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PORTRAITS ON BANKNOTES: A STUDY OF THE GENDER GAP

by Angelamaria Fiori*

Abstract

Notwithstanding the growing tendency to move beyond a celebratory perspective and to depict non-human subjects, portraiture remains highly popular in banknote design. Historically, however, these portraits have been exclusively male, and while some female portraits have begun to appear over time, depictions of women remain rare even today. In fact, using a database created specifically for this study, we can see that women, excluding Elizabeth II, are present on only 5.6% of banknotes and on 9% of those featuring portraits. While in recent years some central banks have established gender equality on banknotes a priori, in other cases female portraits have been introduced following participatory public campaigns that have called for greater recognition of women's contributions to society. Given that the iconography of banknotes aims to express the values and identity of the issuing country and to depict subjects to whom citizens can easily relate, it is important that central banks remain attentive to civil society and follow its changes.

Classificazione JEL: D63.

Parole chiave: banknotes, banknote design, gender diversity, diversity and inclusion, public consultation.

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* Banca d'Italia, Banknotes Directorate.

1. Introduction¹

“Banknotes are not only a means of payment, they are also pieces of craftsmanship, reflecting the soul of the nations issuing them”^{2,3}. With this statement, Wim Duisenberg, the first president of the ECB, effectively summarised many properties of the banknote: functionality, dependent upon authentication by the public and usability in exchanges, high-volume printability with available technologies, and the message communicated, usually linked to the identity of the issuing country. Furthermore, the design of a banknote is also an expression of the period in which it was created. A 2004 study of 19th and 20th century banknotes from 15 European countries showed that their iconography has been anything but static and that, given the affinity of banknotes between countries, the graphic choices substantially reflect a pan-European zeitgeist⁴. It is therefore possible to identify distinct periods: while an initial pre-1920 period saw the repetition of national symbols and mythological figures which referred to the state and institutions, the subsequent period (1920-1950) was characterised by allegorical scenes as a representation of society, and from 1950, the period known as “masters and masterpieces” can be clearly identified, in which portraits of illustrious personalities and references to their works begin to appear. The ‘post-modern’ period, from 2000 onwards, would instead be characterised by an attempt to replace the portrait with other themes, open to multiple interpretations and not necessarily endowed with a celebratory function. Despite this more recent trend, of which the euro is probably the most illustrious representative³, the portrait still features prominently in the iconography of the banknote and represents a powerful form of recognition for the character represented. Although we have fewer occasions than in the past to encounter different banknotes in everyday life in the euro area, experience suggests that the prevalence of male figures over their female counterparts remains very strong; this article thus focuses on banknotes featuring real and identifiable women and on some specific requests addressed by the public to central banks to improve the gender gap.

2. The gender gap on banknotes

Featuring no portraits and with their design strictly dedicated to architecture with no reference to specific works, places or authors, the first series of euro banknotes appears gender neutral and expresses several concepts, including the deeply egalitarian idea that Europe is everywhere around us though not in any specific place⁵: the euro, therefore, is a series of banknotes whose concept matches perfectly the definition of post-modern. In the second series of euro banknotes, in which the subjects featured in the first series have been graphically reworked, the portrait of Europa has been introduced and is present both in the watermark and in the holographic foil. Europa is a mythological figure which cannot be classed alongside characters portrayed for celebratory purposes, and therefore for the purposes of this study the euro is considered as not showing human subjects, even in the case of the second series.

Looking into the past of our own country, it emerges that portraits are not prevalent among the banknotes of the Kingdom of Italy issued between 1866 and 1944: in fact, there are only 13 representations of 4 male characters who actually existed⁶. Instead, approximately half of these banknotes feature (on the front or back) anonymous female figures with an allegorical or decorative function. The most commonly featured

¹ This work would be less rich without valuable insight from Eloisa Perazzolo, Michele Manna and Riccardo Basso. My thanks also go to Edoardo Maiella for his pivotal contribution in collecting the data and creating the database.

² H. de Heji “Designing Banknote Identity” – DNB Occasional Studies n. 3 2012

³ ECB “Euro banknote design exhibition” available at https://www.ecb.europa.eu/pub/pdf/other/euro_catalogueen.pdf

⁴ J.E.C. Hymans “The changing color of money: European currency iconography and collective identity”, *European Journal of International Relations* (2004) 10 (1), 5-31

⁵ J.E.C. Hymans “Money from Mars? The Euro Banknotes and European identity” from *The Year of the Euro – The Cultural, Social and Political Import of Europe’s Common Currency*, University of Notre Dame, Indiana, 2006

⁶ Camillo Benso, Cristopher Columbus, Umberto I and Vittorio Emanuele III.

female subject is *Italia turrita*, an allegorical personification of Italy, together with *Italia laureata*, another allegorical personification of the country, Athena, the Great Mother (an allegorical representation of motherhood) and the allegorical representation of the Italian maritime republics. Looking at the banknotes issued from 1946 onwards, we find 17 portraits of 15 celebrated figures⁷ among which is included a single woman, Maria Montessori, to whom the 1000 Lire note issued in 1990 was dedicated.

In the aforementioned study on the banknotes of 15 European nations, Hymans⁴ reports that until 1949, no woman appears among the personalities portrayed on banknotes (51 in total); in the period 1950-79, only 2 women were portrayed, out of 76 individuals in total; and finally, between 1980-2004, out of 79 portraits, only 10 featured women.

Broadening our gaze to the rest of the world, a 2016 analysis by US digital media company Vox of the banknotes in circulation at the time⁸ reveals that, excluding fictional characters, unidentified female figures and commemorative banknotes, 48 out of 196 countries had at least one woman depicted on their current banknote series. More specifically, Vox reports that out of 1,300 different banknotes, only 120 depicted a woman (9.2%) and in 74 cases this was Elizabeth II of England⁹; thus, the remaining 46 notes represented approximately 3.5% of the total.

Experience, Hymans's observations up to 2004, and the Vox data from 2016 all suggest that banknotes featuring female portraits are rare. The published data, however, does not take into account the fact that many banknotes feature no human elements at all, and therefore does not allow us to quantify the actual gender gap. In order to make a precise assessment of the gender gap and also to collect more detailed data, we carried out a survey on a large number of banknotes issued globally since 2000.



Figure 1 The latest series of Indonesian banknotes is dedicated to national heroes, with Tjut Meutia (1870-1910) portrayed on the 1000 rupiah note as a symbol of the strength and pride of Indonesian women. Tjut Meutia played an active role in the conflict to liberate Indonesia from Dutch rule. Divorced from her first husband, she supported her second husband, a political and military leader who was later imprisoned and executed by the Dutch, in the fight against the oppressor. After her third husband died in battle, Tjut Meutia, armed only with a traditional knife, led the remnants of the Indonesian fighters. She was executed by the Dutch. Source: Wikipedia and Central Bank of Indonesia.

⁷ Two individuals, Christopher Columbus and Giuseppe Verdi, are featured on two banknotes each.

⁸ Zachary Crockett "The US is finally putting a woman on the \$20 bill — but 48 other countries beat us to it", 21 April 2016 <https://www.vox.com/2016/4/21/11456180/women-us-money>

⁹ Not all banknotes feature portraits, and since the study does not report the number of men depicted, it is not possible to numerically estimate the gender gap using this data.

