



LeTSGEPs

Deliverable 2.3

RPO's GA&GB Methodology Report

Due date: M10 (October 2020)

Actual submission date: 13/11/2020

Project start date: January 1st, 2020 - Duration: 48 months

Work package concerned: WP2

Concerned work package leader: UNIMORE

Task leader: UNIMORE

Dissemination level: CO: Confidential, only for members of the consortium (including the Commission Services)

This is a draft version
that has not been
officially approved by the EU yet.



This project received funding from the European Union's Horizon 2020 Research and Innovation program under Grant Agreement n° 873072

List of abbreviations and acronyms

Acronym	
F/M	Females/Males
GA	Gender Auditing
GB	Gender Budgeting
GE	Gender Equality
GEP	Gender Equality Plan
NGO	Non-Governmental Organization
RPO	Research Performing Organisation
WBGB	Well Being Gender Budgets

Document review history

Date	Author	Feedback/Review	Version
27/10/2020	Giovanna Badalassi (UNIMORE)	UNIMORE team	D2.3_v1
01/11/2020	Giovanna Badalassi (UNIMORE)		D2.3_v2
02/11/2020	Giovanna Badalassi (UNIMORE)	RWTH and CY	D2.3_v3
09/11/2020	Giovanna Badalassi (UNIMORE)		D2.3_v4
09/11/2020	Giovanna Badalassi (UNIMORE)	LeTSGEPs partners	D2.3_v5
13/11/2020	Giovanna Badalassi (UNIMORE)		D2.3_v6 (final)

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Presentation

Gender Equality Plans (GEPs) allow to develop a strategic approach to gender equality and they have achieved a growing interest in RPOs in recent years.

The European Union has increased its political commitment to GEPs to the point that starting with the next R+D Framework Programme, Horizon Europe (2021-2027), the plan is to make GEPs mandatory for all public institutions as eligible criteria to participate. Such European interest in GEPs has also led to an important effort at technical level. The methodology to implement GEPs in RPOs, in fact, was provided by EIGE, the European Institute for Gender Equality, in 2016, when the GEAR Tool, Gender Equality in Research and Academia, was released. Since then, in order to experiment a transformative change in RPOs within this general framework, a number of European projects have been funded with the Horizon 2020 Programme and have allowed to put GEPs into practice.

One of these projects, LeTSGEPs, to which this report belongs, aims at developing a specific part of the GEAR Tool, where it recommends the use of Gender Budgeting (GB) as one of the GEPs' methods. GB, like GEPs, also develops a strategic approach to gender equality, but focuses on the economic and monetary perspective as a key factor enabling effective gender equality implementation.

The history of GB dates back about 40 years, since the first experimentations at national level in Australia. It has been developed through this period in many fields, in national, regional, municipal institutions, in NGOs, other public entities and, in the last years, also within the Research Institutions.

So far, GB and GEPs have therefore developed separately, in different times, different fields of action, at different levels of public institutions, and with a different point of view for the same gender equality objective. Despite this, they share many steps of their process of analysis and mutually enrich with different kinds of perspectives that contribute to strengthen the strategic approach to gender equality.

This report therefore aims at integrating GEPs and GB methodologies within RPOs, taking into account the different starting points related to 1) RPOs that are already engaged in GEPs and to 2) RPOs that approach a GEP strategy for the first time. For this reason, trying to deal with different levels of gender issues awareness and of RPO's GEP implementation the report has been structured in four parts:

- 1) Introduction to Gender Equality.
- 2) Introduction to Gender Budgeting.
- 3) How to develop a Gender Budgeting Process.
- 4) How to develop a Gender Auditing Report preliminary to the Gender budgeting process.

1: Introduction to gender equality

This Gender Audit and Budgeting Methodology Report has been created to support RPOs in Gender Budgeting experimentations within their institutions.

Since Gender Budgeting (GB) is an accounting and assessing process which requires the participation of many stakeholders from different cultural, professional and generational backgrounds, the team assigned to develop it may face the problem of matching people with different levels of gender issues' awareness and training.

To reach a minimum level of shared knowledge on gender perspective, chapter 1 offers a synthetic but whole comprehensive overview of what gender equality is, starting with the meaning of terms like "gender", "gender equality", "mainstreaming", "gender stereotypes", passing through a short presentation of the historical milestones of gender equality, and then ending with a specific focus on the EU strategic engagement on gender equality.

1.1 Gender equality issues

What is gender? According to the definition of EIGE (2020):

"...Gender refers to the social attributes and opportunities associated with being male and female and the relationships between women and men and girls and boys, as well as the relations between women and those between men. These attributes, opportunities and relationships are socially constructed and are learned through socialization processes. They are context/time-specific and changeable. Gender determines what is expected, allowed and valued in a woman or a man in a given context. In most societies there are differences and inequalities between women and men in responsibilities assigned, activities undertaken, access to and control over resources, as well as decision-making opportunities. Gender is part of the broader socio-cultural context..." (EIGE, 2020, p.1).

The WHO definition also adds the concept of **gender intersectionality**:

"....Gender is hierarchical and produces inequalities that intersect with other social and economic inequalities. Gender-based discrimination intersects with other factors of discrimination, such as ethnicity, socioeconomic status, disability, age, geographic location, gender identity and sexual orientation, among others. This is referred to as intersectionality...." (WHO, 2020, p.1).

Despite progress in women's emancipation, gender differences are still very strong in our society and economy, arising from the history of society that assigns different roles and responsibilities to men and women.

Since ancient ages, and due to a very segregated and rigid distribution of tasks, men have been committed to **production** and paid activities, while

women have been devoted to reproductive functions. Such original distribution of different roles within society and economy has developed different families' educational patterns, shaping different expectations on how men and women are due to behave in private, public and professional life, and defining very strict gender stereotypes that still nowadays persist and are the reason and the explanation for gender inequalities and discriminations.

According to the EIGE definition,

"...Gender stereotypes are (in fact) preconceived ideas whereby males and females are arbitrarily assigned characteristics and roles determined and limited by their sex. Sex stereotyping can limit the development of the natural talents and abilities of boys and girls, women and men, their educational and professional experiences as well as life opportunities in general. Stereotypes about women both result from and are the cause of deeply ingrained attitudes, values, norms and prejudices against women. They are used to justify and maintain the historical relations of power of men over women as well as sexist attitudes which are holding back the advancement of women..." (EIGE, 2020, p.1).

Gender stereotypes almost always lead to **Gender bias**, that may be described as:

"... Prejudiced actions or thoughts based on gender-based perceptions that women are not equal to men ..." (EIGE, 2020, p.1).

The development of a growing awareness on human rights and specifically on women's rights throughout history, especially in the last decades, has led many countries to develop policies aimed at promoting gender equality (see paragraph 1.4).

The definition of **Gender Equality**, therefore

"...refers to the equal rights, responsibilities and opportunities of women and men and girls and boys. Equality does not mean that women and men will become the same but that women's and men's rights, responsibilities and opportunities will not depend on whether they are born male or female. Gender equality implies that the interests, needs and priorities of both women and men are taken into consideration, recognizing the diversity of different groups of women and men. Gender equality is not a women's issue but should concern and fully engage men as well as women. Equality between women and men is seen both as a human rights issue and as a precondition for, and indicator of, sustainable people-centred development..." (EIGE, 2020, p.1).

Gender equality has been promoted for many years by policies intervening on topics directly related to women. Starting from 1995, after the IV World Conference on Women and its Beijing Platform for action (see par. 1.4), a new political approach has also been adopted, Gender mainstreaming, in order

to improve the effectiveness and efficacy of gender related policies.

Gender mainstreaming may be described as:

“...The systematic consideration of the differences between the conditions, situations and needs of women and men in all Community policies and actions. Gender mainstreaming is the (re)organisation, improvement, development and evaluation of policy processes, so that a gender equality perspective is incorporated in all policies at all levels and all stages, by the actors normally involved in policy-making. Mainstreaming a gender perspective is the process of assessing the implications for women and men of any planned action, including legislation, policies or programs, in all areas and at all levels. It is a way to make women’s as well as men’s concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programs in all political, economic and societal spheres so that women and men benefit equally and inequality is not perpetuated. The ultimate goal is to achieve gender equality....” (EIGE, 2020, p.1).

As better described with an in-depth analysis in chapter 2, Gender Budgeting represents a technical analysis’ approach to implement gender mainstreaming in the public institutions’ budgetary process.

While gender mainstreaming assessment tools analyse policies and budgets that take evidence only through resources and means, a wider and whole-comprehensive approach has been experimented in recent years thanks to the **Sen’s Capability approach to gender policies and gender budgets**, in order to include also the evaluation of unpaid housework and caring for people in gender inequalities within a multidimensional perspective on men and women’s lives (see par. 2.1).

1.2: Gender stereotypes

Gender stereotypes refer to social norms that affect both men and women's lives under every point of view. Although they may change according to different cultures and ages, there are some fundamental gender discriminations that arise everywhere from the women's role in reproductive and domestic work and men's role in productive work. Such stereotypes have a significant impact on gender discriminations in general terms and are also reflected in the education and research field.

The more recent and thorough qualitative research on the perception of gender stereotypes in 27 EU countries (EIGE, 2013) has confirmed that in the EU, despite significant progress, some traditional gender values are still standing both in social norms and individual normative positions, like, for example:

Personal Traits:

"...women are emotional, warm and kind, interest in children, sensitive, friendly, clean, attention to appearances, patient, gentle, understanding, and devoted... men are assertive, controlling, active, competitive, independent, self-confident, athletic, business-minded, ambitious, decisive, capable of leadership, rational, aggressive, and willing to take risks..." (EIGE, 2013, p.33).

Behaviour: women are

"...expected to behave politely, modestly, caring, delicately and in a socially apt way... may demonstrate their fragility and weaknesses... Men, on the other hand, may behave more robustly, directly, at times confrontational. In professional contexts, men are said to be goal-focussed and to speak in court sentences (as opposed to women notably)" (EIGE, 2013, p.36).

Societal roles:

"... Motherhood and being 'a good wife' are still seen by many as women's main contribution to and role in society, and thus as their main or even only expected goal in life... Men are expected to be the ones who provide for their families' material needs and... are typically seen as occupying the positions of authority, or are expected to take up the leadership role..." (EIGE, 2013, p.40).

Skills and aptitudes:

"...Men are believed to be 'naturally' more knowledgeable of and interested in technical matters than women, and thus can solve technical problems.....women tend to be regarded as less competent ..and have a 'natural' ability for caring, especially for children.... resulting in (horizontal) gender segregation both in educational institutions and in the workplace..." (EIGE, 2013, p.49).

Effects on studies/in the educational sphere:

"...gender stereotypes influence people's educational choices, both in terms of orientation and in terms of length of studies. Gender stereotypes also affect teachers' and professors' assessment of students.... there is a common perception ... that certain studies and professions are more appropriate for women and others for men...For women it is generally expected that they chose a study in the social sphere... For men it is expected that they study scientific subjects..." (EIGE, 2013, p.79).

Effects at work:

"... people tend to associate certain professions with women, and others with men. These associations tend to be connected to the prescriptive character of gender stereotypes... these situations may be discriminating for both sexes.... some job opportunities... seem to be out of reach to female respondents. They seem to be restrained or even discriminated by employers due to their gender role of 'main caregivers' and 'mothers'. Leadership positions are considered typically male... men are typically regarded as the ones in charge... men are considered to be more rational whereas women are thought to be more emotional..." (EIGE, 2013, p.84).

Table 1: Gender Stereotypes in EU

What Europeans have to say about gender stereotypes			
Some europeans think that (% agree)...	TOTAL	Men	Women
It is acceptable for men to cry	88%		
The most important role of a women is to take care of her home and family	44%	43%	44%
The most important role of a man is to earn money	43%	47%	41%
Women are more likely than men to make decisions based on their emotions	69%	67%	71%
Europeans approve of a man..	TOTAL	Men	Women
Doing an equal share of household activities	84%	80%	87%
Taking parental leave to take care of his children	84%	81%	87%
Reproaching his friends for making a sexist joke	50%	43%	55%
Identifying himself as a feminist	41%	35%	44%

At quantitative level, some gender stereotypes have been investigated on the European population (European Commission, 2017), discovering that still nowadays 44% of Europeans think that the most important role of a woman is to take care of her home and family (43% of men and 44% of women), while 43% think that the most important role of a man is to earn money (47% of men and 41% of women).

Source: European Commission (2017). Gender Equality 2017
Gender Equality, Stereotypes and Women in Politics, p.4

As for the emotional sphere, 69% of Europeans believe that women are more likely than men to make decisions based on their emotions (67% of men and 71% of women) and 88% of them think that it is acceptable for men to cry.

As for social behaviour, 84% of Europeans approve of a man doing an equal share of household activities (more women, 87%, than men, 80%) and 84% agree with a man taking parental leave to take care of his children (87% women, 81% men). Less appreciated are men reproaching their friends for making sexist jobs, 50% (55% women and 43% men) of men identifying themselves as feminist, 41% (44% women and 35% men). Such general average, obviously, balances wide differences among European countries, generations and cultures.

Gender stereotypes are so strong and pervasive that they influence also the RPOs – Research Performing Organizations – and the **research fields**. Science for example is highly gender segregated, as figures confirm statistically at paragraph 1.3, since it suffers prejudices concerning women's aptitudes and skills on maths, science and any other issue concerning technology and numbers. Such segregation has been explained by multiple causes like family, social patterns, school, etc., but at the origin of all of them there is an unconscious and implicit bias. Science, in fact, has been for centuries a field of knowledge restricted to men, while only in recent times women have had access to education in general terms and to research specifically: there is still a strong and deep-rooted cultural influence which also affects scientists. Gender stereotypes influencing gender discrimination and hampering the careers of women researchers have been also demonstrated at unconscious level.

In any field of research

"... most scientists, whether male or female, associate "science" and "masculine" in their semantic memory (the memory of concepts and words). This stereotype is implicit, which is to say that most often it is not detectable at the level of discourse. And it is equivalent to that observed among the general population..." (Régner et al, 2019, p.1).

