching 50% of women among employees
- Reaching 40% of women in leadership positions

N.B. The total sum of percentage values does not equal 100% because, as this was a multiple-choice question, companies were able to indicate more than one difficulty encountered.

Source: The European House – Ambrosetti elaboration on corporate survey results, 2023

45% of responding companies already have initiatives in place to help bring women into the STEM world ...

Companies that have activated initiatives to encourage women's involvement in STEM (% of respondents)

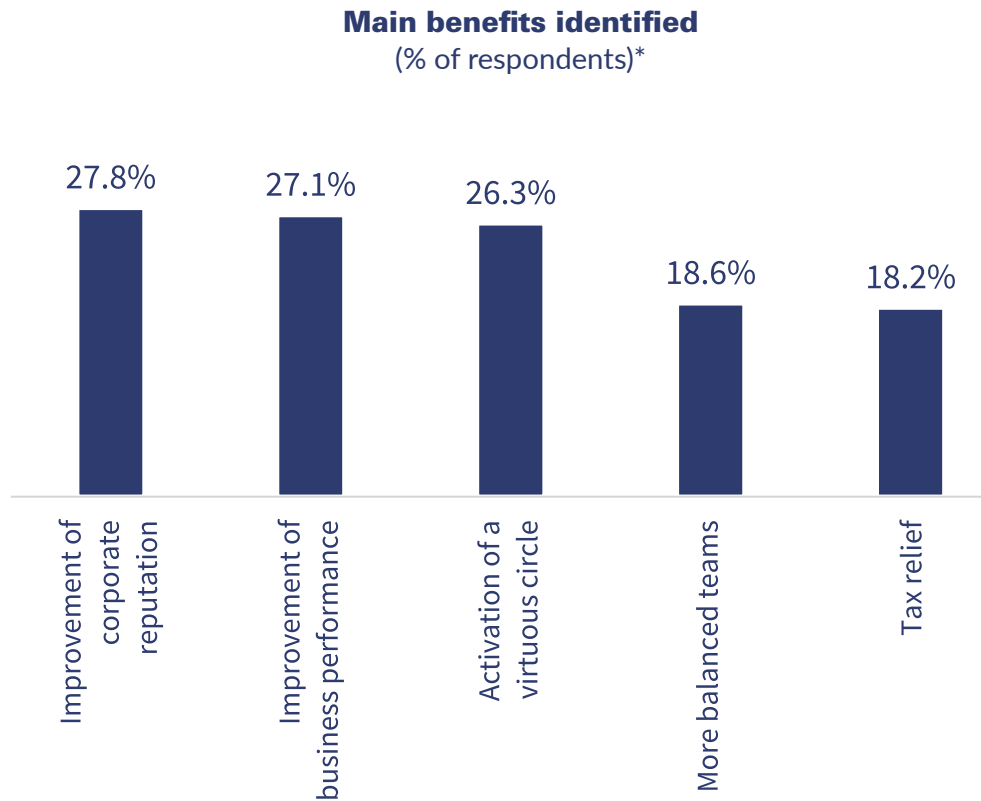


100% of activated initiatives involve **third-party entities** (institutions, schools, associations, universities, etc.)

N.B. The total sum of percentage values does not equal 100% because, as this was a multiple-choice question, companies were able to indicate more than one initiative implemented.

Source: The European House – Ambrosetti elaboration on corporate survey results, 2023

... experiencing several benefits and difficulties



Main difficulties encountered



- 1 Limited attractiveness of initiatives
- 2 Limited awareness of career opportunities and salary levels
- 3 Limited perception of the impacts generated
- 4 Lack of candidates with appropriate skills

(*) N.B. The total sum of the percentage values does not equal 100% because, since this was a multiple-choice question, firms were able to select more than one identified benefit.

Source: The European House – Ambrosetti elaboration on corporate survey results, 2023

Our corporate policy suggestions for the inclusion of women in the Twin Transition and their advancement in STEM



ATTRACTION AND RETENTION

- To intervene as closely as possible with young girls in schools to **demystify the scientific and digital world**
- To avoid gender-specific language, preferring **neutral and inclusive terms in STEM job postings**
- To strengthen **gender equity through hiring**



SKILL DEVELOPMENT

- To develop educational programs that **encourage girls from early stages of education to take an interest in STEM subjects**
- **Mentoring programs** that connect women working in the STEM field with female students and emerging professionals
- To invest in **digital training**



COMMUNICATION

- To offer a **common purpose and vision for women in STEM disciplines** (*e.g., the green narrative can be a strategic tool*)
- To communicate the **impact employees can have** on innovation
- To use **inclusive and non-discriminatory language**

To connect and ensure synergies between actors – both private and public – to identify new opportunities for **partnership** and **pooling of resources**, setting clear, common and measurable targets

Source: The European House – Ambrosetti elaboration on various sources, 2023

05

An overview of the policy best- practices in the corporate world

The logo for ABB, consisting of the letters 'ABB' in a bold, red, sans-serif font.The logo for Mondadori, featuring a red stylized 'M' symbol followed by the word 'MONDADORI' in a bold, black, serif font.The logo for Molitoria Umbra, featuring a stylized yellow 'U' symbol above the words 'Molitoria' and 'Umbra' in a blue serif font, with 'DAL 1959' in a smaller blue font below a horizontal line.The logo for BAT, featuring the letters 'BAT' in a bold, blue, sans-serif font, followed by a blue stylized wave or swoosh graphic.

