

models offers a comprehensive and reliable framework for evaluating financial stability and supports the design of sustainable and resilient economic policies.

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GENDER DIMENSIONS OF HUMAN CAPITAL REPRODUCTION IN UKRAINE: ANALYSIS OF KEY CHANGES IN THE EU GEI METHODOLOGY

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Under the modern conditions of global economic transformation and the specific challenges of Ukraine's post-war recovery, the issue of gender disparities in human capital reproduction has become particularly acute. Human capital, as a complex of knowledge, skills, health, and motivations, is formed and reproduced under the influence of the institutional environment, which often contains latent gender barriers.

The Gender Equality Index (GEI), developed by the European Institute for Gender Equality (EIGE), has established itself not merely as a statistical tool, but as a fundamental indicator of the quality of human capital reproduction. Its purpose extends far beyond the simple recording of gaps; it serves as an instrumental basis for evidence-based

policymaking and monitoring the effectiveness of socio-economic reforms aimed at maximizing the country's labour potential. The Index covers six domains, each reflecting a critical sphere of an individual's life: work, money, knowledge, time, power, and health. Additionally, the sphere of violence is integrated as a separate satellite domain, directly correlating with fundamental human rights. Each domain is divided into sub-domains – groups of indices that assess gender gaps based on 31 primary indicators [1].

Today, the Index is the cornerstone of gender policy monitoring for the 27 EU Member States. Between 2010 and 2023, the average European score demonstrated steady positive dynamics, rising from 63.1 to 70.2 points, reflecting the systematic nature of EU efforts to overcome inequality [2].

The year 2025 became a landmark stage for the domestic scientific and managerial space: Ukraine, for the first time, independently conducted a full cycle of GEI calculation using the original EIGE methodology. Despite the severe restrictions of martial law, the expert group managed to ensure high data quality, collecting 30 out of 31 indicators, which allowed for the full integration of the Ukrainian context into the pan-European analytical landscape [3].

Empirical results showed that in 2023, the integral Index score for Ukraine was 61.4 points (compared to the EU average of 70.2). This indicates the realism of Ukraine's European integration progress, as its gender equality level ranks conditionally 20th among EU countries, surpassing eight states: Croatia, Cyprus, Estonia, Slovakia, Greece, the Czech Republic, Hungary, and Romania. A detailed analysis of the domains characterizing the quality and conditions of human capital reproduction revealed a specific configuration of gaps: while in the "Work" (65.6 vs. 63.8 points) and "Time" (78.1 vs. 68.5 points) domains Ukraine demonstrates a formal advantage, the "Money" (76.6 vs. 82.6 points) and "Knowledge" (55.0 vs. 63.6 points) domains show a significant lag that requires the development of targeted institutional correction mechanisms [4].

Since the inception of the GEI, its calculation methodology has been periodically revised, which is standard practice in the lifecycle of complex indicators. In 2025, the Index underwent its most significant methodological transformation since its creation in 2013, driven by the need to adapt measurement tools to new social realities: digital transformation, the impact of global crises, and a paradigm shift in the care sector. The availability of new and improved data sources provided an additional impetus for refinement.

For Ukraine, which is actively implementing European standards, understanding and implementing the updated methodology is not only a technical issue of statistics but also a political priority. It creates new analytical opportunities for researching the socio-economic dimensions of capital reproduction and developing institutional mechanisms for their correction in the post-war period. It should be noted that although all GEI components underwent methodological improvements, the "Power" and "Health" domains are deliberately excluded from this analysis due to their distinct nature of influence on the formation of economic potential.