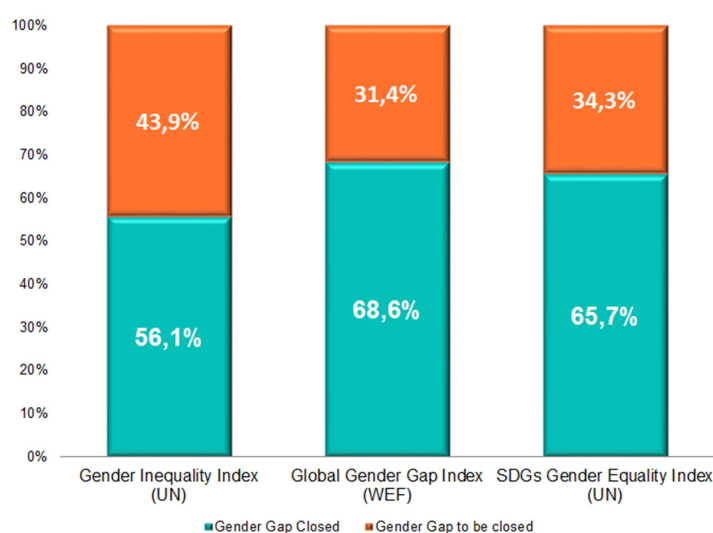
"... Such gender stereotypes influence research evaluation committees (about half of them) and are stronger when the existence or bias against women is denied or minimised.... In contrast, when committees acknowledge the possibility of bias, implicit stereotypes however strong they may be, have no influence." (Régner et al, 2019, p.1).

1.3: Gender equality figures in the world and in the EU

Gender inequality arises from historical, social and cultural reasons. However, the worldwide process of women's empowerment is slowly, but steadily overcoming it, according to the main indexes that assess such progress every year. In Figure 1 we report the value of gender equality indexes as measured by different agencies and according to different variables.

Figure 1: Gender equality indexes at global level

As shown in Figure the full **level of gender equality at global level**, the United Nations Gender Inequality Index¹ scores 56,1% (2018), the Global Gender Gap Report² indicates 68,6% (2020), the SDGs Gender Equality Index³ points at 65,7% (2019).



Source: Gender Inequality Index (UNDP, 2019), The Global Gender Gap Report (WEF, 2020), SDGs Gender Equality Index (Equal Measures 2030, 2019)

Europe is always among the regions with highest indexes in the world: 72,4% for Europe and Central Asia in the Gender Inequality Index, 76,7% for Western Europe according to the Global Gender Gap Index, 79,1% for Europe and North America in the SDGs Gender Equality Index.

Focusing on European Union countries only, the EIGE Gender Equality Index scores gender Equality at 67,9% (EIGE, 2020).

According to the Global Gender Gap Index (WEF, 2020, p.6), at the current pace the world could reach the **full gender equality within 99,5 years**, Western

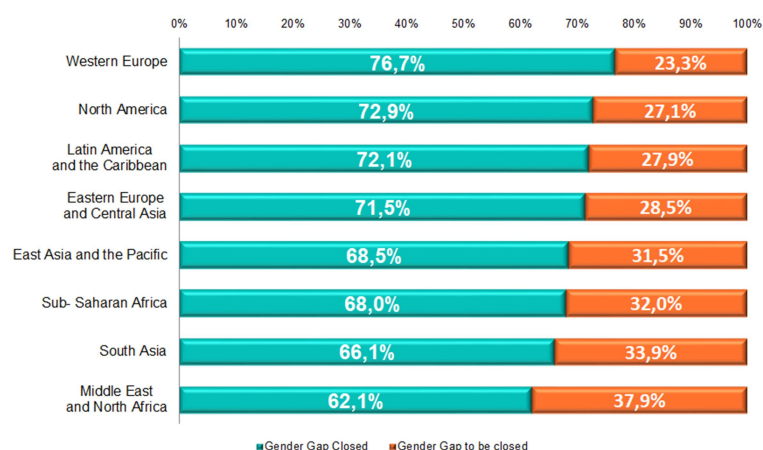
¹ UNDP, 2019 “..The GII is an inequality index. It measures gender inequalities (for 162 countries) in three important aspects of human development—reproductive health, measured by maternal mortality ratio and adolescent birth rates; empowerment, measured by proportion of parliamentary seats occupied by females and proportion of adult females and males aged 25 years and older with at least some secondary education; and economic status, expressed as labour market participation and measured by labour force participation rate of female and male populations aged 15 years and older...”(UNDP, 2019, pp.316-319)

² WEF (2020) “..The Global Gender Gap Index examines (each year since 2006) the gap between men and women (across 153 countries and 14 indicators classified in) four fundamental categories (subindexes): Economic Participation and Opportunity, Educational Attainment, Health and Survival, and Political Empowerment...” (WEF, 2020, p.5)

³ Equal Measures 2030 (2019) “The 2019 EM2030 SDG Gender Index includes 51 indicators across 14 of the 17 official Sustainable Development Goals (SDGs) and covers 129 countries across all regions of the world. Each goal in the index is covered by three to five indicators (see Figure 1). The indicators are both those that are gender-specific and those that are not, but nonetheless have a disproportionate effect on girls and women.” (Equal Measures 2030, 2019, p.10)

Europe in 54,4 years, in 59 years in Latin America and the Caribbean, in 71 and a half years in South Asia, in 95 years in Sub-Saharan Africa, in 107 years in Eastern Europe and Central Asia, in 140 years in the Middle East and North Africa, in 151 years in North America and in 163 years in East Asia and the Pacific.

Figure 2: Global Gender Gap Index by region



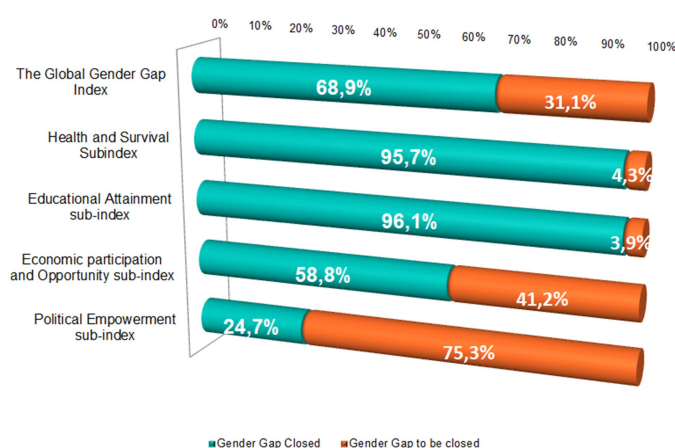
With a gender gap closed at 76,7%, Western Europe is the area to have achieved the best results in the world.

Source: Global Gender Gap Report, 2020 (WEF, 2020, p.6)

Considering the four **sub-indexes of the Global Gender Gap Report 2020**, referred to in Figure 3, the gender gap is almost closed at world-wide level in the areas providing for some kind of reproduction and caring activity like:

Figure 3: Global Gender Gap Index by sub-index

Health and Survival (closed at 95,7%) and Educational attainment (96,1%), while areas closer to activities concerning production still reveal a longer way to reach gender equality: the gap has closed only for 57,8% in the Economic Participation and Opportunity sub-index and for 24,7% for Political Empowerment sub-index.



Source: Global Gender Gap Report, 2020 (WEF, 2020, p.6)

In order to describe **Gender Equality in European Union** one can refer to the main indicators in European Commission (2020a, pp. 3-14):

Table 2: Main indicators of Gender Equality in the European Union:

Household work	<ul style="list-style-type: none"> >> 22 hours spent per week by women vs 9 hours spent by men. >> 80% of care provided by informal carers. 75% of them are women.
Gender Gap in the Labour Market	<ul style="list-style-type: none"> >> 11,6% the difference between women's and men's employment rate in EU. >> Women are 10% of construction workers, 25% of agriculture, forestry, fishing and transportation workers. >> Men are 25% of workers in education and 20% of workers in human health and social activities.
Gender segregation in education and work	<ul style="list-style-type: none"> >> In OECD countries 1 in 4 high-performing male students in STEM expect a career as engineer or scientist compared to 1 in 6 females. >> 1 in 3 girls expect to work as health professionals compared to 1 in 8 boys. >> the share of men working in the digital sector is 3,1 times greater than women's. >> only 22% of AI programmers are women.
Gender Pay Gap	<ul style="list-style-type: none"> >> 15,7% Gender pay Gap in EU. >> 30,1% Gender pension Gap in the EU.
Gender Gap in decision making and policies	<ul style="list-style-type: none"> >> women are 7,5% of board Chairs and 7,7% of CEOs in the EU's largest listed companies. >> 32,2% of members of national parliaments in the EU are women.
Violence against women	<ul style="list-style-type: none"> >> 33% of women in the EU have experienced physical and/or sexual violence. >> 22% of women in the EU have experienced violence by an intimate partner. >> 55% of women in the EU have been sexually harassed.

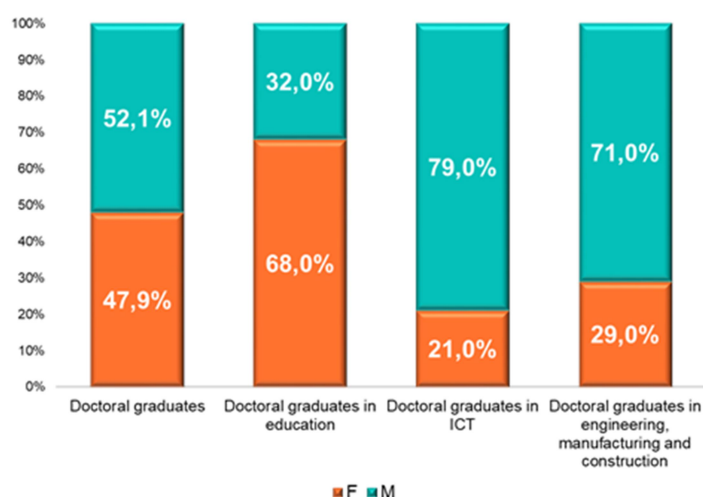
Source: European Commission (2020a, pp.3-14). A Union of Equality: Gender Equality Strategy 2020-2025.

Research and Academia also reflect the same gender stereotypes and inequalities that may be recognized at a general level, thus evidencing gender gaps in researchers' work, career, pay, education segregation, decision making and political process. It has also been demonstrated that, in research and Academia, caring responsibilities represent a barrier mainly in women's careers (Moreau *et al.*, 2017, pp. 1-35), while also sexual harassment among university teachers has been documented (Muhonen, 2016).

Main indicators describing the gender inequality in Research and Academia are gathered in the **She Figures Report** (European Commission, 2019) that represents the widest analysis on this topic at European level.

According to the report, with a slow but constant progress in recent years, women have reached the 47,9% of the **doctoral graduates** at EU level in 2016, with a progressive growth among all EU countries but with still an horizontal segregation as for the different fields of education.

Figure 4: Doctoral Graduates in EU by sex

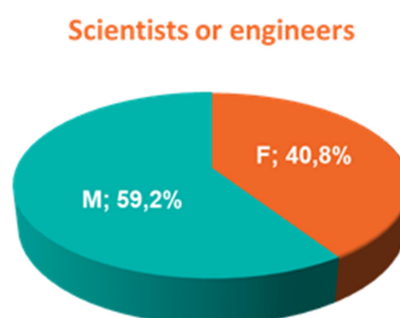


Women were the 68% of doctoral graduates in education, the 21% in ICT and the 29% in engineering, manufacturing, and construction.

Source: European Commission (2019, p.6). She Figures 2018

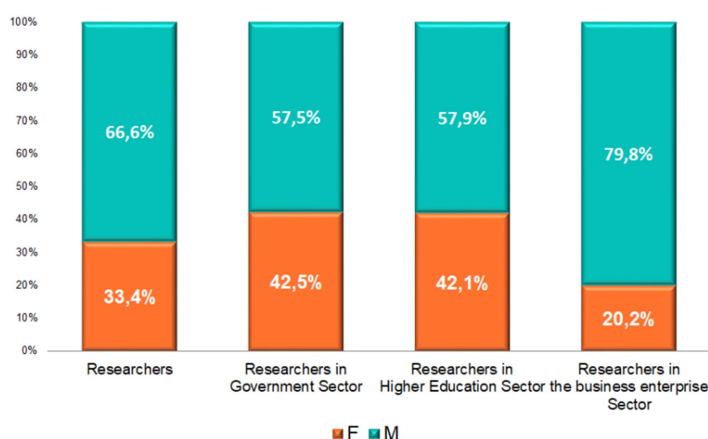
Figure 5: Scientists or engineers in EU by sex

The presence of tertiary educated women in **Science and Technology occupations (S&T)** as “professionals and technicians” in the EU reached 53,1% in 2017, but were only the 40,8% of people employed as scientists or engineers, even if the rate is increasing over the years.



Source: European Commission (2019, p.6). She Figures 2018

Figure 6: Researchers in EU by sex



Focusing on **researchers**, in 2015 women represented only the 33,4% of researchers in EU and were mainly concentrated in the government sector (42,5%) and in the higher education sector (42,1 %), while their presence in the business enterprise sector was only of the 20,2 % of the total number of researchers.

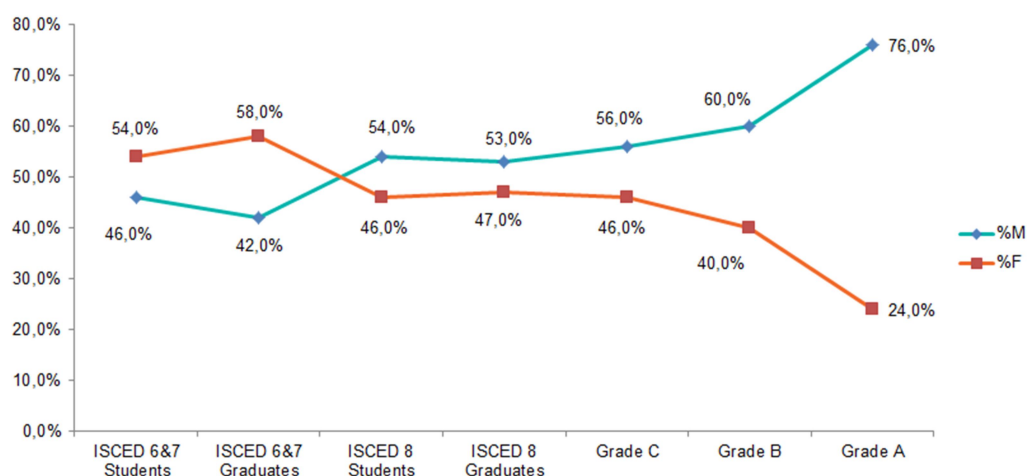
Source: European Commission (2019, p.6). She Figures 2018

The growth of the number of women among researchers, however, has been constant between 2008 and 2015 in every sector.

Different researchers' working conditions make evidence of a higher presence of women among part-time workers (13% of women and the 8% of men) and in the "precarious employment" (8,1% of women and 5,2% of men), while gender pay gap has reached the 17% of women's lower pay compared to men's (2014).

In **academic careers**, women's advancement decreases in the higher positions.