PHILIP MORRIS ITALIA

The **advancement of Women's Empowerment** is a **primary goal** for each partner of the Observatory

The latter are among the **best-performing** companies with regard to the **policies and initiatives** implemented in the field of gender equality



Recognition and representation	Access to resources & knowledge	Successful employment	Quality of life
<ul style="list-style-type: none"> External partnerships (Valore D, Steamiamoci Assolombarda, Women & Technologies...) Adherence to the European Gender and Diversity KPI Alliance and monitoring dashboard for diversity KPIs 2030 D&I Strategy goal: <ul style="list-style-type: none"> – 50% of female hirings from Universities (vs. 40% in 2023) Break the bias training for employees 	<ul style="list-style-type: none"> Women in STEM initiatives and Career Days with major Italian Universities and Associations STEM initiatives in primary and secondary schools Entrepreneurship education/orientation for women with Junior Achievement Sustainable talent program for potential employees 	<ul style="list-style-type: none"> 2030 D&I Strategy goals: <ul style="list-style-type: none"> – 25% of women in leadership positions Pay equity programs Leadership development programs for female managers Female mentoring programs for employees Training program for Women’s Empowerment ABB4Equity: communication program involving internal female role models 	<ul style="list-style-type: none"> Flexible working Genderless parental leaves Internal policies against harassment (accountability for managers, inquiries, investigations...) Employee Assistance Program (free wellbeing caring system for employees and families) D&I networks open to employees D&I month dedicated to training/sharing in collaboration with partners

British American Tobacco (BAT)



Recognition and representation

- **Gender representation Dashboard & KPIs** (continuous monitoring of gender representation across talent areas): 45% of women in management roles
- **Mastering Inclusion** training
- **External partnerships and pledges** (e.g., Valore D, British Chamber of Commerce)
- **Bloomberg Gender Equality Index**

Access to resources & knowledge

- **Women in STEM** initiative: mix of external partnerships (e.g., WISE) and internal trainings
- Collaboration with **Universities** (e.g., Politecnico of Milano, Federico II University, LUISS University)
- **Cross-industry mentoring**

Successful employment

- **Women in Leadership** training program targeting female talents at mid-level management
- **Women in senior management Dashboard & KPIs:** 40% of women in top management
- **Equal Payment Certification** for BAT Italy

Quality of life

- **Parents @ BAT** to support parents and parenting (covering extended duration of paid parental leave, additional leave days, and support provided post parental leave)
- **Flexible working** (including 100% remote working for new parents)
- **Welfare platform** with specific services for parents
- **Online coaching classes & events** with external speakers
- **Standard of Business Conduct** (workplace of respect, anti-harassment)
- **Employee Assistance Program** (professional assistance supporting personal needs)

Source: The European House – Ambrosetti elaboration, 2023

Mondadori



Recognition and representation

- **Unconscious bias training**
- External **partnerships** (Valore D)
- Gender Equality Reporting
- Blind CVs and Inclusive language policy in **hiring process**
- Anti cultural stereotypes and inclusive language **training** for editors and teachers
- Gender Digital Editor to validate digital content

Access to resources & knowledge

- Millennial Editor Project
- **Partnerships** with Universities (Milano Bicocca, San Raffaele, Sissa)
- Nudge Global Impact Challenge

Successful employment

- **Goals:**
 - 33% of women among executives
 - 90% of employees involved in D&I events
- **Women Leadership** programme
- Policies to reduce the gender pay gap

Quality of life

- **Flexible and remote working** training
- **Parenthood Project:**
 - Manifesto of values
 - Toolkit (manager-employee preparatory check list; parental book; post-return counseling)
- **School orientation** services for employees' children
- **Counseling** for employees with relatives affected by cognitive degeneration
- **Anti-harassment** policy (in progress)
- **Mental health support programme**
- Welfare activities
- Recurring **surveys**