Let us consider in more detail the key changes within the four domains ("Work", "Money", "Knowledge", and "Time") that are decisive for the formation and reproduction of human capital (while the "Power" and "Health" domains are excluded

from this analysis due to their distinct nature of influence on an individual's economic resilience) [5]:

- The update of the "Work" domain occurred by replacing three key indicators to ensure the relevance and comparability of data in the context of EU 2030 strategies. Specifically, the horizontal occupational segregation indicator was changed to the share of ICT specialists, aligning with Digital Decade priorities to bridge the gender gap in the technology sector. For Ukraine, this is of strategic importance, as the digital sphere is a key tool for human capital flexibility (remote work, employment of IDPs) under war conditions. Furthermore, due to the methodological instability of the European Working Conditions Survey (EWCS) and the European Foundation for the Improvement of Living and Working Conditions (Eurofound), indicators for leave entitlements and the Career Prospects Index were replaced by measurements of the share of women and men in senior management (vertical segregation) and the share of low-wage earners. These changes allow for a more accurate assessment of access to leadership and economic security, aligning with new EU directives on Pay Transparency and Gender Balance on Boards.

- The update of the "Money" domain is aimed at overcoming dependence on household-level data, which often masked women's individual financial vulnerability. A significant step was the shift in the data source for income from the Structure of Earnings Survey (SES), available every 5-6 years, to the annual median earnings indicator from the Statistics on Income and Living Conditions (EU-SILC) survey, enabling real-time monitoring of the Pay Transparency Directive implementation. For a deeper analysis of intra-family inequality, an indicator of earnings as a percentage of the partner's income was introduced, revealing the degree of economic dependence in couples, as well as the poverty level for single-adult households. Together with the gender pension gap indicator, these changes ensure the domain's alignment with Principle 15 of the European Pillar of Social Rights and the Gender Equality Strategy, shifting the focus to real bargaining power and economic independence throughout an individual's life.

- The update of the "Knowledge" domain reflects the EU strategic priority of ensuring inclusive and high-quality education as the foundation for gender equality. A key change was the shift to analyzing graduate indicators in narrower age groups (30–34 years for tertiary education and 25–34 years for vocational training), allowing for a more accurate assessment of modern educational outcomes and their impact on youth entry into the labour market. Instead of a general adult learning participation indicator, which had low variability, monitoring of Initial Vocational Education and Training (VET) was introduced. Furthermore, segregation measurement was improved by moving from "enrollment" analysis to "graduate" analysis, alongside the introduction of a new indicator for STEM graduates. This allows for a balanced assessment of efforts to overcome stereotypes in traditionally female and male fields of study, aligning with the Digital Education Action Plan and the European Skills Agenda.

- The update of the "Time" domain is aimed at addressing outdated data and the lack of detail regarding unpaid labour. Through the implementation of EIGE's own CARE survey, the Index shifted to more precise monitoring of care intensity, for the first time separating childcare from long-term care for adults. This allows for a deeper

analysis of "time pressure" that limits women's economic opportunities and aligns with the Work–Life Balance Directive and the European Care Strategy. In the social activities sub-domain, the focus shifted from employed persons to the entire adult population, enabling an assessment of gender gaps in access to leisure, culture, and volunteering. This approach emphasizes that the equal distribution of time is not just a matter of domestic life but the basis for personal development and active citizenship, as envisioned by the European Pillar of Social Rights.

The methodological update of the Index also involves a change in the calculation formula: a transition to a simplified and more intuitive formula for calculating gender gaps and a change in the evaluation scale. Consequently, to ensure statistical accuracy and comparability of results, the entire time series of data was reconstructed using the new methodology. Accordingly, this requires a recalculation of Ukraine's previous indicators for a correct comparison of its progress with EU Member States within a unified statistical field.

The implementation of the updated GEI methodology in Ukraine will undoubtedly face serious challenges: martial law, large-scale migration processes, and a deficit of specific data (regarding work-life balance or pension details). However, it is precisely this updated toolkit, with its focus on digitalization and social vulnerability, that allows for the most accurate assessment of the state of preservation and development of human capital under crisis conditions. The transformation of the Index reflects a shift from quantitative statistics to a qualitative analysis of real opportunities and individual life trajectories. For Ukraine, the adaptation of these indicators creates a "window of opportunity" not only for modernizing gender statistics but also for forming evidence-based social policy aimed at restoring economic potential and ensuring the inclusive development of every citizen.

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