Figure 7: Academic career in EU by sex



Source: European Commission (2019, p. 117). She Figures 2018

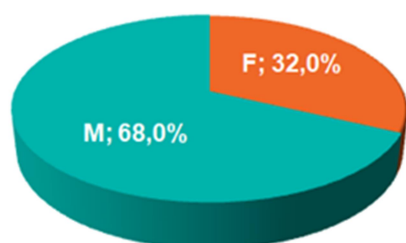
Men and women start at almost the same level, with a slight female dominance when students in Bachelor's, Master's or equivalent levels (54% women and 46% men, Isced 6,7) and when graduates (58% women and 42% men, Isced 6,7). Starting with the research careers the women's rate decreases, slowly at first (46% women and 54% men among Doctoral Students, Isced 8, 47% women and 53% men among Doctoral Graduates, Isced 8, 46% women and 56% men among grade C) then faster: among grade B staff women are the 40%, men the 60%, and, above all, at the higher grade of academic career women represent only the 24%, men reach the 76%.

As a consequence of the segregation in the fields of education, in STEM (science, technology, engineering and mathematics) the career gap between men and women is even wider: women represent the 37% of doctoral students, the 39 % of doctoral graduates the 15 % of grade A academic positions.

The career gap also influences women's **participation in decision making**: in 2017 women represented in the UE the 22% of heads of institutions in the higher education sector, the 27 % of the members of boards of research organisations, and the 20% of board leaders alone.

Figure 8: Publications of R&D in EU by sex

Publications in all fields of R&D



A significant gender gap also defines the **research and innovation outputs**, since, between 2013 and 2017, only the 32% of publications in all fields of R&D combined are women, with a higher concentration in the fields of medical and agricultural sciences.

Source: European Commission (2019, p. 6). She Figures 2018

Among **patent inventors** the women to men ratio is on average just over one to three, while the funding success rate in **receiving research grants** is higher in men team leaders by 3%.

1.4: Milestones of gender equality in history and in research and science.

Along the centuries, the economic and social condition of women may be mainly described through the definition of a **patriarchal system** (Ferguson, 1999, p. 1048), in which gender roles foresaw men dominating the public dimension by holding the primary power over resources, property, paid work, political leadership and moral authority. Women on the other side were expected to fulfil all the requirements of the private dimension, taking care of children and the elderly, and doing housework. They had no control over their bodies or births, could not react to men's violence since were considered at their disposal, were not allowed to private property or heredity, had no civil rights, could not vote, had no access to education. Their work within family's activities, like agriculture or commerce was not paid, and only few and poorly paid jobs were allowed to them, like servants, peasants or dressmakers, for example. This has been the life of masses of women over the centuries (Offen, 2000), even though we have been handed down the history of exceptional women's figures which mainly belonged to aristocratic or noble families, whose power allowed them to overcome some of the other women's destiny.

What did change the life of women and started the process of their emancipation and growing empowerment was the **Industrial Revolution** (History Crunch, 2016) during the 18th and 19th century. Inventions like the steam engine first and then electricity, textile machinery, trains, cars etc. paved the way for a tumultuous industrial and economic growth, a new capitalist system and many social changes like the exodus from rural life and an intense urbanization. Women entered the paid labour market *en masse*, since they were considered fit for many factory works that were replacing their traditional house works like the textile or food industry. Also paid housework increased, since their demand widened to satisfy the needs of working families and not only rich and noble families.

During the Industrial Revolution working class people were poorly paid (women even less than men) and with very hard and unhealthy working conditions which led to the workers' protests and fights for more equal rights, and to the rise of political movements inspired by Marxism and Socialism.

In addition, women, therefore, took awareness of their new working status as a social class, and started the movement to protest for their labour and civil rights, which was later defined as the **first-wave feminism** (Humm, 1990, p.251), in the 19th and 20th century, which focused on overturning legal inequalities, particularly addressing issues of women's suffrage. The Suffragettes movement, the most known, started in 1886-1887, and fought for the women's rights to vote. The first country to admit universal suffrage for men and women was New Zealand in 1893, then Australia followed in 1902, United Kingdom in 1918, United States in 1920.

During the First and, above all, the Second **World War**, many women entered the labour market, often replacing the man at the line at the war industry or participated in the war like partisans in some countries or in non-combat military service in others. Despite after the war many women were sent back to family chores, their social awareness and sense of citizenship grew further, as well as their engagement in political and social fights for more gender equality in a growing number of fields.

The economic boom which started in the post-war period until the end of 60s, was also characterised by a season of sustained growth in the human and civil rights movements in all western countries and represented a breeding ground for the **second-wave feminism** (1960s–1980s) which broadened debate to change traditional gender roles to a more equal model, empowering significantly the role of women in society, in politics and in the economy. Most of Western countries adopted important laws on gender equality in the work, in the family, introduced the divorce and the possibility of aborting. Social, family and human rights developed in parallel with the growth of women in the labour market and made significant progress in family rights, cultural inequalities, gender norms, and the role of women in society.

From 1990s to 2000 there was an historical period characterized by the spreading of **globalization**, consumerism, neo-liberal system and a worldwide capitalist economy. The collective movements which fought for gender equality from 70s to 80s were replaced by a more individualistic approach to feminism, mainly developed at personal level in the women's career empowerment.

At a theoretical level, a **third wave of feminism** (Walker, 1992) starting from 1990s, has also been identified, focusing mainly on the criticism to the second-wave and on a post-structuralist interpretation of gender and sexuality as outside binary maleness and femaleness, besides the intersection between race and gender.

Research and science have also had their milestones throughout general history that have been very well documented, but mainly with reference to males' research and science, since women have been excluded for centuries from education. In recent years, some gender studies' researchers have tried to focus on women's role in research and science in different eras, discovering unknown contributions.

In early civilizations, for example, women were involved mainly in the field of medicine, since it was a field close to care and health, a domain they were responsible for. In ancient Greece, women were also allowed to study natural philosophy, and even later, in the first and second century AD, some of them could study the proto-science of alchemy, which was still linked to their family role in caring and health protection.

Until modern age and the diffusion of public schools for everybody, girls included, high education and the possibility to make research were reserved to

the males of aristocratic classes and religious organizations. The few known female researchers and scientists belonged in fact to noble families or were nuns in religious convents, but were considered exceptions and were often underestimated.

When modern universities emerged in the 11th century, women were still excluded, and were only allowed to make research informally with very poor official recognition. Despite the first woman to graduate in the world in 1678 (the Italian Elena Lucrezia Cornaro Loredan Piscopia, in philosophy), and the first woman to achieve an University Degree in a scientific field and to be physics professor in 1732 (another Italian, Laura Bassi), in the first half of the 19th century, women were excluded from most scientific education, and only in the late 19th century they could have the opportunity to study at female colleges and have research opportunities.

Today women have reached gender equality as for tertiary education in many countries, but the lower number of women in the scientific field still represents a gender gap as well as their unbalanced presence in the RPOs decision making process and in top levels of scientific careers.

Beside the gender gap statistics in research and academia analysed in paragraph 1.3, a good indicator of women's difficulties in developing their full potential in research may be represented by the number of times that the Nobel prize has been awarded to women since its foundation in 1901:

“.. The Nobel Prize and Prize in Economic Sciences have been awarded to women 58 times between 1901 and 2020. Only one woman, Marie Curie, has been honoured twice, with the 1903 Nobel Prize in Physics and the 1911 Nobel Prize in Chemistry. This means that 57 women in total have been awarded the Nobel Prize between 1901 and 2020.” against 873 men (The Nobel Prize, 2020, p.1).

1.5: The basic international conventions, treaties and laws on gender equality

The fights for human rights and gender equality that women's movements have spread along western countries in the last two centuries have also influenced politics and have been progressively officially recognized at international and national levels through **conventions, treaties and laws**.

Among the more important milestones of this recognition process it is possible to mention:

- Convention on the Political Rights of Women (1954).
- Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) (1979).
- Declaration of the Elimination of Violence against Women (1993).
- Beijing Declaration and Platform for Action (PFA) (1995).
- Convention on preventing and combating violence against women and domestic violence (Istanbul Convention) (2014).
- The Paris Agreement (under the United Nations Framework Convention on Climate Change) (2015).

Since 1975 Four **World Conference on Women** (1975 Mexico City, 1980 Copenhagen, 1985 Nairobi, 1995 Beijing) were organized by the United Nations (UN, 2020a, and UNWOMEN, 2020), which represented significant occasions of public debate and contributed to the development of treaties, international conventions and advancement in Nations' legislative initiatives.

The Fourth World Conference on Women held in Beijing in 1995, with 17.000 participants, 30.000 activists and 189 governments involved, represents even today a milestone in the worldwide gender equality strategies and vision.

Table 3: *Beijing Platform for Action*

The Beijing Declaration and Platform for Action (UNWOMEN, 1995) that was launched at the end of the Conference, designs a framework of global strategy for gender equality leaning on two main pillars: gender mainstreaming and gender empowerment, while twelve critical areas are identified as main priorities for governments' interventions.

Beijing Platform for Action 12 Critical Area of concern	
Women and poverty,	Women in power and decision-making,
Education and training of women	Institutional mechanisms for the advancement of women
Women and health	Human rights of women
Violence against women	Women and the media
Women and armed conflict	Women and the environment,
Women and the economy	The girl child

Source: UNWOMEN (1995, p.1). Fourth World Conference on Women

The latest fundamental global strategy for gender equality is included in the **Agenda 2030 for Sustainable Development** (UN, 2020b), a worldwide Governments' commitment to eradicate poverty and achieve sustainable development by 2030.

Figure 9: Sustainable Development Goals



Among the 17 Sustainable Development Goals (SDGs), referred to in Figure 9, and 169 targets to be achieved by 2030, Gender Equality has been included both as a specific Goal (Goal n. 5, UNWOMEN, 2018, p.1) and a cross-cutting goal in the other targets.

Source: UNWOMEN (2018, p.1). Turning promises into action: Gender equality in the 2030 Agenda for Sustainable Development

1.6: The EU engagement in gender equality

European Union is strongly committed to promoting gender equality since it is deeply rooted in its identity and fundamental values. Gender equality is in fact clearly mentioned since the birth of the European Union, in the **Treaty of Rome** (1957), establishing the European Economic Community, at the Art.119 (now Article 141 EC Treaty), combating gender discrimination and affirming the principle of equal pay between men and women for equal work.

Since then gender equality has been included in the main Treaties of the European Union (Treaty of Amsterdam, 1997, Art. 2 and 3 TUE, Art. 13 and 141 TCE, Treaty of Lisbon, 2009, Art. 2 and 3 TUE, and Art. 8 and 10 TFUE, and the Charter of Fundamental Rights of the European Union, art. 21 and 23).

European support to gender equality has been first focused on the gender discrimination at work, but since the Treaty of Amsterdam (1997), following the Beijing Platform for action strategy, the obligation to the gender mainstreaming approach in all the activities listed in Article 3 EC has become mandatory.

During the years, the European Union (European Commission, 2008) has developed an intense legislation activity on gender equality, mostly also adopted by EU countries' laws, dealing with gender equality issues like social security, safety and health at work of pregnant workers, employment and occupation, sexual harassment, parental leave, self-employment, trafficking in human beings, rights, support and protection of victims of crime. Also the judgments of the Court of Justice of the European Union have been important to promote equality between men and women, as well as the Council of Europe

Convention on preventing and combating violence against women and domestic violence (Istanbul Convention, 2014), the first legally binding international instrument on preventing and combating violence against women and girls at international level. The EU large body of legislation has been also sustained by active plans of actions and resources allocated to promote gender equality in almost every field.

Ultimately, the **Gender Equality Strategy 2020-2025** (European Commission, 2020a) has outlined the main pillars of EU action for the near future by fully embracing the Sustainable Development goals' achievement and by focusing on equal opportunity for women and men as means to value diversities and to pursue the EU social and economic growth.

The strategy is developed by adopting three main approaches like:

1. Gender mainstreaming, by including a gender perspective in all policy areas, at all levels and at all stages,
2. Intersectionality, by facing the multiple discriminations that women suffer on the basis of their personal characteristics like race, disability, sexual orientation, age etc
3. Dedicated funding by providing for specific resources for gender equality-related projects funded through most EU programmes.

The main objectives of the strategy declared by the European Commission include:

➤ Freedom to pursue everybody's chosen path in life:

"...Freeing women and girls from gender-based violence and harassment:

- by ensuring that EU accedes the Council of Europe Convention on preventing and combating violence against women and domestic violence, or takes alternative legal measures to achieve the objectives of the Convention,
- by clarifying internet platforms' role in addressing illegal and harmful content to make the internet safe for all their users,
- by improving our awareness and collecting EU-wide data on the prevalence of gender-based violence and harassment,

Challenging gender stereotypes in society:

- by launching an EU-wide awareness raising campaign, focusing on youth..".

➤ Equal opportunities to THRIVE in society and the economy:

"...Making sure that women and men receive equal pay for the same work and for work of equal value:

- by tabling binding measures on pay transparency by the end of 2020 making EU-rules on work-life balance for women and men work in practice,
- by ensuring that Member States transpose and implement the rules,

- by promoting equal uptake of family leaves and flexible working arrangements
- improving access to high quality and affordable childcare and other care services,
- by investing in care services and adopting a Child Guarantee...”

➤ Leadership and equal participation in the economy and society:

“...Improving the balance between women and men in decision-making positions, including on company boards and in politics:

- by adopting EU-wide targets on gender balance on corporate boards,
- by encouraging the participation of women as voters and candidates in the 2024 European Parliament elections encouraging a more balanced participation of women and men in all work sectors for more diversity in the workplace,
- by promoting the EU Platform of Diversity Charters in all sectors,
- by addressing the digital gender gap in the updated Digital Education Action Plan...”

(European Commission, 2020a, pp. 3-14)

1.7: The EU engagement in gender equality in the research and innovation field.

Gender equality in the research and innovation field is considered by the EU an added value in terms of talents’ growth, excellence and creativity empowerment and a business opportunity. European Union engagement in promoting Gender Equality in the research and innovation field has therefore grown over the years at two different levels: through Horizon 2020, the main direct funding instrument of the EU in the research and innovation field, and through ERA, the European Research Area, whose strategy is developed in collaboration with the Member States and the Research Organizations.

The three main objectives of EU policies in supporting gender equality in the research and innovation field concern:

- gender equality in scientific careers
- gender balance in decision making
- integration of the gender dimension into the content of research and innovation.

Such priorities have been included in Horizon 2020 where gender is:

“..a cross-cutting issue and is mainstreamed in each of the different parts of the Work Programme..” and pursued at the highest level of commitment by:

- setting a target of 40% for gender balance in decision making in

expert groups and evaluation panels, and of 50% for the Horizon 2020 Advisory Groups,

- encouraging applicants and committing beneficiaries to gender balance at all levels in their teams and all personnel, also supervisory and managerial level, assigned to the projects, and allowing to take in account teams' gender balance in ranking proposals with the same evaluating scores,
- taking in consideration the gender dimension in the content of R&I:

"..in the Horizon 2020 work programme 2018-2020, the gender dimension is explicitly mentioned in 110 of the 473 topics distributed in 13 work programme parts..." (European Commission, 2020b, p. 1).