Philip Morris Italy



PHILIP MORRIS ITALIA

Recognition and representation	Access to resources & knowledge	Successful employment	Quality of life
<ul style="list-style-type: none"> • External partnerships (Valore D) • Top Employer Certification • 3 Employee Resource Groups (Women's Empowerment, Parents, LGBTQI+ Community) with budget allocation • Gender representation Dashboard & KPIs (continuous monitoring of gender representation across talent areas): 40% of women in management roles • Inclusive language toolkit • Unconscious bias training for employees & focus sessions for people managers 	<ul style="list-style-type: none"> • Women in STEM initiatives and Career Days with major Italian Universities and Associations • Institutional partnerships to promote STEM initiatives in Universities through Hackathon activities • Development review with Management & Development Guide • Life Long development learning platform (Udemy) • Talent and succession planning for key roles initiatives, with a focus on female talents 	<ul style="list-style-type: none"> • Gender Parity Certification (in progress) • Gender Equality Policy & Equal Salary certified since 2019 • 2 Leadership development programs: global one for senior female managers & local one for young female talent • Mentoring programs • Professional development initiatives with major institutions • Monitoring of retention and progression by gender • 6 months onboarding process 	<ul style="list-style-type: none"> • Flexible working & benefits package • Well-being Committee • Genderless parental leaves (min. 18 weeks for primary caregivers; min. 8 weeks for secondary ones) • Education webinars on parenting • Code of Conduct and policies against harassment • Employee Assistance Program • Meeting break policy and introduction of Viva Insights

Source: The European House – Ambrosetti elaboration, 2023



The implementation of such policies within the corporate world needs to occur in the context of a new-found **public-private partnership** in the field of Women's Empowerment

To ensure long-term success, governments must provide adequate **normative and regulatory frameworks** that will allow women to release their full potential in every aspect of their lives

06

The Observatory's final takeaways

The 5 takeaways of the Women's Empowerment Observatory

1

More and better data collection is an **absolute priority**. Because measuring progress means providing countries with a «**ready-to-use tool for improvement**» while giving a «**gentle push**»

2

Allocating government budgets specifically for **gender policies**, providing the necessary resources to implement initiatives, monitor progress, and communicate the commitment to address gender inequalities

3

Promoting and prioritizing work-life balance as a key tool to boost **female employment** and create a **more supportive and inclusive environment** for all parents and caregivers

4

Advancing the integration of women into sustainability-related decision-making processes is essential to promote a **faster, more effective and equitable transition to a sustainable future**

5

Supporting the incorporation of STEM education across all academic programmes (including humanistic studies) at every level of education, to provide students and workers with a **versatile skillset for the future**

Annex: Methodology of the Women's Empowerment Progress Index (1/3)

SELECTION OF INDICATORS

The criteria adopted to select indicators are both conceptual and qualitative. All the variables included needed to:

- Measure a relevant aspect of Women's Empowerment;
- Be objective, accessible and periodically collected by major international institutions, comparable over time;
- Focus on "results" (output) versus "efforts" (process or input);
- Have a data coverage of at least 60%;
- Comprehensive and easily interpretable.

By applying the above-mentioned criteria, **21 KPIs have been selected** for the calculation of the Index.

As a formal member of the G20, the Index includes among the countries also the **EU-27 aggregate**. In the case aggregate data was not readily available from the different sources used, the KPIs have been calculated as the average of the available data for each EU Member State. France, Germany, Italy and Spain have been included in the computation in order to identify the actual positioning of the European region in the ranking.

MANAGEMENT OF MISSING DATA

The data used to construct the Index comes from diverse data sources, mainly large databases such as OECD, ILOSTAT, and World Bank.

The selection of the sources of information has been guided by the **identification of relevant and significant KPIs**, evaluating – case by case – data availability, rather than the reverse. For this reason, in different cases, OECD has been preferred to alternative or secondary sources – e.g., World Bank.

To work with a complete dataset, the imputation of some missing values needed to be carried out, especially for some countries of the cluster (e.g., China, Saudi Arabia).

When data were missing, the imputation was performed using the **latest year available** or a **secondary source** with the same or similar definition of the indicator (cold deck imputation). In the first case, data older than 2012 has been considered outdated information and excluded. In these cases, data are reported missing.

Annex: Methodology of the Women's Empowerment Progress Index (2/3)

NORMALIZATION OF DATA

To normalize the data, **standardization** through z-score has been used and preferred to "min-max" normalization in order to provide a more accurate picture of the phenomenon (considering the differences lying among the different countries that make up the indicator).

The formula used is the following:
$$I_{q,c}^t = \frac{x_{q,c}^t - \bar{x}_q^t}{\sigma_q^t},$$
 where \bar{x}_q^t represents the arithmetic mean of KPI q and σ_q^t the standard deviation of KPI q .

To each indicator a direction, positive or negative, has been given according to the impact generated on Women's Empowerment.

WEIGHTING AND AGGREGATION

The different variables have been aggregated into 4 pillars, each made up of 5 KPIs with equal weight, and a fifth one, added as a "floor", consisting of the scores of the 2023 edition of the Women, Business and the Law Index.