2.1. The distribution of women on banknotes

The survey, which does not claim to be exhaustive, was based on the search function of a website dedicated to numismatics¹⁰ and allowed us to identify banknotes issued between 2000-2023 and to collect detailed information for each banknote. When classifying doubtful or clearly poorly catalogued cases we consulted the publication *“Standard Catalog of World Paper Money – Modern Issue 1961- present, 25th edition”*¹¹ and the websites of the relevant national central banks. The database was expanded to include those countries that adopted the euro in 2002, and comprised 59 banknotes issued from 1984 to 1998 by 12 European countries. For each banknote, the year of issue, the denomination, the presence of at least one human subject and their relative identity and gender were recorded.

The collection is drawn from highly heterogeneous situations for the following reasons 1) the period covered by the study can include one or more different series of banknotes for each country, 2) each series may be characterised by a new theme or subjects or be a restyling, i.e. a graphic reworking of the same theme and the same subjects as the previous series, 3) during the reference period some countries issued relatively few new banknotes while others, on the contrary, issued dozens (up to 74). It should be noted that banknotes from British Overseas Territories, Gibraltar, the Falkland Islands, territories such as the Isle of Man and the island of Jersey which fall under the responsibility of the British government, and those from countries which are part of the United Kingdom such as Scotland and Northern Ireland (hereinafter these territories and areas will be assimilated to other countries), were also included. On the basis of these criteria, the research allowed us to create a database of 2,229 banknotes issued by 171 countries.

For convenience, the numerical data discussed below are also reported in Table 1.

The female presence on the banknotes was found to be equal to 9.7% (217 banknotes in total) and in 93 cases this presence was Elizabeth II; excluding Elizabeth II, therefore, banknotes dedicated to a woman represent 5.6% of the total.

As anticipated, the research allowed us to estimate the gender gap and also to collect additional information.

35.6% of the sample of banknotes examined did not feature human subjects either on the front or on the back; banknotes with non-anonymous male portraits were found to make up 53.7% of the total (84.6% of those with portraits); conversely, banknotes with at least one non-anonymous woman made up 9.7%¹² of the total (15.4% of those with portraits). The portrait is normally printed on the front, traditionally the more important side in terms of design and number of security features, but several cases were found in which a portrait was present on both the front and the back. The portrait on the front is traditionally printed using intaglio, a relief security print achieved using high pressure and engraved metal plates; where there is a portrait on the back, however, this is generally printed using the more common method of offset printing.

Elizabeth II appears on 97 banknotes from 15 countries (on 93 as the only woman and on 87 as the only person depicted). On these notes, Elizabeth II is always portrayed in intaglio on the front, while on 10 banknotes a second person is portrayed on the back using offset printing (6 men, 4 women). Elizabeth II is currently the most depicted person in the world on banknotes and coins¹³ for various reasons, including her longevity in office and the fact that she appeared on banknotes even before her coronation¹⁴. However, her record is less interesting than those instances in which the female subject depicted is not a queen, as this clearly represents a deliberate choice.

¹⁰ Numista, a unique platform to learn, collect, swap and share about numismatics <https://en.numista.com/>

¹¹ “Standard Catalog of World Paper Money – Modern Issue 1961- present, 25th edition” 2019, Krause

¹² The remaining 0.7% feature an anonymous male or female figure.

¹³ “Queen Elizabeth II / 865 Products” at Banknote World <https://www.banknoteworld.com/queen-elizabeth-ii/>

¹⁴ Elizabeth II first appeared on a Canadian \$20 note in 1935, at age 9.

If we exclude Elizabeth II from consideration, there are 124 banknotes featuring at least one non-anonymous woman, or 5.6% of the total (about 9% of the banknotes featuring portraits if we exclude the 93 in which Elizabeth is present exclusively). Excluding the appearance of repeated subjects, either because they are present on multiple denominations or because the banknotes are restylings of notes already issued, the number of different subjects for both genders was collected: the number of different female subjects was 85 (14.1%), while the number of different male subjects was 511 (85.9%).

Low denomination banknotes have a greater circulation, so the characters depicted on them enjoy greater visibility; in terms of recognition, however, greater relevance is conveyed by portrayal on a high denomination note (sovereigns, for example, where not present on an entire series of banknotes, are always represented on higher denominations). In order to verify the distribution of banknotes with female portraits in terms of denominations, the denomination of each of these banknotes (excluding Elizabeth II) was compared with the middle denomination (calculated theoretically)¹⁵.

This ratio, averaged at a global level, is equal to 1.06. It should be noted that, as explained in the following paragraph, the situation in different countries varies widely, with some having dedicated more banknotes to female personages (28) while others have issued only one banknote with a woman (21). As regards this specific group, it is possible to observe that in only 4 countries is the sole female banknote a very low denomination (lower than one standard deviation from the mean, or less than 0.67).



Figure 2 Lesia Ukrainka (1871 – 1913) was a Ukrainian poet. Her work mainly addressed civil issues, in particular the suffering of her people under Russian domination. She criticised the passivity and resignation with which Ukrainians accepted Russian occupation and praised the armed struggle for the independence of her country. Lesia Ukrainka has been on Ukrainian banknotes since 2001, and the image above is a commemorative issue featuring the design of the note in circulation with a silkscreen-printed element commemorating 30 years of independence added to the left of the portrait. Source: Wikipedia and Central Bank of Ukraine.

With some exceptions, the tendency to depict queens or heads of state on high-denomination banknotes is confirmed: this occurs in the case of Transnistria with Catherine of Russia, of pre-euro Belgium with Queen Paola of Belgium, and of the Philippines with Corazon Aquino (former president of the country). In conclusion, the data shows that banknotes featuring female portraits are concentrated in neither low nor high denominations, and furthermore that 46 out of 50 countries have issued more than one banknote

¹⁵ There are 51 countries with at least one woman on their banknotes. One country, however, has issued 74 banknotes of 36 different denominations, one of which features the portrait of a woman. The calculation of the average denomination was not carried out in this exceptional case, which could not be meaningfully compared with the others. Consequently, the following considerations are based on a set of 50 countries.

dedicated to a woman or have issued a single female banknote, though this does not represent the lowest denomination. Therefore, although the reasons behind the individual choices are not known, it is possible to affirm that a large part of the 50 countries in question have not made a downward compromise when celebrating one or more women on their banknotes.

The number of banknotes featuring female subjects, the average denomination, the number of different subjects, and the overall average denomination are reported country by country in Table 2.



Figure 3 Rose Chibambo (1928 - 2016) was a prominent political figure during the British protectorate of Nyasaland and after Malawi gained independence in 1964. In her early years, she was a national activist for the involvement of Malawian women in the country's independence movement. She was arrested for anti-colonial activity along with her 2-week-old son and received international support and attention while in detention. After independence, she became the first woman to sit in parliament and to hold the post of minister. Following political differences with Hastings Kamuzu Banda, Malawi's autocratic president from 1966 to 1994, she spent almost 30 years in exile before returning to her homeland. The banknote features the parliament building in the background. Rose Chibambo was featured on the 200 Kwacha banknote while she was still alive. Source: Reserve Bank of Malawi.

2.2. Countries that have featured women on their banknotes

In order to characterise any differences and also to identify situations in which the representation is more balanced, the country-by-country data were analysed in detail. There are in total 50 countries with at least one non-anonymous woman, excluding Elizabeth II, on their banknotes, and these are distributed across all continents. The number of banknotes with female portraits varies from 1 to 10 but in some cases this data is affected by restylings, which, for the purposes of this analysis, cannot carry the same weight as banknotes featuring an original design; therefore, to avoid the unwanted impact of restylings, the number of different female subjects represented was collected for each of these countries. The distribution is varied: most countries (33 in total) have limited themselves to portraying a single woman, but there are also countries with

- 5 different female subjects (Sweden and Scotland),
- 4 (Australia, Peru and pre-euro Germany),
- 3 (Denmark and Colombia),
- 2 (10 countries across Asia, South America, Europe and Central America).