As recalled by the EU Gender Equality Strategy 2020-2025, gender equality has been relaunched as one of the EU main research and innovation topics in view of the next *Horizon Europe programme 2021-2027*:

"... In the field of research and innovation, the Commission will introduce new measures to strengthen gender equality in Horizon Europe, such as the possibility to require **a gender equality plan** from applicants and an initiative to increase the number of women-led technology start-ups. Funding for gender and intersectional research will also be made available..." (European Commission 2020a, pp. 3-14).

Also *ERA, the European Research Area*, adopted a strategy strongly committed to Gender Equality. In 2012 the EU Commission's Communication COM(2012) 392 final, "A Reinforced European Research Area Partnership for Excellence and Growth", among main priorities paid a specific attention to

"... Gender equality and gender mainstreaming in research – to end the waste of talent... and to diversify views and approaches in research and foster excellence..." (European Commission, 2012, p. 4).

In September 2020 the ERA was relaunched (COM(2020) 628 Final, European Commission, 2020c) with an updated strategy consisting in four strategic objectives and fourteen actions, among which gender equality was again mentioned with the aim of developing inclusive GEPs with member states and stakeholders starting from 2021.

2: Introduction to Gender Budgeting

2.1 Definitions, objectives and methodologies

According to the definition of the Council of Europe

“...**Gender budgeting** is an application of gender mainstreaming in the budgetary process. It means a gender-based assessment of budgets, incorporating a gender perspective at all levels of the budgetary process and restructuring revenues and expenditures in order to promote gender equality...” (Council of Europe, 2005, p. 10).

The **main objective** of Gender Budgeting is therefore **gender equality**.

Why is it so important to evaluate the impact of budgets on women and men in RPOs?

The first reason is that decisions mostly concerning people’s education, careers, jobs, lives, but also health, well-being and rights cannot be implemented without an appropriate resources’ allocation. Money is the main key factor to turn decisions in reality and a truth revealer of real decision makers’ intentions. This process applies to every public or private institution, at any level, and also concerns RPOs, since research and careers need money to be developed and to pay human resources, scholarships, infrastructures, premises, etc.

The second reason explains why gender perspective matters also in RPOs budget allocation’s decisions: budget is not a neutral tool, but it reflects the existing distribution of power within society between women and men. Budget cycle and process have been structured mainly by men in history, when women did not have access to public institutions, education systems or RPOs, thus expressing men’s scale of values, principles, main issues and priorities.

Budgets today are still decided mainly by gender unbalanced decision-makers boards, both in public institutions and in RPOs. For these reasons, budgets are often blind to the different roles, capabilities, needs, ambitions and rights of women and men. Overlooking such differences and inequalities means to perpetuate and even increase gender discriminations and disempowerment. Evaluating RPOs Budgets through their impact on women and men brings out their hidden gender stereotypes, bias and inequalities offering:

- to RPOs and Institutions a self-assessment tool to improve their awareness on the gender impact of their financial decisions,
- to professors, researchers, students and any other stakeholder the awareness of the RPOs’ attention to this issue.

Being aware of the level of the gender impact of RPOs budgets is the first step to start a process of designing more gender sensitive strategies and to develop the full potential and talent of every person involved in the RPO at any level.

The general objective of gender budgeting, that is gender equality, has also been specified in **specific objectives** by theories (and correspondent methodologies) that have been carried out through the years, and that may well fit also to the RPOs characteristics:

1. to promote equity, efficiency and effectiveness (the 3 Es) in the planning and implementation of RPOs policies;
2. to favour transparency in the allocation and redistribution of public resources;
3. to increase awareness through information and stakeholders' involvement;
4. to increase the development of human capabilities from an equality perspective.

1. To promote equity, efficiency and effectiveness (the 3 Es) in the planning and implementation of RPOs policies (Sharp, 2003).

Concerning the first 3 objectives, a revision of the "Performance Based Budgeting" (PBB) approach from a gender perspective has been adapted to GB objectives identifying the specific objectives of:

Equity: Although budgets may appear as neutral tools of policies, RPOs' resources and expenses have a different impact on women and men. Attention to budgeting, which equally pays attention to all, ensures that gender equality is both an objective and an indicator of the RPO's policies.

Efficiency: There is more and more evidence that gender differences lead to increasingly relevant losses in economic efficiency and human development, especially in decisions of policy referred both to revenues and expenditures.

Effectiveness: It refers to the policies' ability to achieve results. In the gender-sensitive approach the political ability to offset gender differences in relation to initial goals is assessed.

2. To favour transparency in the allocation and redistribution of resources (AB: Account Based approach) (Sharp., 2003).

This objective identifies, from a gender perspective, the general tendency to focus on accounting, requiring that all RPOs institutional bodies, decision makers, administrators, give a full account of their actions to stakeholders.

3. To increase awareness through information and stakeholders involvement and participation (Participatory Budget, PB) (Sharp, 2003).

Based on consistent knowledge and transparency of RPOs activities, the third objective implies a wide involvement of stakeholders that are recognised as having a fundamental role in the promotion of equal opportunities in a wider process of participation to RPOs governance (See paragraph 3.3). Transparency in the budget process, in fact, can be adequately developed if also a participation process is supported for the stakeholders' involvement. Public consultation or stakeholders' gender equal participation in the budgeting,

monitoring and evaluating process, may represent an important source of gender equality also within the RPOs (Council of Europe, 2005)

4. To increase the development of human capabilities from an equality perspective (WBGB – Well Being Gender Budgets).

The human development perspective is a strategic choice of the United Nations in the framework of the Human Development Program, following the Aristotelian tradition that appraises social systems according to their capability to promote what is good for human beings. The capabilities approach was first developed by Amartya Sen.

“..Sen uses a particular definition of well-being which avoids reducing it to a mere bundle of goods and services, defined as “standard of living” (Sen, 1987). Following a classical humanist tradition, he refers it to the normative experience of a “good life”, characterized by a composition of capabilities whereby women and men, individually and in relation to others, can enhance the value of their lives (Sen, 1993)...” (Addabbo et al., 2011, pp.106-107).

According to Sen well-being is determined on the basis of capabilities i.e. individual's opportunities to achieve functionings (like being well-sheltered, in good health, educated ...).

Since 1990 the Capability approach is at the basis of the yearly analysis by the United Nations Development Programme with the Human Development Report that measures the achievement of nations in terms of a set of fundamental capabilities and accounts for inequalities in human development with a special attention to the gender dimension.

“..The human development approach, developed by the economist Mahbub Ul Haq, is anchored in the Nobel laureate Amartya Sen's work on human capabilities, often framed in terms of whether people are able to “be” and “do” desirable things in life. Examples include:

- Beings: well fed, sheltered, healthy.
- Doings: work, education, voting, participating in community life.

Freedom of choice is central to the approach: someone choosing to be hungry (during a religious fast say) is quite different to someone who is hungry because they cannot afford to buy food...” (UNDP, 2020, <http://hdr.undp.org/en/humandev>)

The capability approach has been originally applied to gender budgeting in 2002 in the implementation of gender budgeting to the region Emilia Romagna and district and municipality of Modena in Italy by the research group in the Department of Economics Marco Biagi of the University of Modena and Reggio Emilia. Addabbo, Lanzi and Picchio (2010) ‘Gender Budgets: A Capability Approach’ published in the Journal of Human Development and Capabilities provided the theoretical basis of well-being gender budgets that has then been

applied in different institutions and at different levels of government. It has been applied in the Municipality and Province of Modena, Municipality and Province of Bologna, Province of Rome, Lazio, Piedmont and Emilia Romagna Region, in ten municipalities in Turkey and in Senegal (Addabbo et al., 2011; Addabbo, 2016; Addabbo et al. 2019). More recently this approach has been experimented in the two-steps feasibility plan for the EU Gender Budget (See par. 2.3)

“The use of Amartya Sen and Martha Nussbaum’s capability approach extends the focus of gender budgeting to the impact of policies on wellbeing, with its multiple dimensions and complexity, departing from an evaluation based exclusively on income or commodities. Wellbeing is defined at the individual level, and this, also according to feminist economics, requires investigating what happens inside the family and recognising the possibility of conflicts amongst its members on the construction of wellbeing.” (Addabbo, 2016, p.59)

Well-being gender budgets (thereafter WBGB) analyse budgets and public policies under the double perspective of well-being and gender equality.

A first important step in its implementation is to define a list of capabilities and, according to the WBGB approach this will be a list of capabilities intrinsic to the institution analysed on the basis of the functions and sedimented values of the institutions involved in the gender auditing/budgeting process. The intrinsic dimensions of well-being can then be matched with a participatory list of capabilities that can be defined by means of a participatory approach involving stakeholders and bringing them to define and in some cases also to order a list of dimensions of well-being that they expect the institution that is undergoing gender auditing/budgeting should contribute to develop. This double method to define the dimensions of well-being has been used in the implementation of WBGB to the gender budgeting of two European RPO’s: University of Modena & Reggio Emilia (Italy) and Universidad Pablo de Olavide (Spain) (Addabbo, Gálvez-Muñoz, Paula Rodríguez-Modroño, 2015).

The **Capability Approach** represents the effort to overcome the limits of the performance based gender budgeting methodologies, that have mainly focused on the use of public resources and on the efficiency of the analysed policies, having gender equality as an objective. Such limits, in fact, are due to the exclusion of the care economy which occurs when the analysis is carried only on public resources, which represent by themselves the productive and paid, even if public, economy. This way the risk is to support and perpetuate gender bias and gender stereotypes that lie in the unseen impact on the reproductive and care economy.

What was recalled by the Council of Europe fundamental document (Council of Europe, 2005) on gender budgeting in public institutions may also well apply to RPOs, since unpaid work is at the basis of gender differences also

among researchers, professors, etc.:

“... Care Economy is neglected by orthodox economics: the care economy constitutes an integral part of the economy, alongside the profit-oriented market and the public services sectors. It refers to unpaid production and services in the private sphere of the family, neighbourhood or local community, mainly based on women’s unpaid work. Public budgets normally take into account only the monetary economy. As a result, unpaid care and services are excluded from the macro-economic framework of state budgets. Feminist economists and gender budget analysts such as Rhonda Sharp and Diane Elson have drawn attention to the “false economy” involved in neglecting the care economy. Cuts in public services, for example, lead to additional pressure on the care economy, which has to provide these services instead, since the market economy either does not provide them or only at high cost. As a consequence, women in particular have to perform more unpaid work, resulting in reduced employment prospects and, in many cases, a lack of social security. Incorporating the care economy into economic policies in general and gender budgeting in particular therefore results in a much broader and more appropriate approach to welfare efficiency, costs and benefits than traditional economic concepts...” (Council of Europe, 2005, p.11).

The Capability Approach provides a theoretical foundation to gender budgeting. The implementation of gender budgeting based on the capabilities approach actually allows to highlight the contribution of the institutions analysed on the construction of human development in a gender perspective. In the context analysis each dimension of well-being is analysed in a gender perspective detecting inequalities in its development and different degrees of deprivation by gender.

WBGB offers a new point of view on the relationship between economic facts and the social dimension, thus extending the attention to include non-monetary aspects usually neglected by mainstream economics. Based on the social reproduction extended macroeconomic flow (Picchio, 1992, and 2003) WBGB underlines the structural relationship linking together family, state, civil society and RPOs, enterprises, profit and non-profit sectors. The Capability Approach is characterised by an inversion in the priority of the relationship between goods produced for the market and people. While mainstreaming economic models in the analysis of the national product attribute priority to goods & services, and people are considered as a tool for market production, human development is centred in the creation of human capabilities and commodities are considered as means to foster their development (Addabbo *et al.*, 2010).

In this framework, the action of the institution, including RPOs, is then analysed not only according to their ability to offer a suitable system of services

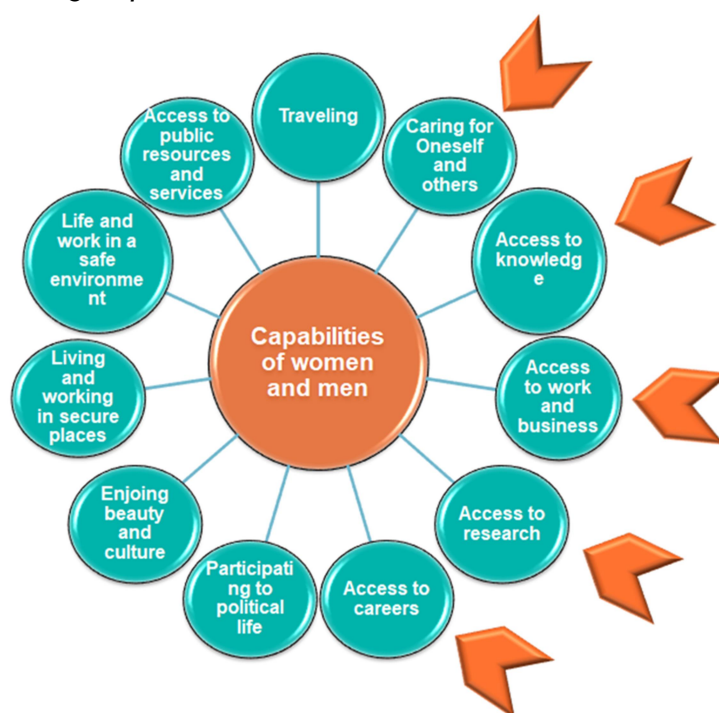
for women and men, but also in their role in the development of well-being dimensions.

A possible list of capabilities for RPOs, both universities and research centres, may include fundamental capabilities, like access to knowledge and the capability to work. By applying WBGB to the University of Modena and Reggio Emilia and University of Pablo de Olavide budgets, Addabbo, Gálvez-Muñoz and Rodríguez-Modroño (2015) show how these two dimensions of wellbeing result as fundamental both by applying the intrinsic capabilities method to detect the RPOs capabilities and by using a participatory approach involving students.

However also other capabilities can be put at the heart of WBGB according to the RPOs' Gender identity and the context (see paragraph 3.4 and paragraph 4.1). For instance as depicted in figure 10, the RPOs by providing work opportunities in research or in administration can contribute to the development of work and research capabilities. And, insofar they can allow researchers and employees to progress in their career, RPOs can develop individual capabilities not only of working and carrying out research activities but also of progressing in career. However, as the analysis on gender inequalities in career progression has revealed, the capability of advancing in one's career is unequally developed by gender. To what extent this unequal development is made visible and addressed by RPOs policies?

