

Economic benefits of gender equality in the EU

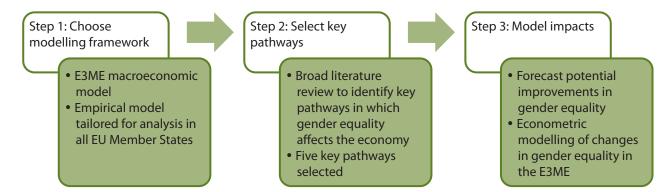
How the evidence was produced: the theoretical framework and model

The study on the economic benefits of gender equality is unique in the EU context. It is the first of its kind to use a robust econometric model to estimate a broad range of macroeconomic benefits of gender equality in several broad policy areas such as education, labour market activity and wages. It also considers the demographic consequences of such improvements. There is no previous

study that has attempted econometric modelling of such a broad range of impacts of gender equality in the EU.

The methodological approach of this study involved three key steps, as shown in Figure 1.

Figure 1. Key methodological steps



Step 1: Choosing the macroeconomic modelling framework

This study uses the E3ME macroeconomic model to estimate the economic impacts of improvements in gender equality. E3ME is an empirical macroeconomic model tailored specifically to model outcomes at EU and Member State levels. The model includes a detailed

representation of the labour market and captures interactions at sectoral and national levels.

The key features and limitations of the E3ME modelling framework are summarised in Figure 2 below.

Figure 2. E3ME modelling framework

E3ME macroeconomic model **Model features Model limitations** → Model based on empirical analysis → Limited level of detail (focus on of data rather than theoretical impacts evidenced at macroeco-E3ME is a macroeconometric assumptions nomic level) model of the global economy → Detailed coverage of the EU → Some simplification of labour covering separately each EU labour market (activity rates, market interactions Member State. It is a well-es-→ Reliance on traditional economic employment, wages) tablished model in the EU Detailed modelling of sectoral indicators (i.e. GDP) that do not context — for example, it is and national effects capture all impacts of gender used for the annual Cedefop → Rigorous modelling of policy equality skills projections. effects, including economic → Only considers data harmonised multipliers to capture indirect across EU Member States and policy effects available over long historical periods



Step 2: Selecting pathways through which gender equality impacts the economy

A range of possible pathways/outcomes (¹) through which gender equality can positively affect the economy were identified in an extensive literature review. The socioeconomic impacts of gender equality were then discussed with a forum of independent experts to select

impacts that could be modelled at macroeconomic level. In the end, four pathways and one outcome were selected based on three main criteria, as shown in Figure 3 below

Figure 3. Pathway selection

Pathways identified in literature review

- Labour market participation
- Education
- Gender pay gap
- Time use
- Business leadership
- Political leadership
- Violence against women
- Health
- Migration



Selection criteria

- Quantitative evidence of macroeconomic impacts
- Comparable historical data available for recent years
- High degree of gender inequality apparent

Modelled pathways

- Pathway 1: Close the gender gap in tertiary education
- Pathway 2: Close the gender gap in labour market activity
- Pathway 3: Close the gender pay gap
- Outcome 4: Demographic change due to the closing of gender gaps
- Pathway 5: Combined effects of pathways 1 to 4



Step 3: Modelling economic impacts of pathways

The first step was to develop a forecast of potential improvements in gender equality in labour market activity, education participation and wages. A forecast of demographic changes resulting from such improvements was also developed, reflecting evidence that higher gender equality tends to increase fertility rates.

These forecasts were based on a detailed analysis of potential impacts that could arise after adopting and implementing gender equality measures across the modelled pathways. The analysed pathways result in improvements to the situation of women compared to men, because they focus on areas where women face substantial disadvantages.

These forecasts were then put into the E3ME model to assess the wider socioeconomic impacts of gender equality on GDP, employment and other important economic

indicators. The forecasts were input separately for each pathway or outcome to allow an estimate of the socio-economic impacts of each individual pathway or outcome and to avoid double counting. The cumulative effects of combined pathways 1 to 3 and outcome 4 were also modelled to provide a comprehensive estimate of the economic impacts across all pathways and to analyse their possible interactions.

The impacts were estimated by comparing the future economic performance based on continued historical trends (baseline case) with scenarios that forecast improvements in gender equality. The assessment approach is described in more detail in Figure 4.

Figure 4. Approach to modelling the macroeconomic impacts of gender equality

| Modelled pathways | Pathway 1: Close the gender gap in tertiary education | Pathway 2: Close the gender gap in labour market activity | Pathway 3: Close the gender pay gap | Outcome 4: Demographic change due to lower gender gaps | Pathway 5: pathways 1 to 3 and outcome 4 combined |
|-------------------------------|--|--|--|---|--|
| Model inputs | More women graduating in STEM | Increase in labour supply of women | Increase in women's wages | Increase in fertility rate | Combined effects of all pathways |
| Macro- economic impacts | Improved workforce productivity Increased output and reduced prices Boost in competitiveness and increase in GDP | Increase in employment Increase in output Boost in competitiveness and increase in GDP Decrease in wages Potentional rise in unemployment if wage decrease small | Reallocation of resources from businesses to households Increase in consumption by households Increase mitigated by businesses increasing prices | Higher consumption due to additional infants (short term) Higher labour supply (long term) Similar impact to pathway 2 in the long term | Combined impact of pathways 1 to 3 and outcome 4 |
| Impact estimation | 2. Modelling sce | narios: Estimate econo | omic performance in o | case of improvements i | n gender equality |



About the study

The study on the 'economic benefits of gender equality' is unique in the EU context. It is the first of its kind to use a robust econometric model to estimate a broad range of macroeconomic benefits of gender equality in several broad areas such as education, labour market activity and wages.

The overall results of the study show that more gender equality would lead to:

- between 6.3 million and 10.5 million additional jobs in 2050, with about 70 % of these jobs taken by women;
- positive GDP impacts that grow over time;
- an increase in GDP per capita of up to nearly 10 % in 2050.

The study used the E3ME macroeconomic model to estimate the economic impacts of improvements in gender equality. E3ME is an empirical macroeconomic model tailored specifically to model outcomes at EU and Member State levels.

The outputs of the study on economic benefits of gender equality in the EU include nine publications:

- 1. Literature review: existing evidence on the social and economic benefits of gender equality and methodological approaches.
- 2. EU and EU Member State overviews.
- 3. Report on the empirical application of the model.
- 4. How the evidence was produced: briefing paper on the theoretical framework and model.
- 5. How the evidence was produced: factsheet on the theoretical framework and model.
- 6. Economic impacts of gender equality in the EU policy context: briefing paper.
- 7. Economic impacts of gender equality: briefing paper.
- 8. How gender equality in STEM education leads to economic growth: briefing paper.
- 9. How closing the gender labour market activity and pay gaps leads to economic growth: briefing paper.

All publications, detailed study results and methodology can be found on EIGE's website: http://eige.europa.eu

The European Institute for Gender Equality (EIGE) is the EU knowledge centre on gender equality. EIGE supports policymakers and all relevant institutions in their efforts to make equality between women and men a reality for all Europeans by providing them with specific expertise and comparable and reliable data on gender equality in Europe.

More information:

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