In order to understand the male-female ratio country by country, the total number of unique individuals represented was collected and the fraction of female subjects was then calculated.

Excluding the former British sovereign from both the number of female subjects and the totals, the situation of the countries with the smallest gender gap (female personages out of total personages) is shown below:

- Australia has reached 50%, i.e. perfect gender parity. Sweden, when considering only the banknotes of the most recent series, also has perfect gender parity (see par. 5); however, the database also includes the banknotes from the previous series, which shifts the figure downwards, from 50 to 45%. Finally, Denmark and Germany achieved gender parity in previous series of banknotes, though the former now uses banknotes without portraits and the latter is part of the Eurosystem.
- Norway and Peru stand at 40%;
- Scotland, the Czech Republic, Canada and Japan both record values above 30%;
- Colombia and the Dominican Republic stand at values >25%.

2.3. The women represented

The present survey covers the most recent banknotes, and reveals a situation that has clearly improved with respect to the past (indeed, Hymans' observations reported above suggest that female portraits on banknotes were almost entirely absent before 1980). A direct testimony given in 2000¹⁶ reports that feminist movements had long been demanding with some vehemence more female subjects on banknotes, and that the initiative of some central banks to celebrate at least one woman was precisely in response to these requests. It must however have been common to consider these women as being far less prestigious personages than their male counterparts, and consequently less worthy of recognition.

While it is not possible to go into the merits of this judgment, we considered it useful to understand what types of female characters were chosen to be celebrated.

In this survey, 85 women were identified; although we recognise that it is not possible to fully explore and understand the contribution to and importance of each one to their own country, and we are aware that the simplifications made may be reductive, each was assigned a profession or area of activity, and these roles/areas were then aggregated into 11 categories. The largest category (43 records) was that of artists, half of whom were writers or poets (including 2 Nobel Prize winners) and half were visual artists, singers, actresses, craftswomen, a dancer, and a musician. The second largest category (10 records) was that of social activists: in addition to two humanitarian doctors, this group includes women who fought for their rights (for example, for the right to vote and to be elected to parliamentary bodies), for civil rights, for the rights of prisoners, and for the education of the most vulnerable sections of society, children and women. Inevitably, women's rights activism permeates other categories as well, because in the past, in order for women to play an active role in society outside the family and obtain recognition, they were required both to possess a specific awareness of their condition of subordination and to make a considerable effort to try to overcome it. Almost as large (9 records) was the category of political activists, that is, women who, in the absence of an official political role, nevertheless made an important contribution (thus becoming defined as heroines) in the context of a conflict or war for the independence of their country. Six exponents of the social and human sciences were also identified, including three pedagogists (Italy's own Maria Montessori among them), a historian, an anthropologist and a sociologist. The smallest categories were those of political figures (4), scientists and exponents of applied sciences (4), entrepreneurs (2, plus one already included in the category of social activists), religious figures (2), queens (3) and historical figures of the past (2, including one queen from the 3rd and one from the 12th century AD).

In order to provide a comparison with men, a random sampling of 85 male subjects was taken from the total 511. As expected, the largest category (more than a third of the sample) was that of political figures, followed by artists (more than half of whom were writers and poets, then musicians and painters), scientists and exponents of applied sciences, exponents of social and human sciences; finally, 3 explorers and a

¹⁶ Roberto Mori "Un biglietto per l'Europa. La progettazione della prima serie di banconote europee" Bancaria Editrice, 2000

religious figure were also found in the sample. Unlike in the case of the female subjects, no activists in the social field appeared in the sample.

Beyond the fact that there are numerous artists in both groups, it is difficult to draw detailed conclusions from the comparison of the two samples, particularly due to a merely superficial knowledge of the personages involved and the impossibility of a detailed understanding of so many different stories and cultures. It is however possible to observe a certain inversion: in the male sample, it is above all political figures, or decision makers who are celebrated; in the female sample, though, the second largest category is that of social activists, people who have worked from below to change the status quo created by the political system.



Figure 4 Patria, Minerva and Maria Teresa Mirabal (1924, 1926, 1935 – 1960) stood out for their political activism against the dictatorship of Rafael Trujillo. Minerva (the middle sister), the most passionate and radical in her political ideology, was the first woman in the Dominican Republic to graduate from law school but, due to her opposition to the regime, she was prevented from practicing. Maria Teresa (the youngest) and Patria (the eldest) were also politically involved, and together they were known as “las mariposas”, or the butterflies. Both Minerva and Patria were arrested several times for subversive activity carried out with their husbands, both among the leaders of an anti-Trujillo organization. Patria, Minerva and Maria Teresa were killed by close collaborators of Trujillo while they were on their way to visit the husbands of Maria Teresa and Minerva in prison. The murders shocked the public and the sisters became a popular symbol of resistance to the dictatorship, as well as an example of integrity and courage for all Dominican women. In 1999, the UN assembly established November 25, the anniversary of their assassination, as the International Day for the Elimination of Violence against Women. There were actually four Mirabal sisters: Belgica was not involved in politics and dedicated her life to raising her grandchildren and keeping the memory of her sisters alive. Source: Wikipedia and The New York Times.

3. Australia, Canada and the United Kingdom in detail

Since 1992, the Reserve Bank of Australia has featured a woman on either the front or the back of each denomination¹⁷, meaning, as we have already noted, that Australia has long since achieved gender parity on banknotes. Furthermore, given that two women are represented on the front and two on the back and that all the portraits are printed in intaglio, it is also worth noting the perfect equality in the distribution of the portraits and in the use of the intaglio printing.

This result was not achieved without a public campaign, however: in 1990 the Reserve Bank of Australia decided to replace Caroline Chisholm, a human rights activist and the only woman (with the exception of

¹⁷ Reserve Bank of Australia Website “Banknotes in Circulation” <https://banknotes.rba.gov.au/australias-banknotes/banknotes-in-circulation/>

Elizabeth II) on the banknotes in circulation at the time. The populace reacted by mobilising, and hundreds of schools and private citizens signed petitions asking the Bank to reconsider the decision; furthermore, the choice was also criticised in a robust and bipartisan manner across the political divide. The Women's Electoral Lobby argued that the decision demonstrated the bank's total disregard for women and their role in Australian society, and launched a campaign with the aim - later achieved - of seeing the same number of men and women represented on Australian banknotes.¹⁸



Figura 5 Mary Gilmore (1865-1962), portrayed on the Australian \$10 note (left) was a writer, journalist, poet and social activist. She fought for the rights of workers and the underprivileged, edited a women's column in *The Australian Worker* for almost 30 years and during the Second World War wrote patriotic verses that quickly became very popular. She was appointed Dame Commander of the British Empire, the highest honour bestowed on women by Britain. Her popularity was such that upon her death she received a state funeral. Mary Reibey, an Englishwoman portrayed on the Australian \$20 note (right), arrived in Australia as a prisoner, following a conviction for theft. After her release she distinguished herself for her entrepreneurial activity in the transport sector and, in recognition of her abilities, was appointed a partner of the Bank of New South Wales. During the second part of her life she devoted herself to philanthropy. Source: Reserve Bank of Australia. The 10 dollar bill (left) is part of the most recent series issued in 2015 which retained the themes and subjects of the previous series, while the 20 dollar bill (right) belongs to the latter.