Turning to other dimensions of well-being that universities can affect, the way teaching is delivered, as for instance inclusive teaching methods, can allow students to develop their capability of caring for others. Counseling can allow employees and students to whom it is addressed to develop the capability of caring for themselves. During pandemics counselling and psychological listening desks that have been offered by RPOs can be considered as an important means to develop the capability of caring for oneself. The RPOs management proactive approach to implement work-life practices can affect employees' capability of caring for others.

Figure 10. Selecting Capabilities



Source: Our elaborations

2.2 The history of gender budgeting

The first initiative of Gender budgeting was conducted in the mid-1980s by the Australian Government. Since then, other Gender Responsive Budgeting (GRB) initiatives have spread mainly within the Commonwealth countries: United Kingdom in 1989, Canada in 1993, South Africa in 1996 (ILO, 2006).

The important reference to gender budgeting in the Beijing Platform for Action in 1995 (see paragraph 2.3) offered to GRB experimentations an institutional recognition which encouraged in the following years many other initiatives at international, national and local level.

In 1996 the Commonwealth Secretariat (CommSec) launched a pilot project of government-led GRB initiatives in Barbados, South Africa, Sri Lanka, and St Kitts and Nevis, then the United Nations Development Fund for Women (UNIFEM) and the International Development Research Centre (IDRC) jointly implemented the global Gender-responsive Budget Initiatives Programme.

The Gender Budgeting Indicator of the International Monetary Fund (FMI, 2015), updated until 2015, refers to 84 countries having developed GRB Initiatives at national level, while according to the 2016 OECD Survey of Gender Budgeting Practices 41% of OECD countries have introduced gender budgeting (Downes et al., 2017).

Up to date there have been many different initiatives of Gender Budgeting in the world, applied to national and subnational governments, regional and local governments, Institutions, development-oriented agencies, NGOs, national and international feminism movements, Academia and Research Centres.

2.3 The UN and EU engagement in Gender Budgeting

The “Beijing Platform for Action” (see paragraph 1.4) supported the mainstreaming policy also stating gender budgeting as one of the strategic objectives to be pursued by governments:

- “...(Strategic Objective A1): Review, adopt and maintain macroeconomic policies and development strategies that address the needs of women in poverty. Actions to be taken by governments include: [...] Restructure and target the allocation of public expenditure in order to promote women’s opportunities and access to productive resources, recognising their basic social, educational and health needs” (UNWOMEN, 1995, p.20).
- (Strategic Objective F1): Promote women’s rights and economic independence, including access to employment, appropriate working conditions and control over economic resources. Actions to be taken by Governments include: [...] Facilitate, at appropriate levels, more adequate and transparent budget processes [...] This requires the integration of a gender perspective into budget policies and planning, as well as the financing of specific programmes in order to pursue Equal Opportunities between women and men . At the national level [...] governments should act with the objective to verify how women benefit from public expenditure, and to redirect budgets in order to ensure equal opportunities of access...” (UNWOMEN, 1995, pp. 68-69).

Encompassing the Beijing Platform for action also the **European Union** engaged with a process of promoting gender budgeting within EU Governments at any level starting from 2002. European Union has also identified gender budgeting as one of the gender policy evaluation tools. A first reference to gender budgeting can be found in the 1996 Commission Communication (COM(1996)63 Final), within the 3rd and 4th Community Action Programme for the promotion of equal opportunities between women and men, and especially within the Framework of the Strategies of Action for Equal Opportunities for 2001-2005. The Belgian presidency then organized in 2001 a first community-wide conference on “Gender Responsive Budgeting” which was followed in 2003 by the European Parliament Resolution on Equal Opportunities for Women and Men 1.3.30. on “Gender budgeting - Building public budgets from a gender perspective” (European Parliament, 2002).

Upon such legal framework and thanks to the funding programmes, Gender Budgeting initiatives have spread throughout Europe since 2003 at any level, national, regional and local, while European institutions have insisted in disseminating calls to gender budgeting actions within many fields of action, with a mainstreaming approach. For example, gender budgeting is recommended in resolutions concerning climate justice (European Parliament, 2018,), poverty (European Parliament, 2016a), digital age (European Parliament, 2016b), economic crisis (European Parliament, 2013). In 2015 a first analytical

study experimenting the Capability approach on the “EU Budget for gender Equality” (European Parliament, 2015) was promoted by the Budgetary Affairs Department of the EU Directorate-General for internal policies, followed in 2019 by an update of the study (European Parliament, 2019).

2.4 Gender Budgeting in RPOs to date

As a result of the growing interest, gender budgeting also began to be experimented in RPOs as part of the wider EU strategy in promoting gender equality as mentioned in paragraph 1.6.

It has also been included in the GEAR tool, Gender Equality in Academia and Research, which EIGE recommends to use as a guideline to develop GEPs (EIGE, 2016). In this toolkit, gender budgeting is mentioned within the methods and tools of the planning phase (see par. 3.2).

A deeper analysis of experiences of gender budgeting within EU RPOs has been presented in the Deliverable 2.1 - D21 “LeTSGEPs State of the art on GB experiences report”. Such analysis aimed at collecting information on existing experiences of gender budgeting (GB) applications within research institutions and on effective organisational practices to increase the participation and career advancement of women researchers improving their working conditions. In order to address this objective, an extensive desk research was carried out and, as a result, 24 GB applications in EU RPOs were selected and analysed.

The analysis revealed that almost half of the experiences analysed (about 46%) are included in official GEPs. Among the different gender budgeting methodologies mentioned in paragraph 2.1, in this research the most applied methodology in the GBs examined was PFM (Public Finance Management⁴, 45%). The second was AB-Account-Based Approach, 24%, followed by the WBGB-Well-Being Gender Budgets, 12%, the PB-Participatory Budget, 12% the PBB - Performance-Based Budgeting or results-based budgeting, 8%; and the GBA, Gender Broader Approach, 4%. The analysis also revealed that 88% of the GBs analysed did not follow any precise standard guidelines.

⁴ It consists of integrating gender perspectives into the whole public finance management process. That is, a global approach that integrates gender perspectives from strategic planning to budgeting and implementation, as well as monitoring and evaluation (Addabbo et al. 2018b).

3: How to develop a Gender Budgeting process

3.1 The steps to start a Gender budgeting process

The strict meaning of “gender budgeting” refers to a specific report which a RPO may design to give evidence of the gender perspective in the phase of allocating funds of the budget for the upcoming year (or years).

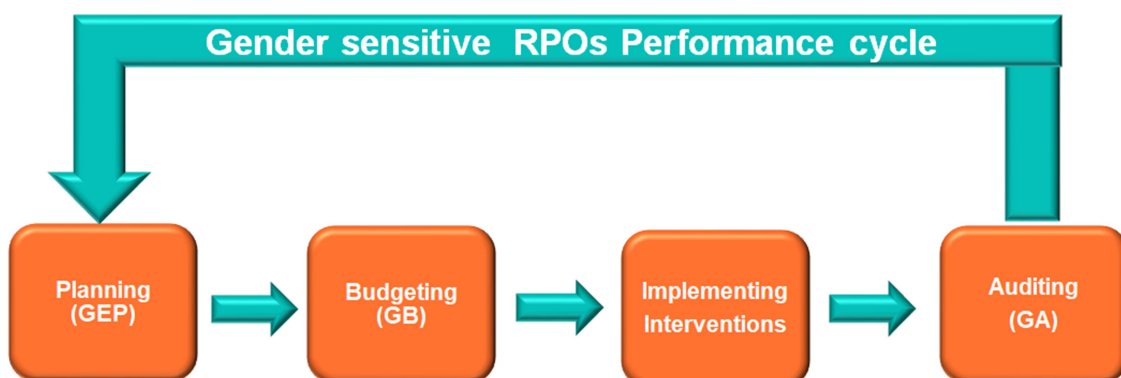
When the RPO starts with its first experimentation, it usually tries to give first evidence of the state-of-the art of its impact on women and men. Before planning for the future, it is in fact necessary to develop a full awareness of the starting point in terms of the institutional awareness of the current impact of RPO activities on men and women and of what happened in the previous year. The first engagement in RPO accounting analysis under a gender perspective, therefore, is most of the time a “Gender Auditing Report”, which is described in chapter 4.

When RPOs are not sufficiently committed to change and transformation in order to reach gender equality, they usually stop at the first experience of one-year Gender Auditing.

Otherwise, in case they have a stronger will to effectively pursue gender equality, they use the results of the first attempt of the gender auditing report to engage in a gender budgeting process which should then follow step-by-step the already ongoing RPOs management systems.

RPOs may have different levels of organizational complexity, and may also have some different objectives whether they are universities and research centres, but in general terms they all share the same performance cycle that may be synthetized in: Planning, Budgeting, Implementing, Auditing as in Figure 11.

Figure 11: Gender sensitive RPOs Performance cycle



Source: Our elaborations

The gender budgeting process, when implemented at a continuous and transformative level, should therefore introduce the gender perspective in each

phase of the Performance cycle, of which the Gender Auditing Report represents at the same time the last step of the just finished annual cycle and the basis for decisions for the next one.

After the analysis of the Gender Auditing Report, in fact, RPOs may plan new gender equality and mainstreaming strategies in the GEP, and may reflect on the funds needed to implement them in the Gender Budgeting Phase.

Keeping track of the gender impact of activities during the following implementation of interventions phase is therefore essential for the last Gender Auditing phase, which includes monitoring and evaluation of gender impact indicators.

Drawing conclusions on the basis of the auditing step allows therefore to have the elements needed to start again with the next cycle.

Considering how involving RPOs may be difficult and may also face obstacles and persistent difficulties, the gender budgeting process has to be progressively implemented year by year, by monitoring results and progress, and aiming at gender equality results that may be concretely reached.

Developing an adequate level of awareness of short, medium and long-term objectives is essential to reach good results at the right time.

Another peculiarity of the gender budgeting process to be considered is that it has to be implemented according to the gender mainstreaming objectives, that is that the analysis has not to be limited to:

“... budgetary allocations targeting equal opportunity policies or promoting women, but encompasses the entire budget, revenues as well as expenditures.. Gender Budgeting does not mean a separate budget for women... If gender mainstreaming is to be implemented in practice, then budgets must be examined together with policy. If the gap between policy and resource allocation, which has been revealed in almost all gender budget initiatives to date, is to be filled, the budget-making and policy-making must be carried out in close collaboration. Gender Budgeting, therefore, is not limited to particular policy areas, but all policy fields should be in principle the subject of Gender Budgeting. In practice, however, Gender Budgeting initiatives might start by limiting their scope to specific policy areas or measures in order to develop appropriate models and tools and to gain experience and expertise for large scale approaches...” (Council of Europe, 2005, pp. 10-11).

3.2 Integration of Gender Budgeting and Gender Equality Plan processes

In case RPOs are already engaged in a GEP process, they are advantaged, since they already have a policy framework and a process of gender analysis that may be further implemented with the Gender Budgeting objectives.

The GEP cycle of analysis, in fact, mostly overlaps with the Gender Budgeting process cycle. The difference relies on the different emphasis and in-depth analysis that Gender Budgeting identifies in the gender impact of the resources' allocation phase. Having as main focus the financial and economic perspective, as described in chapter 2, in fact, offers an important awareness on the Institution's efficacy and efficiency in pursuing gender equality and unveils the true political will to follow up on plans and strategies with properly funded initiatives. According to the official EIGE definition a GEP is a set of actions aiming at:

- “...1. Conducting impact assessment/audits of procedures and practices to identify gender bias;
- 2. Identifying and implementing innovative strategies to correct any bias;
- 3. Setting targets and monitoring progress via indicators...” (EIGE, 2016, p. 8).

A GEP has been considered a main tool to reach gender equality by the EIGE Gender Equality in Academia and Research GEAR – toolkit and has been structured in a 6 step-by-step guide (EIGE, 2016) that fits well within the parallel process of gender budgeting and vice versa:

“...Step 1: Getting started

Step 2: Analysing and assessing the state-of-play in the institution

Step 3: Setting up a Gender Equality Plan

Step 4: Implementing a Gender Equality Plan

Step 5: Monitoring progress and evaluating a Gender Equality Plan

Step 6: What comes after the Gender Equality Plan?...”

(EIGE, 2016, pp. 17)

3.3 The key enabling factors to organize the Gender Budgeting process within RPOs

Whether an RPO decides since the beginning to start with designing a whole-comprehensive gender budgeting process, or more simply prefers to first experiment only a Gender Auditing Report, it is important to evaluate whether the RPO organization has the **key enabling factors** that are essential for these kind of analysis in public Institutions as well as RPOs and that EIGE identifies

in:

1. “..Political will and political leadership.
2. High-level commitment of public administrative institutions.
3. Improved technical capacity of civil servants.
4. Civil society involvement (stakeholders for RPOs).
5. Sex-disaggregated data..”.(EIGE, 2019b, p. 5)

1. *Political will and political leadership.*

The political will and the political leadership of the RPO is officially expressed by the Board and the Leader of Institution, but informally also the researchers and professors in the highest levels of the organization (Grade A and Grade B) may influence the RPO political will to engage in a gender budgeting process. It is very important to stress that neither gender budgeting nor GEP may promote gender equality by themselves within an RPO: they both are tools to support and realize gender equality, but cannot replace the political will when it is not specifically addressed to it.

In some cases a first Gender Auditing Report may be useful to increase awareness in the political leadership on gender equality issues, but in case such awareness does not reach a strong political commitment there are very few chances to engage the RPO into a transformative gender budgeting process as well as a GEP process.

2. *High-level commitment of public administrative institutions.*

In the RPO, besides the political will, also a strong commitment is required at the administrative level. The RPO's top management interest and participation in the gender budgeting process is essential to have all the administrative RPO structures involved and properly motivated.

3. *Improved technical capacity of civil servants.*

The RPO's first experience of Gender Auditing report may be developed by professors and/or researchers interested in supporting gender equality, but it is essential to have the RPO's civil servants motivated, interested and above all well trained on gender issues and on gender budgeting techniques.

They have, in fact, the data needed for performing GB or GEP, and their skilled participation is important not only to gain them upon request, but to study together with them the possible use of unforeseen data, to be advised on the best way to structure the GB process, etc. The need to have a well-motivated and trained civil servant team turned out to be a key success factor also in the experiences of gender budgeting carried out in public government institutions.

4. Stakeholders and civil society involvement.

Stakeholders' engagement in the GA or GB process plays a crucial role. The effort to reach gender equality requires to transform RPOs with a different and previously unseen and underestimated gender perspective, stakeholders participation, as better described in the context analysis (see paragraphs 3.5 and chapter 4, step 1) is therefore essential to identify unknown gender issues and to have the proper support for RPO transformative change. Stakeholders can contribute to the definition of the dimensions of well-being with respect to which gender budgeting can be performed having an active role in the very process of gender budgeting in the capability approach as outlined in section 2.1.