In line with the methodology adopted which privileges "outputs" data rather than inputs, and in accordance with the Advisory Board, this pillar has been given a

lower weight, equal to 0,1, after different tests and after calculating the correlation of the arithmetic mean of the 4 pillars and the WBL column (which is high and positive).

1. Recognition & representation

0.225

2. Access to resources & knowledge

0.225

3. Successful employment

0.225

4. Quality of life

0.225

5. Women Business and the Law Index

0.100

Simple arithmetic averages of the underlying indicators have been used to aggregate the 4 pillars, while the Index overall has been calculated through a **weighted average**.

To obtain the final score of each country a **min-max approach** has been used, resulting in a scale that goes from 0 to 100, where 0 represents the lowest performance and 100 represents the best.

Annex: Methodology of the Women's Empowerment Progress Index (3/3)

CHARACTERISTICS OF THE INDEX

	Variables (KPIs)	Pillars
Imputation	Closest value Cold-deck imputation	No imputation
Aggregation	Arithmetic average	Weighted average
Normalization	Standardization	Min-max
Weighting	Equal	Different for Women, Business and the Law Index

At the state of the art, the Index gives back a relative score for each country rather than an absolute value. The final goal, also looking at the next editions of the Index, is to support the **definition of common targets** (hypothetic or derived from best-performing countries) **to use as a benchmark to evaluate absolute, rather than relative, performances** (e.g., positioning vs. the target of 50% of seats held by women in national parliaments, instead of the positioning of the country vs. the G20 average mean).

LOOKING AT THE NEXT EDITION: SOME POINTS OF ATTENTION

As presented in the section of this report dedicated to the composite Indexes, the Women's Empowerment Progress Index KPIs were revised and partially replaced with the ultimate goal of increasing data coverage, avoiding missing data for specific countries and increasing data consistency. The Observatory is committed to continuing and strengthening the process of **monitoring of missing values and management of outliers** in the next edition.

Annex: Methodology of the EU SheWorks Index (1/2)

SELECTION OF INDICATORS

The criteria adopted to select indicators are both conceptual and qualitative. All the variables included needed to:

- Measure a relevant aspect of women's participation to the workforce;
- Be objective, accessible and periodically collected by major EU and international institutions, comparable over time;
- Focus on "results" (output) versus "efforts" (process or input);
- Have a data coverage of at least 80%;
- Be comprehensive and of easy interpretation.

By applying the above-mentioned criteria, **20 KPIs have been selected** for the calculation of the Index.

The Index covers the **EU-27 plus United Kingdom**.

MANAGEMENT OF MISSING DATA

The data used to construct the Index comes from diverse data sources, mainly large databases such as Eurostat and OECD.

The selection of the sources of information has been guided by the **identification of relevant and significant KPIs**, evaluating – case by case – data availability, rather than the reverse. To work with a complete dataset, the imputation of some missing values needed to be carried out, especially for some countries of the cluster (e.g., UK).

When data were missing, the imputation was performed using the **latest year available** or a **secondary source** with the same or similar definition of the indicator (cold deck imputation). In the case of the UK, specific data – where not available on international databases – has been extracted from the Office for National Statistics, the UK's largest independent producer of official statistics and its recognized national statistical institute.

Annex: Methodology of the EU SheWorks Index (2/2)

NORMALIZATION OF DATA

To normalize the data, **standardization** through z-score has been used and preferred to “min-max” normalization in order to provide a more accurate picture of the phenomenon.

The formula used is the following:
$$I_{q,c}^t = \frac{x_{q,c}^t - \overline{x_q^t}}{\sigma_q^t},$$
 where $\overline{x_q^t}$ represents the arithmetic mean of KPI q and σ_q^t the standard deviation of KPI q .

To each indicator a direction, positive or negative, has been given according to the impact generated on Women’s participation and inclusion in the workforce.

WEIGHTING AND AGGREGATION

The different variables have been aggregated into 5 pillars, each made up of 4 KPIs with equal weight.

1. Access	2. Participation	3. Education & Training	4. Growth	5. Work-life balance
0.200	0.200	0.200	0.200	0.200

Simple arithmetic averages of the underlying indicators have been used to aggregate the 4 pillars, while the Index overall has been calculated through a **weighted average**.

To obtain the final score of each country a **min-max approach** has been used, resulting in a scale that goes from 0 to 100, where 0 represents the lowest performance and 100 represents the best.

CHARACTERISTICS OF THE INDEX

	Variables (KPIs)	Pillars
Imputation	Closest value Cold-deck imputation	No imputation
Aggregation	Arithmetic average	Weighted average
Normalization	Standardization	Min-max
Weighting	Equal	Equal

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