Gender equality is now also underlined by the Reserve Bank of Australia itself¹⁹, which reports that it has set itself the additional goal of maintaining the widest possible diversity by ensuring that the selection process includes women representing a range of fields and disciplines. As a result, the final selection was to portray a poet, an entrepreneur, a politician and a singer. These choices were confirmed for the restyling issued in 2015.

The United Kingdom, which traditionally dedicates the front of all its banknotes to the sovereign (the portrait being printed in intaglio) and the back to the portrait of an illustrious personality (printed in offset), saw a similar mobilisation when, in 2013, after the replacement of Elizabeth Fry (philanthropist and promoter of reform within the British prison system) with Winston Churchill on the back of the £5 banknote, Caroline Criado Perez, referring to the Equality Act - a British law that aims to eliminate gender discrimination -

¹⁸ Petra Stock "Face off: Australia's complicated history with the faces on its banknotes" *Australian Geographic* 4 October 2022 <https://www.australiangeographic.com.au/topics/history-culture/2022/10/face-off-australias-complicated-history-with-the-faces-on-its-banknotes/>

¹⁹ Reserve Bank of Australia Website "Pocket guide to Australian banknotes - The Reinvention of Banknotes - The Reinvention of Identity" <https://museum.rba.gov.au/exhibitions/pocket-guides/the-reinvention-of-banknotes/the-reinvention-of-identity.html>

started a campaign calling for more women to be included in the design of future banknotes²⁰. Thanks in part to social media, it garnered significant support²¹ and the Bank of England arranged a meeting with Perez specifically to discuss the topic²². The final choice for the reverse of the £10 note was the writer Jane Austen and, while announcing the news, Governor Mark Carney underlined the Bank's commitment to championing and celebrating diversity²³. In the same year, the Bank of England also announced that it had updated the selection process for people chosen to be represented on banknotes, clarifying both its methods for consulting citizens and the principles underlying the selection of historical figures (including taking into account the choices made previously so that the personages portrayed taken as a whole reflect the diversity of British society)²⁴.

The British story was echoed in Canada with similar results. In 2011, the only female subject featured on Canadian banknotes²⁵ was replaced by an icebreaker ship, and in 2013 the historian Merna Foster launched a public petition demanding that women continue to be represented on banknotes and, more generally, that banknotes represent the gender and ethnic diversity of the Canadian population²⁶. The campaign had a significant impact - so much so that, on the basis of data collected in 2016 by an independent research institute, it was estimated that 80% of Canadians were in favour of seeing a woman, in addition to Queen Elizabeth, on their country's banknotes²⁷.

In the same year, the Bank of Canada launched a public survey to select a Canadian woman to feature on the \$10 note, receiving more than 26,000 responses containing 461 different nominations. In a public speech celebrating the success of the consultation, the Governor of the Bank of Canada, Stephen Poloz, imagined how each of the participants might have approached the search for illustrious women in their profession, in their geographical area or in the history of their university, thus helping to highlight the contribution of so many women to Canadian history and culture²⁸. The independent advisory committee (which included

²⁰ Elizabeth Walsh "Bank of England under fire for not putting women on notes", Guardian, 12 May 2013 <https://www.theguardian.com/lifeandstyle/2013/may/11/bank-of-england-women-notes>

²¹ Caroline Criado-Perez "How social media helped me get Jane Austen on to £10 notes", Guardian 11 April 2015 <https://www.theguardian.com/lifeandstyle/2015/apr/11/how-social-media-helped-jane-austen-banknotes-caroline-criado-perez> "Women on banknote' campaign backed by MP" BBC 22 June 2013 <https://www.bbc.com/news/uk-england-leicestershire-23011925>

²² "Statement following a meeting with Caroline Criado-Perez" press release by the Bank of England 10 June 2013 <https://www.bankofengland.co.uk/news/2013/july/statement-following-meeting-with-caroline-criado-perez>

²³ "Jane Austen to feature on Bank of England banknotes" press release by the Bank of England 24 July 2013 <https://www.bankofengland.co.uk/news/2013/july/jane-austen-to-feature-on-bank-of-england-banknotes>

²⁴ "Outcome of review into process and principles for selecting banknote characters" press release by the Bank of England 18 December 2013 <https://www.bankofengland.co.uk/news/2013/december/boe-announces-outcome-of-review-into-process-and-principles-for-selecting-banknote-characters>

²⁵ The \$50 note featured "The Famous Five" or "The Valiant Five," a group of five women who in 1927 launched a petition to have women considered "qualified persons," eligible to sit in the Senate. The Supreme Court of Canada initially ruled that they were not; however, following an appeal, the Judicial Committee of the British Privy Council overturned the ruling and the women won their battle.

²⁶ <https://www.change.org/p/bank-of-canada-add-women-from-canadian-history-to-canadian-bank-notes>

²⁷ "Famous Five's' Nellie McClung top, but not majority choice as female face to appear on new Canadian bill" Angus Reid Institute 19 May 2016 <https://angusreid.org/women-on-money/>

²⁸ "Viola Desmond to be featured on new \$10 / Viola Desmond figurera sur un nouveau billet de 10 \$" Youtube channel for the Bank of Canada, video live streamed on 8 December 2016 <https://www.youtube.com/watch?v=C8bJd8G9JKY>

Foster²⁹) narrowed the number of nominations down to 12, with the final choice being Viola Desmond, an entrepreneur and anti-segregationist activist of African descent.

In announcing the outcome of the selection, Minister Patty Hajdu explicitly thanked Foster not only for having started the campaign, but also for having demonstrated the strength and perseverance necessary to achieve her goal¹⁸.

4. Some considerations on the under-representation of women

A widespread hypothesis about the scarcity of women on banknotes is that, due to the limitations imposed on women's activity in the past, they have offered a correspondingly limited contribution in all fields, thus providing few examples of excellence. The striking gender disparity would therefore not be the result of an under-representation of women, but rather a fair distribution of recognition based on merit.

In order to evaluate this statement, the arguments put forward by the two activists cited above (Merna Foster and Caroline Criado Perez) were examined, and some of the themes they raised, already addressed in academic settings by other scholars, were explored in depth.



Figura 6 Viola Desmond (1914 – 1965) was a businesswoman of African-descent from Halifax, Nova Scotia. In 1946, she challenged segregation in Canada by sitting in the section of a theatre dedicated exclusively to whites. After refusing to move, she was forcibly moved on and arrested. She was later charged with tax evasion on a pretext (the seat she had occupied at the theater required one cent more in taxes than the one she had bought the ticket for). She faced the trials that followed without being able to demonstrate that the treatment she received was based on racial discrimination. Desmond's story had a significant impact on the African-Canadian community, who found in her the inspiration to oppose discrimination. Source: Bank of Canada.