Civil society and institutions in the RPO's area can then be involved in gender equality actions through public engagement activities that the RPOs can develop during the gender budgeting process or in implementing gender equality plans thus contributing to the improvement in terms of gender equality of the environment. On the other hand the gender equality sensitivity of civil society and institutions can interact with the RPO's activities to reach gender equality insofar they create a gender sensitive environment where the RPO can find a more fertile soil for the development of GEP and GB. For instance, a gender equality officer or committee in the RPO can interact with the Provincial Equal Opportunities Council to plan a common gender equality awareness campaign. Gender equality awareness campaigns are more likely to be enacted in high schools of regions characterized by a higher sensitivity in terms of gender equality, improving the gender equality awareness of university students.

5. Sex-disaggregated data.

GB process, as well as GA report, base the gender perspective on the availability of sex-disaggregated data. As seen in paragraph 2.1, the already existing sex disaggregated data of a RPO usually are not enough to describe and weight most of gender issues that effectively concern a RPO, since they were not originally thought for this purpose. It is important, therefore, that RPOs also plan a continuous development of tools to create new qualitative and quantitative sex-disaggregated data to further deepen the gender perspective.

3.4 The RPOs identity forms the gender perspective

Before approaching a gender auditing or gender budgeting process, it is important to reflect on the RPO's gender equality identity that may be evaluated through six main issues to be developed into a first introductory chapter of a GEP, or a gender budgeting/auditing report.

Usually these issues are analysed in the first year of a GB/GEP process, and then updated, if any change has happened in the meanwhile, in the following years.

1. History
2. Values and mission
3. Organization and structure
4. Gender networks
5. External environment
6. RPO's capabilities

1. The history of the organization, the social and economic reasons of its creation and the men and the women that participated in it, often offer some cues on the RPOs characteristics also about the gender perspective.

While detecting gender equality values throughout the RPOs history, it is important to pay attention to evaluate to what extent women and men contributed to the RPO construction process and to how gender segregation of the local economic system affected the RPO's foundations.

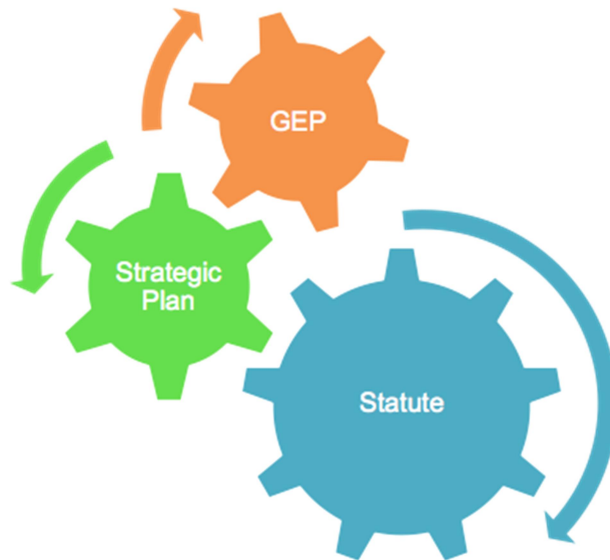
The origin of many RPOs, in fact, is influenced by the territorial culture and productive specialization. For instance, some excellence research centres or university departments on the automotive and mechanical field were founded to satisfy the research and innovation needs of automotive factories settled in the same territory. In this case, possible gender gaps may arise from the original foundation of the RPOs voted to the research in a field traditionally dominated by men. At the same time, excellent research centres in medicine or in the health field may be founded close to important hospitals or to industrial districts specialized in biomedical technology. In this case the link to the productive specialization may favour the presence of women, since there is a higher presence of women in the care and health studies.

The use of this kind of information on the history of the RPOs is that of an explanation of possible gender gaps within the RPO institution and may help to raise awareness on the more or less institutional attention to gender equality.

2. The values and the mission of the RPO concerning gender equality, where not already evidenced by the historical perspective, may still be detected into the constitutive documents that support the RPO's identity (figure 12). In this case some questions should be answered, like: does the RPO's statute mention gender equality? Does it already have a GEP? If not, is gender equality mentioned among the objectives of the RPO's strategic plan? Are gender-

sensitive declarations effectively pursued by the RPO, or do they remain at purpose level?

Figure 12: Identifying the RPO's gender equality aims



Source: Our elaborations

3. RPOs structures devoted to gender equality also give evidence of how the gender equality identity of the RPO is implemented in specific institutional interventions. The main question to be answered in this case refers to whether in the RPO there is for instance a Rector delegated to equal opportunities, or an Equal Opportunities Committee, a Gender Equality Office, Ombud services, Rector's Equal Opportunities Delegate, Networks of gender equality 'antennas' in different departments, gender project managers in Research and innovation, etc. As the GEAR Tool of EIGE stresses, it is very useful to know that:

- "...a. whatever structure is established, it is important that its mandate is endorsed by the top of the organisation;
- b. the closer that structures are situated to the top of the organisation (e.g. reporting directly to the dean or rector), the more authority the structure can have and the more effectively it can work;
- c. structures need adequate resources (human and financial) to work effectively..." (EIGE, 2016, p.33).

4. Gender Equality Networks. The participation of the RPO to gender equality networks is a positive indicator of the attention paid to such issues. Having the opportunity of participating in a gender sensitive RPOs' community and exchanging good practices undoubtedly benefits the RPO's attention to gender equality issues.

5. Gender Equality - External Environment. Another point to pay attention to while reasoning on the RPO's gender equality identity concerns the external

environment which may influence it. In this case it will be important to pay attention to the degree of sensitivity to gender equality in the local/regional and national institutions and the laws and practices of gender equality in the Country/Region. That, as stressed in section 3.3 can also impact on civil society and provide a fertile ground for the implementation of RPO's actions to achieve gender equality.

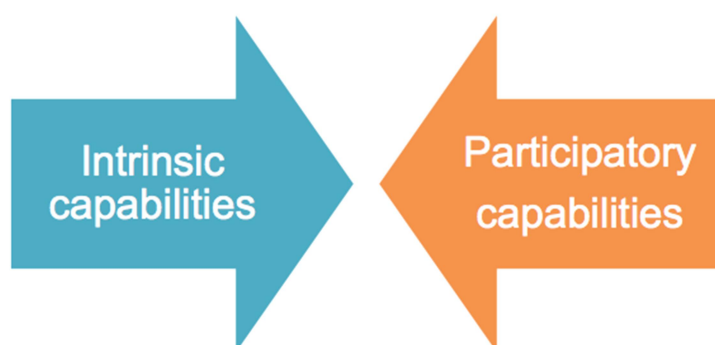
6. Identifying main RPO's capabilities. Identifying a list of RPO's intrinsic dimensions of well-being for women and men as described in paragraph 2.1 is a key factor to develop a GEP/GB/GA experimentation. The main questions to answer in this case concern: which are the specific RPO's functions? Which impact do these functions have on the capabilities and wellbeing of the RPO's stakeholders? Are there any impact differences on women and men?

The RPO's main functions are clear as per the RPO's institutional framework and objective and are often recalled in the Statute and in the main planning and strategic documents.

It is important nevertheless to further deepen the RPO's capabilities through a participatory approach involving the stakeholders in the definition of the most relevant dimensions of wellbeing and in the match of the intrinsic RPO's capabilities with the wellbeing dimensions deriving from a participatory approach.

The list of well-being dimensions will therefore result from a mixed methodology including both intrinsic capabilities and the dimensions of wellbeing that are the outcome of a participatory process involving stakeholders as referred to in Figure 13.

Figure 13 - Matching methods to identify RPO's capabilities



Source: Our elaborations.

3.5 The role and importance of stakeholders in GA/GB and GEP process

After the definition of the RPO's gender equality identity, before starting with GB/GA but also with the GEP, the framework of stakeholders involved has to be outlined.

Stakeholders in their composition between women and men, are, in fact, the entities or individuals that can reasonably be expected to be significantly affected by the RPO's gender activities, or whose actions can reasonably be expected to affect the ability of the RPO to implement gender strategies and achieve their objectives.

“... As a principle, all stakeholders of a research organization or higher education institution are mobilized for developing and implementing a Gender Equality Plan. Their involvement, which can be direct or more indirect depending on the stakeholder profile, will create a sense of belonging that will help overcoming obstacles and resistances throughout the process at all levels...” (EIGE, 2016, p. 9).

The definition of “Stakeholder” has changed over the **history** (Clayton, 2014): until the early 18th century, stakeholding was exclusively part of the gambling culture. Starting from the late 19th century the concept was mainly focused on the primacy of the Shareholder. In the 1940s Shareholders were connected to the engagement of managers as trustees, that were balancing multiple communities. In early 1960s Stakeholders were first identified as a concept, while in late 1960s stakeholding started to be included into corporate strategy by Ansoff (Ansoff, 1970). In the early 1980s Freeman wrote “Strategic management: a stakeholder approach” (Freeman, 1984) which still focused on the social responsibility use of this concept within the corporate field. Starting from the mid-1990s and the definition by Tony Blair of the “stakeholder economy” (Brooks, 2015), the concept started to be used in a wider perspective and to be also applied to the public sector. During the 2010s the stakeholder engagement emerged as a managerial and professional discipline that could fit both the entrepreneurial and the public sector.

Before starting a GA/GB or a GEP process, it is necessary to outline a **structured list** of F/M stakeholders that at the same time will be the focus of the analysis and the actors to be involved in the participatory process. The structure of the list has to define:

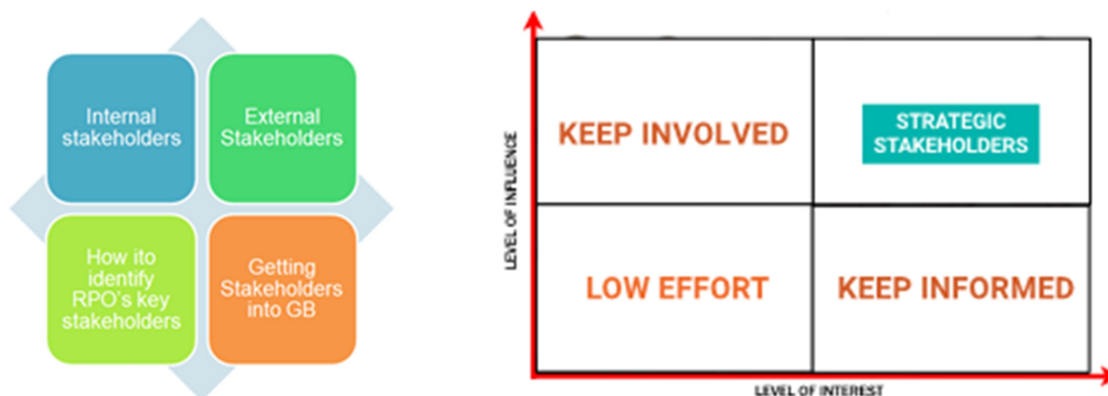
1. The overall list of all possible F/M stakeholders that could be involved.
2. The RPO's capabilities and functions they may be mainly interested and/or involved in (see paragraph 2.1).
3. The position of F/M stakeholder towards the RPO: are they internal or external?
4. The match between their level of influence and their level of interest.

Once decided who the key stakeholders are, it is useful to set them against a backdrop of interest and influence. This helps to determine which

groups and individuals require the most effort.

Identifying and assessing stakeholders

Figure 14. How to map stakeholders' participation and involvement



Source: Our elaborations

According to the stakeholders' level of interest and influence it will be possible to decide their role in the GA/GB or GEP process, that may be communication-oriented or engagement-oriented at different levels.

Communication foresees a one-way information sharing, where the only possible responses are: "yes," "no," with no possibility for the stakeholders of having influence on the transformation process or to having their opinion heard. Engagement, on the other hand, is a two-way process, which provides information and seeks input; allows talking and listening, is conversational, interactive and purpose-driven.

Stakeholder engagement should entail two main activities, which often happen in a parallel pattern: stakeholders' dialogue and joint co-creation of activities. The dialogue with strategic stakeholders, which aims to create a deeper understanding of stakeholders' issues and facilitate co-creation of joint activities, should happen in a dialectic pattern. RPOs should both talk and listen in order to prioritize stakeholders' issues. This dialogue is part of the materiality assessment, by which organizations identify the importance of certain issues for stakeholders and match it with their level of importance to the organization. The underlying logic is that the more material or important a certain topic or issue is for a stakeholder group, the more value in terms of gender equality change will be created if that topic or issue is addressed by the organization and appropriate resources are allocated for its achievement. In order to assess the maximum value created for RPOs and their stakeholders, the most material issues should be translated into indicators that measure the level of progress reached by the organization in addressing the specific gender issues. Such an assessment is fundamental for an informed decision-making about which issues should be addressed first in GA/GB or GEP process and which information should be included in the reporting documents.

“... Creating a feeling of ownership is key to engaging stakeholders in the work towards structural change for gender equality...” (EIGE, 2016, p.38).

If F/M stakeholders are the focus of GA/GB and GEP process, their direct **engagement** is also very recommended since many benefits may arise, like: a shared responsibility, a higher awareness, the possibility of anticipating a potential resistance to change and of developing more gender targeted policies, better outcomes, greater acceptance and support for changes, improved management capabilities, more creative and collaborative group facing problem solving. Engaging stakeholders also increases the chances of building a recursive and annual process.

Some drawbacks arising from stakeholders' engagement still have to be considered: there may be some time to be spent in this activity, there may be special interests or conflicts of interest that may oppose to or slow down the change, inappropriate tools may be used, and a nimby backlash may be resistant enough to negatively affect the gender transformative process.

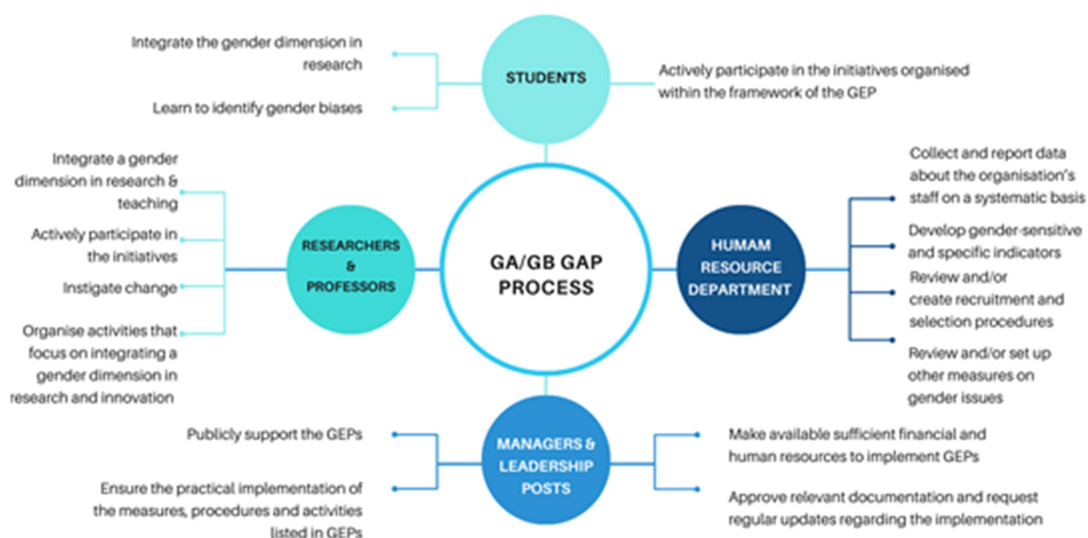
The IAP2 Public participation Spectrum describes **five levels for the stakeholders' involvement**:

1. "Inform: to provide the public with balanced and objective information to assist them in understanding the problems, alternatives and/or solutions.
2. Consult: to obtain public feedback of analysis, alternatives and/or decisions.
3. Involve: to work directly with the public throughout the process to ensure that public issues and concerns are consistently understood and considered.
4. Collaborate: to partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.
5. Empower: to place final decision-making in the hands of the public...” (IAP2, 2018, p.1).