Lamenting the absence of women in Canadian history books, Canadian activist and historian Merna Foster had already published "100 Canadian Heroines: Famous and Forgotten Faces"³⁰, a collection of short biographies of women who had played an important role in the history of her country, before the 2011 campaign. For Foster, the contribution of women was unfairly under-represented because the deeds of many exceptional female figures had been overshadowed by other, more celebrated male enterprises, and thus memory of them had faded. To demonstrate the fact that there were many women worthy of being

²⁹ "A Bank NOTE-able Canadian Woman: Advisory Council members and Expert Panel members" – Bank of Canada website page <https://www.bankofcanada.ca/banknotes/vertical10/banknoteable-woman/advisory-council-and-expert-panel-members/>

³⁰ Merna Foster "100 Canadian Heroines: Famous and Forgotten Faces", Dundurn, 2004

celebrated by the community, even if they were not well-known, Foster published “100 more Canadian Heroines: Famous and Forgotten Faces” in 2011.³¹

Caroline Criado Perez, the activist who led the British campaign, addressed the issue of the systematic under-representation and lack of consideration of women's contributions in her book “Invisible Women: Exposing Data Bias in a World Designed for Men”³². Criado Perez argues that the under-representation of women results in a highly gender-asymmetric availability of information, with consequences for the lives of all of us; conversely, she explains how in some exemplary cases, taking women's needs into consideration resulted in benefits for all. Criado Perez received several threats and described how her campaign aroused a lot of anger³³ among certain people who perceived it as deeply unfair that a woman could be represented on British banknotes, since the all-male selection (with the exception of the Queen) reflected strictly meritocratic criteria: to be eligible for such recognition, the historical figures in question had to have made universally recognised and lasting contributions, been uncontroversial, and be widely known. According to Criado Perez, however, these very criteria constitute a bias since the subordinate role assigned to women has constituted an insurmountable obstacle to their contributions being appreciated, valued and remembered, even when recognised.



Figure 7 Jane Austen (1775-1817) was a British writer who made an important contribution to the literature of her country, in particular to the early period of the flourishing of the English novel of the nineteenth century. Her fame grew only after her death, in large part because, given that literature was not among the activities deemed suitable for a woman, she always published anonymously or under a pseudonym. Her witty depictions of the bourgeois society of her time, attention to detail and clear prose are the most appreciated characteristics of her writing. Her novels have been translated into many languages and are now among the most famous and widely-read works of English literature. In 2013, for the 200th anniversary of the publication of "Pride and Prejudice", the Royal Mail dedicated a series of stamps to her.

Foster and Criado Perez's views are not held in isolation and neither is their thesis new: the awareness that women's work has been belittled and too often forgotten, along with the need to recover their contributions is now common to almost all disciplines. To delve deeper into the theme, we have chosen here to focus on the case of women in science because it is paradigmatic and can also be extrapolated to evaluate other fields.

There has long been a deep-seated preconception that women are not naturally suited to the technical and scientific fields due to their innate limitations, both for evidently cultural reasons and because this thesis has

³¹ Merna Foster “100 more Canadian Heroines: Famous and Forgotten Faces”, Dundurn, 2011

³² Caroline Criado Perez “Invisible Women: Exposing Data Bias in a World Designed for Men” Vintage Publishing, 2020

³³ Feminist campaigner says police have lost evidence on Twitter rape threats” Guardian edition, 5 September 2013 [Feminist campaigner says police have lost evidence on Twitter rape threats | X | The Guardian](#)

been put forward in the past, using blatantly anti-scientific arguments, by scientists and philosophers.³⁴ Although the issues relating to cultural conditioning and explicit and implicit biases have long since been raised, debated and, at least to some extent, resolved³⁵ and although it has been demonstrated, thanks to advanced imaging techniques, that the human brain is not sexually dimorphic³⁶, this prejudice unfortunately persists, and even today it is sometimes necessary to reiterate that there is no evidence of the alleged innate inclinations attributed to women and men³⁷. Women have been prevented from participating as fully as men in scientific progress by prohibitions, limitations, conditioning and discrimination; nevertheless, even what participation there has been has been undervalued, and the contributions they have made, as explained below, have not been adequately recognised. Science historian Margaret W. Rossiter³⁸ recounts how as a student at Yale in the 1970s she asked her professor if there had ever been any women scientists and the answer was that there had not³⁹: this would become the motivation for the thirty-years of meticulous research that led to the publication of her three volumes titled "Women scientists in America"⁴⁰. The evidence collected led Rossiter to conclude that there has been a systematic undervaluing of the role of women in science, resulting in women firstly being unable to access degree courses and doctorates, then being incorrectly classified in research institutions with respect to their skills, and finally seeing the merits of their work go unrecognised if not attributed exclusively to male colleagues. With respect to this last point, the cases described by Rossiter are the result of various mechanisms, but produce the same result: for purely illustrative purposes, these include close collaborators who have been excluded from recognition⁴¹, wives whose work and names have been absorbed by those of their husbands after marriage⁴², and decisive contributions that initially went unrecognised and then, when their importance was demonstrated, belittled⁴³. Rossiter recognizes that this mechanism is similar to a more general phenomenon already described in 1968 by the sociologist Robert K. Merton and called the "Matthew effect" which consists in attributing to already famous figures the achievements of other less famous or completely unknown people. Merton, who describes a vicious circle in which already celebrated people continue, at the expense of marginal figures, to accumulate advantages, does not express a moral judgment. Indeed, he suggests that less prominent scientists seek the collaboration of more famous ones in order to have their work published directly by them. On the contrary, Rossiter describes numerous cases of missed rewards as injustice and states that, given the gender perspective and context, it is possible to define a specific version of the

³⁴ "Donne nella scienza – la lunga strada verso la parità" Maria Pia Abbracchio, Marilisa D'Amico, Francoangeli, 2023

³⁵ Virginia Valian "Why So Slow? The Advancement of Women" MIT, 1998

³⁶ L. Eliot "Dump the dimorphism: comprehensive synthesis of human brain reveals few male-female differences beyond size", *Neuroscience and behavioural Reviews* 125, 2021

³⁷ "B. Barres "Does gender matter?" *Nature*, vol. 442, July 2006

³⁸ Margaret W. Rossiter "Women scientists in America – forging a new world since 1972" The John Hopkins University Press, 2012

³⁹ Rossiter also adds that, according to her professor, Marie Curie's success was due to her husband's work and talent.

⁴⁰ The first volume, subtitled "Struggles and strategies to 1940", dates back to 1982, the second, "Before affirmative action, 1940-1972" was published in 1995 and the last, "Forging a new world since 1972" is from 2012.

⁴¹ Frieda Robscheit-Robbins should have shared the 1934 Nobel Prize for Medicine with George Hoyt Whipple; Chien-Shiung Wu should have shared the 1957 Nobel Prize for Physics with T.D. Lee and C.S. Yang; Lisa Meitner should have shared the 1944 Nobel Prize for Chemistry with Otto Hahn. Reported in Margaret W. Rossiter "The Matthew Matilda effect in science" *Social Studies of Science* SAGE vol. 23 (1993)

⁴² Ruth Hubbard should have shared the 1967 Nobel Prize for Medicine with her husband, George Wald, who was later credited with all of his wife's previous work. Reported in Margaret W. Rossiter "The Matthew Matilda effect in science" *Social Studies of Science* SAGE vol. 23 (1993)

⁴³ Rosalind Franklin provided crucial experimental evidence to James Watson and Francis Crick, who benefited from it for the work for which they were awarded the 1962 Nobel Prize in Medicine. Franklin was already dead by 1962, so she could not have received the prize, but she was not even mentioned. Watson later recalled her contribution in an understated way. Reported in Margaret W. Rossiter "The Matthew Matilda effect in science" *Social Studies of Science* SAGE vol. 23 (1993)

Matthew effect for women.⁴⁴ In search of a name, Rossiter decided to pay homage to Matilda Joslyn Gage, a women's rights activist who in the 19th century had already published "Woman as an Inventor", a book in which unrecognised female contributions to the realisation of various successful inventions were claimed: the Matthew effect was thus renamed the "Matilda effect".

On the basis of these considerations, it is therefore more than legitimate to doubt that the 5.6% of banknotes with a female figure as opposed to the 53.7% of male figures, or 9% of female portraits against 91% of male ones, is the result of an evaluation of women's contribution on an exclusively meritocratic basis. But in addition to questions of equity in the recognition of deserving figures of the past, improving the gender gap on banknotes and proposing more women as role models would also have a positive impact on the future.

In the introduction to Merna Foster's first book³⁷, Kim Campbell, the first and so far only woman to have held the office of Prime Minister in Canada, discusses the theme of leadership and gender using in part the arguments of Virginia Valian, a psycholinguist, cognitive scientist and theorist of male-female differences in the professional sphere. Valian explains the reasons for male hegemony in top roles and, like Campbell, argues that this impacts on the present and strongly influences the gender gap in the future. According to Valian's analysis, we live immersed in a system of biases and cultural patterns that produce small advantages for men and equally small disadvantages for women; while small, these advantages/disadvantages accumulate over time to create the highly asymmetric realities that we experience daily.⁴⁵ The overwhelming predominance of men in top roles creates a cognitive pattern, a prejudice, so that we think of a man as the ideal example of a leader, while a woman is considered a less effective example. When dealing with concrete situations, we are then subject to confirmation bias and consider a female leader an exception, and hence we neglect her example and quickly forget her merits. Therefore, according to Campbell, highlighting the contributions of extraordinary women and publicly acknowledging their value (even on banknotes) is a source of inspiration for new generations and is useful for changing the perception of the role of women and the preconceptions that human beings use not only to formulate hypotheses about their role and to create expectations, but also to interpret the behaviours they observe.

Foster echoes these words, arguing that the images that surround us contribute towards creating our vision of the world, as well as expressing what we consider important in our culture and in our history. It is therefore no longer acceptable that women, who represent half the population and provide important contributions in all areas of knowledge and existence, are not equally represented in the various fields of our existence, including banknotes.⁴⁶

5. The United States

No woman has ever been portrayed on US dollar bills, with the exception of Martha Washington, wife of the first president George Washington⁴⁷; in 2012, a non-profit organization, "Women on 20s," was founded with

⁴⁴ Margaret W. Rossiter "The Matthew Matilda effect in science" *Social Studies of Science* SAGE vol. 23 (1993)

⁴⁵ To make this concept more tangible, Valian cites a study (R. F. Martell, D. M. Lane, C. Emrich "Male-female differences: a computer simulation", *American Psychologist*, 51, 1996) in which an algorithmic simulation is proposed: in the simulation there are 8 hierarchical levels, at the lowest level the number of women and men is identical but men are given a 1% advantage in promotions: the result of the simulation is that after only a few iterations the highest level of the hierarchy is already 65% male.

⁴⁶ Merna Foster "Women of worth. Here's an idea for a sesquicentennial project: Let's close the gender gap." 31 May 2017 <https://www.canadashistory.ca/explore/women/women-of-worth>

⁴⁷ Heather Hennerich "Women's History in the Treasury and on U.S. Money" 1 March 2023 <https://www.stlouisfed.org/open-vault/2023/march/womens-history-in-treasury-us-money>

the aim of replacing Andrew Jackson, portrayed on the \$20 bill, with a woman⁴⁸. Following an online poll, the candidate selected was Harriet Tubman⁴⁹, an African-American born enslaved woman who became an anti-slavery activist, and whose work as a ‘conductor’ on the Underground Railroad helped many enslaved people to flee from Maryland to Pennsylvania, thus freeing themselves. The project to replace Jackson with Tubman, initiated under President Obama, was suspended under President Trump but has now been reinstated by President Biden with the intention of issuing the new bill in 2030⁵⁰. Given that Andrew Jackson was a wealthy landowner from the South who owned a plantation with approximately 100 enslaved people and that as President he signed the Indian Removal Act, contributing significantly to the deportation of Native Americans, the choice of Tubman takes on powerful symbolic resonance and suggests, as in the case of Viola Desmond, that the design of banknotes can be not only a means of celebrating the past and marking collective identity, but also a vehicle for ethical values - such as inclusion - and social values - such as cohesion - as well as an opportunity to recognise the contribution of certain groups of people who have so far been excluded from official representation. Furthermore, the Jackson-Tubman substitution raises the issue of the critical re-examination of historical facts, and thus of reconciliation with the past.

In 2015, the U.S. Treasury Department announced that a woman would be featured on the new \$10 bill, in an effort to honour a figure who is an exemplar of the inclusive exercise of democracy⁵¹. The Secretary of the Treasury, as part of his or her responsibilities regarding the design of the bills, would seek input from anyone who wished to share ideas, symbols, or designs that expressed their own concept of democracy. The new bill’s design was originally scheduled to be unveiled on the centennial of women gaining the right to vote in the United States, in 2020; the project was delayed, however, and the new bills are currently scheduled for issuance in 2026 for the \$10 bill and, as previously mentioned, in 2030 for the \$20 bill.⁵²

6. Denmark, Sweden, Germany and Scotland

Other countries have made commendable choices without the prompting of public campaigns, or in advance of the other reported cases.

The series of banknotes issued in Denmark in 1972, comprising 6 denominations, featured the portraits of 5 women and one man⁵³. The advantage in favour of women was then rebalanced with the 1997 series, comprising 5 denominations, in which 2 women and 2 men appear, and the highest denomination features a man and a woman together (a married couple, both artists). The current series, issued in 2009, does not feature portraits, instead depicting architectural elements.

The final series of banknotes for the German mark, issued in 1989 (of which three denominations were issued in a different variant but with the same design in 1996) features an equal representation of men and women, with the two genders alternating with respect to the denominations, starting from the highest denomination, which features a man. The characters depicted by the Bundesbank were chosen from various historical personalities, and among the women it selected several artists and an entomologist.

⁴⁸Elle Metz “Which country has the least sexist banknotes?” 13 April 2015 BBC News <https://www.bbc.com/news/magazine-32204664>

⁴⁹ Women on 20s Association website, survey results page <https://www.womenon20s.org/results>

⁵⁰ Alan Rappeport “Biden’s Treasury will seek to put Harriet Tubman on the \$20 bill, an effort the Trump administration halted.” New York Times edition 25 January 2021 <https://www.nytimes.com/2021/01/25/us/politics/tubman-20-dollar-bill.html>

⁵¹ U.S. Department of Treasury “Secretary Lew Announces Historic Decision To Feature A Woman On The Newly Redesigned Ten Dollar Note” <https://home.treasury.gov/news/press-releases/jl0079>

⁵² Currency redesign on The Bureau of Engraving & Printing website <https://www.bep.gov/currency/currency-redesign>

⁵³ “Historical banknotes” webpage from the Danmarks Nationalbank <https://www.nationalbanken.dk/en/what-we-do/notes-and-coins/historical-banknotes>



Figure 8 Greta Garbo (1905, 1990) was a Swedish-American actress, one of the most famous in the history of cinema, and was ranked fifth by the American Film Institute among the greatest actresses in the history of cinema.

In Sweden, the General Council of the Riksbank's Drafting Committee for the Design of Banknotes and Coins established gender equality among the requirements during the selection phase of themes and subjects in 2011,⁵⁴; thus, in the period 2015-2017 Sweden issued three banknotes dedicated to female personages and three dedicated to male personages.