Although the organizational structure of European universities and research institutions differ, the main actors to be involved in a GA/GB or GEP process are proposed by the EIGE GEAR tool (2016) as shown in figure 15. Their cooperation is crucial for the successful development and implementation of GA/GB or GEP processes.

RPOs' Stakeholders - Who is involved in GA/GB or GEP process?

Figure 15: Stakeholders' map by kind of involvement within the GA/GB/GEP process



Source: Elaboration from "Gender Equality in Academia and Research, GEAR tool" (EIGE, 2016).

4: How to develop a Gender Auditing report preliminary to the Gender Budgeting process

4.1 STEP 1: Context Analysis

Gender context analysis is the first step to start both a GEP and a GB process, but it also represents a tool to refer to in any step of the RPO's performance cycle in which to develop a gender perspective approach.

Since gender inequalities are deeply rooted in the often neglected segregation between paid work and unpaid work (i.e. productive and reproductive life), the main objective of gender context analysis is to bring out and describe the relations of interdependence that occur among these two domains, that influence gender inequalities at any level and in every aspect of life, different stakeholders' capabilities and mainly affect the different career paths of female and male researchers and employees, in addition to the unbalanced research opportunities they may have. Gender inequalities that can be observed in different areas of knowledge are also affected by pre-labour market discrimination and stereotypes that are related to the observed gender segregation in different fields for students and researchers showing visible impact on career perspective by gender.

Gender context analysis is therefore an exercise of truth which takes a picture of the gender equality progress in the RPO and makes the effort to unveil the unsaid of the hidden impact of gender stereotypes on it.

The EIGE official definition quotes:

“.. Gender analysis provides the necessary data and information to integrate a gender perspective into policies, programmes and projects. As a starting point for gender mainstreaming, gender analysis identifies the differences between and among women and men in terms of their relative position in society (RPOs for us) and the distribution of resources, opportunities, constraints and power in a given context. In this way, conducting a gender analysis allows for the development of interventions that address gender inequalities and meet the different needs of women and men...” (EIGE, 2019c, p. 3).

To start with a gender context analysis it is necessary to define a **plan of data analysis** which starts with the collection of the already existing gender disaggregated data within the RPO, and then year by year improves the RPO's possibility to analyse new data reflecting unseen and previously undetected gender aspects. Both administrative and survey data can be collected to carry out context analysis employing qualitative and quantitative research methods to provide the ground needed to take actions both in planning GEPs and in implementing gender budgeting and gender auditing.

Measuring the RPO's gender equality progress requires in fact a continuous process of improvement in the gender data collection and analysis.

The already existing gender disaggregated data usually monitor gender dynamics that for some institutions are already visible and officially recognized. For these institutions, the first experience of gender context analysis could be unsatisfactory since it relies on gender data that are mostly already known. However the collection of data according to EU standards can allow an important exercise of comparison amongst RPO's sharing the same set of indicators to detect the degree of progress in the direction of gender equality across institutions.

Planning each year an increasing development of new gender data can offer the possibility to give evidence of the hidden gender stereotypes that mainly influence gender inequalities.

Such effort may involve both quantitative and qualitative data.

As for **quantitative data**, it is possible to deepen the collection of already available gender data but ignored by the statistical systems because they were thought for different purposes. Very often there are quantitative gender data sets hidden inside the RPO's administrative cycle that have never been processed before with a gender perspective but that, thanks for example to mnemonic codes or to F/M name recognizing algorithms, may be used.

Qualitative data, arising from questionnaires, interviews or focus groups, are essential to unveil hidden gender stereotypes and to discover unanswered questions. They may be developed year by year and may focus on different issues, but above all they are of utmost importance to define the unsaid and unmeasured impact of the reproductive and unpaid work on F/M stakeholders,

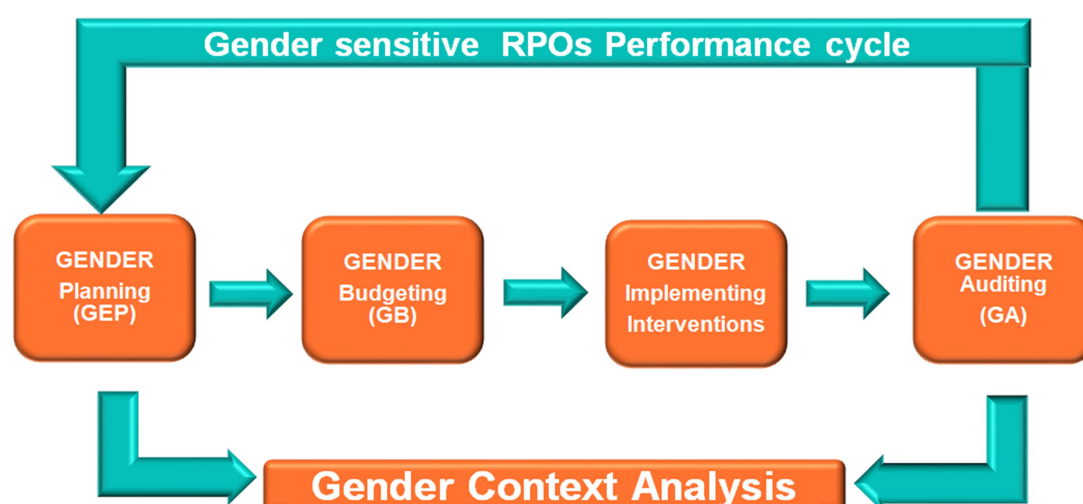
whether it is a real impact, concerning F/M stakeholders that are children or elderly caregivers, or a supposed and potential impact, which often influences decisions on F/M stakeholders opportunities and capabilities and leads to gender inequalities and discriminations.

The data analysed within the gender context analysis may be **used for different purposes** according to the level of detail and deepening they may reach:

- To offer a picture of the existing gender equality situation in the RPO to start from, thus acknowledging the differences between and among women and men in RPOs, based on the unequal distribution of resources, opportunities, constraints and power.
- To identify the different needs of F/M stakeholders at all stages of the policy and budget cycle and their potential, real and expressed demand for interventions.
- To outline new objectives and perspectives of change in the GEP process through new interventions to reply to the F/M stakeholders' needs.
- To estimate the financial resources needed to support and develop the new interventions, recognizing that programmes and budgets can have different effects on women and men.
- To target the F/M beneficiaries of such interventions.
- To monitor if such interventions and the results they achieved meet the initial aims and objectives, also involving the viewpoints of women and men with a participatory approach.

For this reason gender context analysis is the starting point for a gender responsibility process, whatever phase the RPO decides to start with, whether a GA report, a GB experimentation or a GEP. In any case the context analysis always represents a main pillar to refer to in the implementation of each of the other steps of the process that are all supported by the gender data evidence provided by it as represented in figure 16.

Figure 16: Gender Context analysis within the RPOs Performance cycle



Source: Our elaborations

While designing a gender context analysis, the structure of data collection always has to take into account the main gender principles and topics that have been introduced in chapter 1:

- Productive and reproductive work: care activities and paid work
- Horizontal segregation (in education, research, work ecc)
- Vertical segregation
- Gender Empowerment
- Gender Mainstreaming
- Intersectionality

To decide what to analyse, it is important to adopt a methodology of analysis which systematically goes through the list of the RPO's capabilities and decides the level of attention required (high, medium, low), the kind of stakeholders mainly engaged in the capability as direct beneficiaries or agents of change, which other capabilities are indirectly involved, which questions need to be answered, which gender data might be useful, which Department could release them.

An example of a full list of standard capabilities has already been introduced in chapter 2.1, but it is important that the RPO makes its own list of capabilities, better if with the support of a stakeholders' participatory process, and gives them a weight according to the specific relevance of them in connection with the RPO's Gender equality Identity and Stakeholders' contributions.

This flexible process in which what is important about gender perspective and equality within the RPO is constantly negotiated among the Institution, stakeholders and the team charged with Gender context analysis favours a year-by-year transformation due to a permanent review and a collective and shared approach.

An example on how to plan gender context analysis is given in the following table for five main capabilities.

Table 4: How to plan gender context analysis by capability

Main Capability Analysed	Access to knowledge
Indirect Capabilities	Access to resources and services, Travelling, Live and work in secure place, Live in healthy environment
Level of gender relevance	High for universities, Low for research centres.
F/M Stakeholders beneficiary	Students.
F/M Stakeholders to involve	Students, researchers, professors, administration, board members.
Department	Students' administrative office; Rector's delegate to teaching activities; Teachers-Students joint commissions
Questions to be answered	<ul style="list-style-type: none"> - How many men and women study in our RPO? - F/M in which field of Education? F/M in Stem? - F/M retention rates? - F/M grades? - F/M average duration by which degree is awarded? - F/M expectations and needs for the future?
Gender data available	Students enrolled in RPO by sex and field of education (focus on STEM) Students' Grades by sex and field of education.
New Gender data required	Survey: anonymous questionnaire for students by sex on impact of gender stereotypes on their capability of knowledge, travelling problems for non-resident students, expectations and needs for the future.

Main Capability Analysed	Access to work and to business
Indirect capabilities involved	Access to Knowledge, Access to resources and Services
Level of gender relevance	High for universities, Low for research centres.
F/M Stakeholders beneficiary	Students, graduates, PhD students.
F/M Stakeholders to involve	Students, researchers, professors, administration, members of boards.
Department	RPO's placement bureau, Rector's delegate university - business
Questions to be answered	<ul style="list-style-type: none"> - How many F/M find a job within 3 years after a degree or PhD in our RPO? - F/M in which field of Education? - Is the job consistent with the level of education F/M? - Is the job consistent with the field of education F/M? - Is there a gender gap in wages by field of education?
Gender data available	Job placement rate by sex.
New Gender data required	Job placement rate by sex and by field of education, level of education, type of contract, pay.

Main Capability Analysed	Access to research
Indirect capabilities	Access to knowledge, Access to career, Caring for oneself and others, Travelling
Level of gender relevance	High for universities and research centres.
F/M Stakeholders beneficiary	Students, doctoral graduates, researchers, professors.
F/M Stakeholders to involve	Students, doctoral graduates, researchers, professors, administration, Members of boards.
Department	Research department.
Questions to be answered	<ul style="list-style-type: none"> - How many F/M are researchers in our RPO? - F/M In which field of research? - How much do F/M publish? - How many F/M in citations? - Do F/M have the same research opportunities and resources? Conditions?
Gender data available	<p>Women among doctoral graduates by field of education.</p> <p>Women among doctoral graduates by narrow field of education (STEM).</p> <p>Women among researchers by field of R&D.</p> <p>Women among researchers by age group.</p> <p>Women among researchers by type of contract.</p>
New Gender data required	Survey: anonymous questionnaire for researchers by sex on gender, stereotypes, obstacles to career, number of citations, coauthorship, relationship with Grade A professors, difficulties in carrying out research activities, time budget.

Main Capability Analysed	Access to careers
Indirect capabilities	Access to research, Caring for oneself and others, Travelling
Level of gender relevance	High
F/M Stakeholders beneficiaries	Doctoral graduates, researchers, professors, members of board.
F/M Stakeholders to involve	Students, researchers, professors, administration, members of boards.
Department	Human Resources department; Rector's delegate for equal opportunities.
Questions to be answered	<ul style="list-style-type: none"> - How many F/M in each career step? - F/M in which field of Education? - Is gender inequality in career due to generational delay? - Are there F/M differences in research team leaders? - How many F/M in grant awards? - How many F/M in citations?
Gender data available	<p>Proportion (%) of men and women in a typical academic career, students and academic staff, (Complex index) and by STEM.</p> <p>Proportion (%) of women among academic staff, by grade and total, Glass ceiling Index.</p> <p>Proportion (%) of grade A staff among all academic staff, by sex, by main field of R&D; by grade A staff, by age group.</p> <p>Proportion (%) of women on head of institutions and boards (members and leaders).</p>
New Gender data required	<p>Detailed statistics on publications, by sex.</p> <p>Detailed statistics on grant awards by sex.</p> <p>Detailed statistics on citations by sex.</p> <p>Survey data: anonymous questionnaire for researchers by sex on gender stereotypes and discriminations in career advancement.</p>

Main Capability Analysed	Caring for Oneself and others
Indirect capabilities	Access to research, Access to Career
Level of gender relevance	High
F/M Stakeholders beneficiaries	Researchers, professors, administration, members of boards
F/M Stakeholders to involve	Researchers, professors, administration, members of boards
Department	Human Resources department
Questions to be answered	<ul style="list-style-type: none"> - How many F/M researchers and professors are caregivers? - N° Children? N° Elderly? Age? - F/M Parental leaves take up rate - Do F/M time budgets on research/paid work and unpaid domestic and care work? - F/M job sharing/part-time/teleworking to reach better work-life balance - Can they afford paid care work? - Do they have caring services at their disposal?
Gender data available	Payroll data on allowances for dependent children as proxy of the presence of children- Data on the take up of parental leave.
New Gender data required	Survey data: anonymous questionnaire for Researchers, Professors, Administration on time budget data, care needs, and existing or needed work-life balance policies.

Source: our elaborations

4.2 STEP 2: Analysing the Gender Equality (or Strategic) Plan

While approaching the planning phase within the Gender Auditing Report, there are two different situations to refer to when:

- 1- The RPO is engaged in a gender analysis of any kind for the first time.
- 2- The RPO has already developed a GEP.

➤ The RPO is engaged in a Gender Analysis for the first time

As described in paragraph 3.1, when the RPO has no previous experience of Gender Equality Plans or of Gender Budgeting, the first step usually is a Gender Auditing Report which mainly represents a State-of-the-art Report describing where to start from. It analyses therefore for the first time with this perspective all the 4 steps of the performance cycle (Planning, Budgeting, Implementing, Auditing) and provides an assessment of the RPO in terms of gender equality.