In considering the case of Scotland it should be noted that the country uses pound notes issued by both the Bank of England and three local commercial banks: the Bank of Scotland, the Clydesdale Bank, and the Royal Bank of Scotland. While maintaining the same synthetic polymer support and the same security features as the banknotes issued by the Bank of England, these banknotes all feature different subjects. The series of four banknotes issued by the Royal Bank of Scotland in 2021 contains the portraits of as many women.

7. Conclusion

7.1. Citizen involvement, the use of portraits, and diversity

Incidences of public mobilisation suggest that banknotes continue to be perceived as powerful visual communication tools in which citizens expect to see themselves represented; thus it seems that, in many ways, the use of iconography by the State for pedagogical or propaganda purposes has largely been superseded. Indeed, in his study on the relationship between banknotes and collective identity, Hymans is of the opinion that the search for themes and subjects for banknotes has the clear objective of strengthening the legitimacy of the issuing institutions by expressing values with which the public can identify⁴. Based on this bottom-up legitimisation mechanism, it is therefore vital for central banks to remain attentive to civil society.

Given the use of public consultations to identify the themes or subjects to be represented, it seems that some central banks are already going in precisely this direction.

⁵⁴ "New banknote and coin series - Themes and motifs" March 2011, Sveriges Riksbank website <https://www.riksbank.se/globalassets/media/sedlar--mynt/sedel--och-myntutbytet-2015-2017/engelska/themes-and-motifs>

In 2011, the Swedish Central Bank reported that it had given citizens the opportunity to provide suggestions for the design of the new banknotes and had received many suggestions for subjects to be depicted, the majority of them real people⁶¹; In particular, many suggestions favoured the writer Astrid Lindgren, who was eventually portrayed on the 20 kronor note. In 2014, the Bank of Canada began a review of the criteria for selecting subjects to be depicted on its banknotes and invited Canadians to comment on the principles to follow when choosing the theme of their banknotes⁵⁵. Furthermore, as mentioned above, in 2016 Canadians were asked to propose women to be featured, their proposals then being assessed by a committee of experts. In 2015, the Bank of England involved the public for the first time in choosing the character to be portrayed on the £20 note; it then used the same process in 2018 for the £50 note⁵⁶. In this context, the opinion poll launched by the European Central Bank in 1996 to identify the subjects for the first series of the euro appears truly pioneering. In 2023, the opinion of European citizens was once again asked on the themes proposed for the third series of euro banknotes; the result of the survey is now being used by the ECB as input in the next phase for the choice of design.

The portrait has long been considered a tool with which to promote public trust, as well as an actual security feature, since the recognisability of a face would be significantly affected by even minimal variations¹. Recent perception studies indicate, however, that these functions have been surpassed by other features^{57,58} and it has therefore been suggested that the portrait now has a predominantly emotional value³⁸. This function should in no way be considered secondary, however, because, since the involvement of the public is linked to their knowledge of the note and its security features, the emotional qualities of a banknote are also relevant to its functionality. It is noteworthy that for the design of the recent series of banknotes, Sweden initially considered other elements (architectural styles, buildings, plants, animals), but ultimately took the decision to retain the portrait, for reasons related not only to tradition and security, but above all because portraits are a subject to which individuals relate effectively⁶¹.

The cases of Australia, Canada, the United Kingdom and the United States all confirm that not only are the public still deeply invested in portraits, but also that this involvement, in a period characterised by a greater sensitivity towards discrimination, cannot ignore inclusion or the representation of those groups whose contributions have not yet had full recognition. Therefore, despite the emergent trend of using other themes, it seems unlikely that the portrait will be replaced any time soon; on the contrary, considering these new demands, it will probably come to be recognised as a novel communicative force. Given this situation, its use must include a commitment to representing the public differently than in the past: the figures portrayed do not only represent role models, but are increasingly perceived as examples of *who* can be considered a role model.

The data collected by Vox regarding the gender gap on banknotes in 2016⁵ has been cited on the web and the poor representation of women on banknotes commented upon⁵⁹ without the situation subsequently

⁵⁵ "Principles of bank note design" <https://www.bankofcanada.ca/banknotes/principles-bank-note-design/>

⁵⁶ "Our new banknotes: the journey from design to launch Quarterly Bulletin 2021 Q3" <https://www.bankofengland.co.uk/quarterly-bulletin/2021/2021-q3/our-new-banknotes-the-journey-from-design-to-launch>

⁵⁷ Osamu Masuda, Marius Pedersen, Jon Y. Hardeberg "Features contributing to the genuineness of portraits on banknotes" J. Print Media Technol. Res. 5 (2016) 1, 53–59

⁵⁸ Hans de Heij "Banknote design for retailers and public" DNB Occasional Studies Vol.8/No.4 (2010)

⁵⁹ Santiago Bedoya Pardo "Women on Bills: Countries that feature women on their banknotes" International Accounting Bulletin 26 April 2023

Women on Bills: Countries that feature women on their banknotes - International Accounting Bulletin Katharina Buchholz "Women On Banknotes Remain Rare" Forbes, 3 February 2023 <https://www.forbes.com/sites/katharinabuchholz/2023/02/03/women-on-banknotes-remain-rare-infographic/?sh=464d0f5f632c>, "Women on Banknotes Around the World" on Banknote World

improving. It should be kept in mind, however, that a significant amount of time is required to design, produce and issue a new banknote and that the situation could change rapidly in the future depending on the choices of those countries which are now required to replace the image of Elizabeth II. It should also be noted that some of these countries have already decided to remove the reference to the British crown and, for example, in the case of the Reserve Bank of Australia it has also been decided to introduce an indigenous-themed design in place of Elizabeth II, portrayed on the front of the \$20 banknote⁶⁰. The Bank of Canada has not yet taken a position on the issue⁶¹; however, as part of the selection process launched in 2020 for the design of the new Canadian \$5 banknote, 8 candidates have thus far been identified: an artist who found inspiration in her experience of the semi-nomadic life of Inuit tradition, a French-Canadian journalist who fought for social rights, especially those of women, two Native American veterans of the First World War, an activist for the integration of the Chinese community, a disabled man known for his activism in cancer research, a humanitarian activist of Czech origins, and the leader of a confederation of Native American tribes.⁶² The celebration of diversity therefore seems to be the dominant theme in both Canada and Australia; in 2021 the Bank of England issued a new £50 British banknote, dedicated to the mathematician Alan Turing. Turing, who is best-known for having cracked German encryption systems during the Second World War, was charged with "gross indecency" for his homosexuality, and ordered to choose between prison and chemical castration, which was most likely the cause of his subsequent suicide⁶³. In recounting his story and his importance to the LGBT+ community, the Bank of England stated that his contribution reminds us not only of the importance of embracing all aspects of diversity, but also of the work still to be done in order to become truly inclusive.⁶⁴

7.2. An exercise

In 2022, an article with an intriguing title and content - "*If women designed banknotes*" - was published on the website of a British financial company. The article provides data on gender distribution on banknotes and puts forward proposals for women to be portrayed on future banknotes. The data contained in the article include banknotes issued in the relatively distant past compared to the research presented here (it concerns approximately 3,000 banknotes issued starting from the 16th century) and some Eurosystem countries are discussed as though possessing their own national currency: it is evidently an intellectual exercise and in this context the proposal of sportswomen is interesting (considering the almost total absence of sportsmen on banknotes, the number of proposals - 4 in total - is remarkable). Also suggested were women involved in space exploration (3 proposals, including an aerospace engineer and 2 astronauts), scientists, and activists for the rights of women and LGBT people, the majority of whom are still alive⁶⁵. The exercise suggests for Italy, were it not part of the Eurosystem, Artemisia Gentileschi, a seventeenth-century painter, and Bebe Vio, a Paralympic athlete. Gentileschi is known for "*Judith Slaying Holofernes*", which legend has it portrays her

<https://www.banknoteworld.com/blog/women-on-banknotes-around-the-world/>, Katharina Buchholz "Women on banknotes remain rare" 6 March 2023 World Economic Forum [Women on banknotes remain scarce, globally - here's why | World Economic Forum \(weforum.org\)](https://www.weforum.org/)

⁶⁰ Nick Perry, Rod McGuirk "Australia is removing British monarchy from its banknotes" AP News 2 February 2023 <https://apnews.com/article/queen-elizabeth-ii-king-charles-iii-australia-business-25f05caba7d4d71b6952e52d695f4107>

⁶¹ Nick Logan "Will Charles III replace Queen Elizabeth on Canadian money any time soon?" CBC News 10 September 2022 <https://www.cbc.ca/news/canada/king-charles-canadian-money-1.6578839>

⁶² Your candidates for the next \$5 bank note <https://www.bankofcanada.ca/banknotes/banknoteable-5/nominees/#short-list>

⁶³ In the past, by contrast, celebrating a homosexual, even a person of undisputed merit and fame, was considered unacceptable. See Roberto Mori, note 13.

⁶⁴ "The new £50 note unveiled" 25 March 2021 webpage from the Bank of England <https://www.bankofengland.co.uk/news/2021/march/the-new-50-note-unveiled>

⁶⁵ "If women designed money" <https://www.moneyboat.co.uk/blog/if-women-designed-money>

painting teacher, who had used violence against her, in the guise of Holofernes, and *"Self-Portrait as an Allegory of Painting"*, in which the allegorical female figure, usually anonymous, takes on the real appearance of Artemisia, allowing her to affirm her intellectual and technical equality with male painters. In fact, a banknote from the last series of lire, with the famous banknotes dedicated to Caravaggio and Raphael, could have been dedicated to Gentileschi; in addition to the remarkable graphic rendering that we might easily imagine, the note would also have conveyed an important message of female empowerment.

The choice of Bebe Vio is somewhat surprising, however, in part because athletes have almost never previously been represented, but above all because the characters we are used to seeing on banknotes have already been widely historicised, and as such their contributions and life experience can be grasped in their entirety, fully understood and valued accordingly. It should be noted that the temporal distance of the characters portrayed on banknotes appears to have shortened in recent years (two examples are that of the Swedish Central Bank, which in 2011 established that the characters portrayed must have been active in the twentieth century⁴⁴ and of the Colombian Central Bank, which in 2015 issued banknotes dedicated to personalities who had died only a few years earlier⁶⁶). In general, however, with the exception of sovereigns and other rare cases (for example that of Rose Chibambo), almost no central bank has thus far taken the initiative to portray a living person.

The aim of these proposals is evidently to amaze, include hitherto unrepresented professional categories, highlight little-known female personages, and to question some of the criteria that have thus far guided the choice of people depicted on banknotes. Indeed, these criteria are not set in stone: unlike flags and national anthems, banknotes are renewed with a certain frequency, and therefore, to echo the words of Duisenberg quoted earlier, can follow the evolution of the soul of the nations that issue them.

⁶⁶ The current series of Colombian banknotes, issued between 2014 and 2015, features Debora Arango, an artist who died in 2005, Virginia Gutiérrez de Pineda, an anthropologist who died in 1999, Alfonso López Michelsen, a politician who died in 2007, Gabriel García Márquez, a writer who died in 2014, and Carlos Lleras Restrepo, a politician who died in 1994.

Table 1 - Summary of the results of the survey of banknotes issued in the period 2000-2023 and of the banknotes of the latest series in local currency of the Eurosystem countries of 2002

2229	total banknotes recorded
171	countries/areas/territories
793	banknotes with non-human subjects on both front and back
35.6	% banknotes without human subjects compared to the total
217	banknotes with at least one non-anonymous woman on the front or back
9.7	% banknotes with at least one non-anonymous woman compared to the total banknotes
1196	banknotes with at least one non-anonymous man on the front or back
53.7	% banknotes featuring a man compared to the total
15.4	% banknotes with a woman compared to the total banknotes with human subjects (banknotes with two portraits are counted twice)
84.6	% banknotes with a man compared to the total banknotes with human subjects (banknotes with two portraits are counted twice)
93	banknotes with Elizabeth II as the only woman
4	banknotes with Elizabeth II on the front and another non-anonymous woman on the back
124	banknotes with at least one non-anonymous woman on the front or back excluding Elizabeth II
5.6	% banknotes with a woman excluding Elizabeth II compared to total banknotes
8.8	% banknotes with a woman excluding Elizabeth II compared to total banknotes with portraits (banknotes with two portraits are counted 2 times)
85	number of different female subjects represented
511	number of different male subjects represented
14.3	% female subjects compared to the total number of subjects
85.7	% male subjects compared to the total number of subjects
9	% female subjects compared to the number of total subjects without Elizabeth II
91	% male subjects compared to the number of total subjects without Elizabeth II
61	countries/areas/territories with at least one non-anonymous woman on the front or back
51	countries/areas/territories with at least one non-anonymous woman on the front or back excluding countries with Elizabeth II as the sole woman featured

Table 2 - Number of banknotes, number of different subjects, and average denomination of banknotes with female portraits, country by country

Country	n. banknotes with female portraits	n. different female subjects	average denomination of banknotes with female portraits (central denomination =1)
Australia	8	4	1.17
Austria	1	1	1.14
Belgium	1	1	1.71
Bolivia	1	1	0.67
Canada	2	2	0.86
Cape Verde	1	1	1.33
Chile	2	1	1.14
Colombia	3	3	0.83
Costa Rica	3	2	1.33
Czech Republic	2	2	1.14
Denmark	5	3	0.87
Dominican Republic	10	2	1.22
Estonia	1	1	1.33
France	1	1	1.60
Georgia	2	1	1.33
Germany	4	4	0.89
Haiti	1	1	0.22
Iceland	1	1	1.33
Indonesia	5	2	0.78
Ireland	1	1	0.40
Israel	2	2	0.80
Italy	1	1	0.25
Jamaica	2	1	1.00
Japan	1	1	1.20
Kyrgyzstan	2	1	0.50
Malawi	2	1	1.09
Mexico	5	2	1.29
New Zealand	2	1	0.67
Nigeria	1	1	0.69
Norway	2	2	1.00
Paraguay	1	1	0.50
Peru	5	4	1.27
Philippines	8	2	1.63
Romania	1	1	0.89
Serbia	2	1	1.02
Sierra Leone	1	1	1.67
Slovenia	2	1	1.43
South Korea	1	1	1.60
Sweden	6	5	0.67
Switzerland	1	1	0.86
Syria	1	1	1.00
Transnistria	1	1	1.78
Tunisia	1	1	0,80
Turkey	1	1	1.25
UK	2	2	0.60
UK - Scotland	5	5	1.00
Ukraine	2	1	1.45
Uruguay	3	1	1.50
Venezuela	3	2	1.50
Zimbabwe	1	1	n.d.