In the case of the Planning Phase, since the RPO has not yet developed a GEP, only the general RPO Strategic Plan may be analysed in the Gender Auditing Report. This level of analysis, therefore, aims at detecting some gender equality cues in the RPO Strategic Plan, that may be directly or indirectly identifiable.

Always referring to the list of capabilities, it may be useful to answer to questions like:

- a. Does the RPO Strategic Plan mention gender equality expressly in any point? If yes, concerning which specific aims of the RPOs plan? And to which capability can the reference to gender equality be attached? Is gender equality reference related to a specific Stakeholder?
- b. Does it mention any initiatives addressed directly to close the gender gap? (e.g. gender quotas in the RPOs governance bodies, specific grants for women, events and conferences of gender equality in the RPO, RPO internal rules for authorships and citations that favour gender equality, guidelines to achieve gender equality across the board of scientific conferences). If yes, do they impact on which capability and which stakeholder is involved?
- c. Does it mention any initiatives indirectly addressed to close the gender gap? (e.g. RPO care facilities for children and elderly, initiatives to support smart working etc.). If yes, do these initiatives impact on which capability and which stakeholder is involved?

This kind of screening is important to construct the basis to develop a GEP for the following year.

➤ *The RPO has already developed a Gender Equality Plan*

In case the RPO has already adopted a GEP, the Gender Auditing Report will have the task of verifying its results mainly concerning the implementation phase: having already decided the previous year what to do and the resources to allocate for it, in the Auditing phase the attention is mainly focused on its objectives' effective achievement taking into account the time span for action. The results' evaluation will represent the decisional support to implement the GEP for the following year and to decide the resources for it in the budgeting phase.

Therefore in the Gender Auditing Report there will be a part recalling the objectives for the current year the GEP had committed the RPO to pursue.

Also in this case, referring to the capabilities' scheme and stakeholders' classification allows to maintain a homogeneous pattern of analysis in every phase, which favours the general evaluation of the report and of the process as a whole.

However while trying to reconstruct GEP's implementation, in the gender auditing phase one can often face difficulties related to the quality of the GEP. GEP could in fact lack a clear specification of the aims and objectives to be achieved, or, in case of a clear set of aims and actions, GEP could not include the connected indicators for evaluation nor the resources assigned to them. Therefore in this case Gender auditing can recognize the weaknesses of the existing GEP and provide valuable suggestions to better design a sustainable and effective GEP.

4.3 STEP 3: Budget reclassification with the gender perspective.

When the RPO plans interventions for the following year, the definition of the political choices and the preparation of the budget represent the decision-making power at its peak with regard to all the administered intervention areas, including the gender-sensitive ones. With the budget approval, in fact, the final commitments are definitely undertaken on the available resources and on their distribution and their recipients.

The management and implementation phase as well as services, interventions and activities, represent therefore the follow-up phase of the budgeting step.

In general terms, the budget structure of the RPO refers to the country's laws and is always drawn up in compliance with the regulations in force. Despite countries' different rules, all the RPOs' budgets always have to represent correctly and comprehensively the accounting and financial aspects of the activity performed.

RPO's accounting systems therefore, always provide for very detailed and in-depth possibilities of analysis of accounting items, with a broad articulation and codification.

A common accounting rule, despite the different countries' regulations, is the double key of representation into the yearly **RPO's financial statement**: the balance sheet, which represents a snapshot of the RPO financial condition at a due date, and the statement of profit and loss, a financial statement that presents the revenues and expenses incurred during a specified period.

Both the Balance sheet and the Statement of profit and loss are developed each year both at budgetary level and at auditing level, and the gender perspective analysis, to be truly efficient and effective, should be developed in both these two levels, even if the auditing phase is more technical and therefore easy to implement, while the budgeting phase, concerning a decision-making process and a "political approach" requires undoubtedly a stronger institutional will to be pursued.

Despite both the balance sheet and the **statement of profit and loss** offer the possibility of a gender perspective analysis, it is advisable to focus on the latter one. The Balance sheet, in fact, represents a financial perspective that mainly refers to the accounting management while the Statement of profit and loss explains what has been done during the year in terms of revenues and expenses. It has therefore a direct connection with the decisions that have been undertaken during the year following the GEP, in case the RPO has already one, or following the RPO Strategic Plan if the RPO has not one yet.

In any case every kind of financial statement is thought to have the objective of the correct accountancy whose **classification** criteria are made to give evidence of the accounting nature of the item and therefore does not allow

an overview of the most relevant items in terms of gender. Above all, it has to be always remembered, accounting criteria are due to measure the means and do not give evidence of the unsaid impact of reproductive work, as well as of gender stereotypes, as recalled in paragraph 2.1.

In order to achieve transparency in the interpretation of the gender issues within the financial statement, it is therefore necessary to develop a **reclassification of the budget** concerning both revenues and expenses within the statement of profit and loss, as well as assets and liabilities (in case the reclassification of the balance sheet is preferred), according to different objectives that may represent:

- a **gender scale of priority** that identifies budget areas directly relevant to gender, indirectly relevant to gender, environmental areas and neutral areas
- a **capabilities' analysis** which reflects the same capability analysis already developed to classify stakeholders and to develop the gender context analysis.

To develop such reclassification it is necessary to select the more detailed accounting item which better allows to identify its gender impact with reference to revenues' contributors or expenses' beneficiaries and then aggregate it with a gender classification code with a bottom-up process. According to the different countries' accounting rules or RPO's management accounting control system the base unit for gender accounting may for example refer to cost centres, responsibility centres, projects accounting. This accounts' gender classification is due only for the first year, since all the following gender budgets will only require an accounting update always using the same gender reclassification code according to the two main reclassification objectives:

- The **gender scale of priority** represents which intervention areas have a higher impact on Gender Equality, starting from the most relevant under this point of view.

As suggested, amongst others by Sharp (2003) three areas of "relevance" to gender may be identified.

The areas **directly relevant to gender** represent activities expressly aimed at equal opportunities and at overcoming inequalities between women and men. For example it is possible to include within this kind of items: grants obtained for projects on gender issues, sponsorships gained to develop research on gender studies, expenses for events concerning gender equality, grants or awards for female students, expenses for tutoring or mentoring assistance aimed at improving women's leadership, services to prevent sexual harassment, expenditures related to the activities of the equal opportunity committee, etc. Usually these areas represent a very small part of the overall budget, very often they do not exceed 1% of total revenues or expenses, but are important not at quantitative level but at qualitative level, since they represent a sign of interest and attention by the RPO to gender equality.

The areas **indirectly relevant to gender** Issues are the areas of intervention whose impact refers to aspects indirectly connected with gender differences, even if they are not expressly addressed to women or men. Examples of accounting items concerning this area may be: revenues for projects concerning social studies, all personnel costs of any level, expenses for childcare facilities, outplacement services ecc. Usually every accounting item which is connected to beneficiaries or contributors identifiable as females or males is classified within the areas indirectly relevant to gender. Also expenditures that can impact on variables having a potential gender equality effect falls in this category, like expenditures devoted to childcare facilities or flexible work arrangements that can help main carers to balance work and family life can be computed in the scheme.

The **environmental areas** include areas of intervention in which the gender mainstreaming approach is constantly taken into account with reference to environmental variables that may influence women and men's capabilities even if it is not possible to measure the impact in terms of specific contributors or beneficiaries since they refer to the RPO in general terms. Examples of accounting items in this case may be: grants from Ministries and other central or local authorities, from public or private entities without specific spending constraints, purchase of consumable for laboratories, purchase of books, magazines and bibliographical materials ecc. In these cases the gender impact may be esteemed with a revenue or cost sharing according to the F/M general target (e.g. costs for consumable for laboratories may be shared on the basis of F/M that work in them).

The fourth area, the **neutral area**, represents RPO's activities which have no evidence of financial items that may be measured with gender impact indicators. This area, with respect to the gender mainstreaming theory, should not exist. In some cases, anyway, the link to the gender impact is so weak or so old that it is not possible to give evidence of it. This is the case, for example, of amortisation, depreciation, financial income, interest and other financial charges.

➤ The **capabilities' analysis** reflects the same capability analysis already developed to classify stakeholders and to develop the gender context analysis

The gender scale of priority may be further detailed with the capabilities' analysis (Addabbo et al, 2010) which offers a direct link to the stakeholders capability classification and related analysis of context. In the budgeting/auditing phase this classification offers an accounting perspective on the economic weight that the RPO recognises to the different capabilities in general terms. The use of gender quantitative indicators related to contributors and beneficiaries according to the context analysis (see par. 4.1) and implementation analysis (see par. 4.4) will then allow to split the total amount for each capability by gender. A general and whole comprehensive reclassification budget will show the main capability concerning the accounting

item, while a specific reclassification for each capability will allow to give evidence to the multidimensional dimension also including the other secondary capabilities included (e.g.: the voices mainly referred to the capability of research also have impact on the capability of access to career and on the capability of care of oneself and the others). This kind of second level of capabilities' reclassification is useful to evaluate the multiple gender effects on capabilities of the revenues and expenses.

The matrix for reclassification as a result of this double level of reclassification should look like table 5.

Table 5: General Matrix on the overall budget:

Scale of priority	Example of Capabilities	F/M Stakeholders involved	Department to refer to	Example of Revenues accounting items	€	Example Expenses accounting Items	€
Direct, Indirect, Environmental, Neutral	Access to knowledge	Students,	Students' Department	Grants from public institutions for teaching,	0	Personnel costs for Teaching	0
		professors		University tuition fees and dues due by the students		Students support costs	
	Access to work and business	Students	Outplacement Department	Grants from public institutions for students' outplacement	0	Costs for outplacement activities	0
	Access to research	Doctoral graduates, researchers, professors	Research Department	Grants from public institutions, private entities and sponsors for research	0	Personnel costs for research	0
	Access to careers	Doctoral graduates, researchers, professors, members of board	Board, Human Resources Department	Grants from public institutions, private entities and sponsors for gender empowerment and career advancement	0	Costs for the members of board	0
	Caring for Oneself and others	All stakeholders	Board, Human Resources Department	Revenues for projects on facilities for personal caregivers	0	Caregiving facilities, Expenses for smart working	0

Source: Our elaboration

While analysing this gender impact and while building the budget analysis method, it is always important to keep a double point of view in the gender equality relevance, concerning an **individual level of gender equality and a collective level**. For instance, while analysing the budget for Grade A professors it is important to make evidence of the per-capita gender differences (is the average earning of a female Grade A professor different from a male Grade A professor? If yes, why?) but it is also important to assess the total gender differences (how much the budget personnel costs for Grade A professors are split between female and male professors?). Obviously in the latter case the

lower number of Grade A female professors will unveil the financial unbalance in the women's career advancement and will reflect the gender inequality from the systemic and collective perspective.

Another point to refer to while planning the methodology of gender budget analysis concerns the evaluation of the **margins for change**. For instance, it could take years to significantly change the gender balance among Grade A professors and this can be related to the availability of Ministerial funds to call new professors Grade A in a given structure but also on the presence of women professors qualified in a given area. This awareness will help during the planning and budgeting phase to adopt realistic objectives of change and to plan short, medium, long term objectives to reach according to the different timing due for change.

4.4 STEP 4: Implementation: Analysing RPOs Activities with the gender perspective.

The budget reclassification according to gender priorities and capabilities offers some first financial and economic evaluation criteria that can be further deepened by comparing revenues and expenditures with the **results of the implementation phase** related to them.

The auditing of the implementation phase in the Gender Auditing report therefore starts with an **overall screening** of all the reclassified accounting items and the check of available gender disaggregated data concerning them, whether they may be direct or indirect data, with specific females/males contributors/beneficiaries, or environmental data, where the impact is evaluated with general gender context criteria.

Following the same structure of the Capabilities' Approach, activities will be therefore evaluated with reference to the revenues and expenses related to them by planning a set of specific **qualitative and quantitative indicators**.

Some indicators will rely on gender disaggregated data already collected within the gender context analysis, others will need a further effort to collect other specific quantitative or qualitative data arising from administrative data (for instance personnel payrolls) interviews or focus groups to stakeholders.

Qualitative data, in particular, are of basic importance also to **monitor the rules** governing the access to services or activities and that might limit the capabilities' growth with a gender unequal impact. The budget, in fact, gives an overview of how much money the RPO has at disposal and how much is spent for activities and services, but does not give evidence of how the money is obtained or spent according to the rules and procedures that might hide discriminatory gender impact. It has to be considered that very often rules are unintentionally gender biased: every time gender differences are overlooked taking for granted that there is a neutral impact, there is a significant risk that a gender discrimination is perpetuated at unveiled level. In some other cases a

new awareness might arise and lead to different decisions in the future. For example, if a national grant is funded on the basis of the number of students attending the University where there are more females than males, there is a favourable gender impact that may be then taken in account in the resources' spending. Consider the criteria for distribution of research funds, if one criteria for eligibility is years since PhD award date and no reference is made in the eligibility period to maternity or paternity leave this may result in a gender discrimination connected to the higher probability that mothers interrupt their career being in maternity or parental leaves and do not account for paternity and parental leaves by fathers therefore discriminating against researchers having interrupted research work profiles related to care work.

It is important to underline that GA, like GB, includes the evaluation of all the specific activities that have been developed according to the GEP, but also offers the opportunity to adopt a **wider perspective**, since it goes through all the budgeting/auditing items, investigating each of them about their gender impact. This way GA may highlight activities or services that might reveal an unforeseen gender impact, or may inspire new ideas for the following year's GEP.

In evaluating activities and their implementation, the qualitative initiatives involving **stakeholders' feedback and participation** are of basic importance to make evidence on the unseen gender impact which is at the basis of gender inequality.

In this phase the role of stakeholder has to be considered at different levels according to their different roles within the Stakeholders Map and the Capabilities' perspective. Stakeholders, in fact, may be direct contributors or beneficiaries for the financial resources used to implement the activities, or may be indirect contributors, beneficiaries and also external agents supporting gender equality. The same stakeholders may also have different roles according to the different capabilities under scrutiny.

For example, the capability of **care for oneself and the others** might have a very small part of the budget, if not at all, but it is a capability which may heavily influence the capability of research and of access to knowledge as for teaching personnel. This aspect, since caring facilities are not a primary function for RPOs, may not be adequately represented in the budget, but may emerge clearly thanks to qualitative surveys.

In this case F/M stakeholders may play a different role and have a different perspective and specific interest according to their being current, potential or previous caregivers.

Measuring such unseen and unaware impact with respect to the different stakeholders' needs is therefore essential to strengthen the political will of the RPO to take responsibility on this issue and intervene in allocating specific funds or negotiating with local authorities for more or specific caring facilities.

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