

Banknotes as a Symbol of Economic and National Power

A Case Study of German, French and Italian Banknotes in the 19th and First Half of the 20th Century¹

ABSTRACT: Banknotes and their design play an important role in creating a nation's identity. This paper analyzes the design of German, French and Italian banknotes in the period after the formation of national states in the 19th century until the outbreak of World War II. We take into account the economic development of these countries and relate it to banknote issuance. Our analysis reveals that the banknote design in German states mirrored the economic conditions of the country, whereas such a relation is not observed in France or Italy.

*“When bankers get together for dinner, they discuss art.
When artists get together for dinner, they discuss money.”*

Oscar Wilde (1854–1900)

I. Introduction

Banknote issuance has been rarely discussed from an economic perspective in research literature. The artistic design of banknotes has been studied through various perspectives depending on the discipline. It is a subject of specialist books on art history,² while technical literature focuses on anti-counterfeiting measures, political geography focuses on the ideological and nation-forming aspects of currencies,³ and sociology and psychology sometimes focus on the hidden meanings behind the na-

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- 2 E. g. Douglas Mudd, *All the Money in the World. The Art and History of Paper Money and Coins from Antiquity to the 21st Century*. New York, NY 2006; David Standish, *The Art of Money. The History and Design of Paper Currency from around the World*. San Francisco, CA 2000.
- 3 Tim Unwin / Virginia Hewitt, *Banknotes and National Identity in Central and Eastern Europe*, in: *Political Geography* 20 (2001), pp. 1005–1028; Jacques E. C. Hymans, *East is East, and West is West? Currency Iconography as Nation-branding in the wider Europe*, in: *Political Geography* 29 (2010), pp. 97–108; Jan Penrose, *Designing the Nation. Banknotes, Banal Nationalism and Alternative Conceptions of the State*, in: *Political Geography* 30 (2011), pp. 429–440.

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tional images (Billig coined the famous term “*banal nationalism*”⁴). However, the relation between the economic conditions of a country and the design of its banknotes has never been discussed before. As de Heij states, “*a banknote is the ambassador of the country and the culture it represents. The banknote is the front or show piece of a nation, often referred to as the calling card or business card function*”.⁵ Thus, we might expect some positive correlation between the design of banknotes and the state of a country’s economy. On the other hand, as Boulding claims, the national image can be considered as a “*lie, or at least perspective distortion of the truth*”,⁶ which may refer to the propaganda functions of banknotes, especially in states facing difficult economic conditions or the change of political elites. Thus, one has to be cautious when interpreting the images appearing on national currencies and deriving conclusions from them.

Of course, to examine whether it is generally true that economic conditions are mirrored on nations’ banknotes, one would have to conduct statistical analysis, taking into account different countries in different periods to find robust results. This has been done for banknotes from the perspective of sociology and the theory of post-materialism. Jacques Hymans compares European paper money from 15 countries since the 19th century and shows that while the values depicted on the banknotes evolve across time, the direction of the change is common for all countries. His first observation is that over time the design shifted from representations of the state (depicted as classical gods, ornamental figures) towards representations of society (sector representatives, e.g. peasants, allegorical figures of industry, trade) and individual portraits (historical non-state figures who made significant contributions to science, art, etc.). Moreover, he notices that banknotes at first referred mostly to traditions (antique symbols), then to more materialist goods (battleships, tools, coins) and to post-materialist culture (references to writers, painters, philosophers). This change can be mainly noticed in the 20th century and can be observed in all countries that we consider.⁷ Boulding notes that national images typically have a historical nature and may extend back to the mythological past of the nation, which is clearly visible on the design of the banknotes, at least on their early versions, before we moved to the individual and post-materialistic culture.⁸ In general, banknote design seems to be especially important when a new nation or state is being formed. With time, at least

4 Michael Billig, *Banal Nationalism*. London 1995. ‘Banal nationalism’ describes “*the ideological means by which nation-states are reproduced*” (p. 6) even after the creation of the state and not only in times of crisis (opposite to the usual nationalism which is mostly visible while a nation is being created or has to defend itself). Banal nationalism is often visible on visual representations of the nation used every day – such as stamps or banknotes.

5 Hans de Heij, *Designing Banknote Identity (DNB Occasional Studies 10/3)*. Amsterdam 2012; see also Piotr Piotrowski, *Retoryka banknotu. Przyczynek do badań kultury wizualnej dwudziestolecia międzywojennego*, in: *Artium Quaestiones 2 (1983)*, pp. 131–143, esp. p. 132.

6 Kenneth E. Boulding, *The Image*. Ann Arbor, MI 1959, p. 122.

7 Jacques E. C. Hymans, *The Changing Color of Money. European Currency Iconography and Collective Identity*, in: *European Journal of International Relations 10 (2004)*, pp. 5–31.

8 Boulding, *Image* (cf. note 6).

as far as the European banknote design is concerned (before the introduction of the euro), the banknote design drew closer, a fact that Pointon notices from the 1940s on, examining British, German and French currency design.⁹

This paper is the first step towards the analysis of banknote content from an economic perspective. It is a case study of three countries that evolved from observations that the German banknote design in a particular period tended to mirror the economic state of the country. We apply descriptive analysis, focusing on the ideological content of the notes and its links to different symbols of national strength, as well as different sectors of the economy. Looking at the banknotes of the German Empire (1871–1918), which had evolved to become the strongest economy in Europe in the period considered, one can see a clear link between the economic conditions and the art presented on the banknotes. Given the economic and political developments in Europe in the late 19th century and at the beginning of the 20th century, it is reasonable to compare the trend observed in Germany with similar developments in Italy and in France. Why did we choose these countries? Here, political geography comes into play. We chose them because they all belong to the bloc of Western European countries, but most importantly, they all formed new states in the second half of the 19th century. Italy was the first one, proclaiming in 1861 the Kingdom of Italy that survived until 1946 when the Italian Republic was formed. Similarly, in France, in 1870 the French Third Republic was proclaimed that survived until 1940 when it was replaced by the Vichy France government. The German unification took place in 1871 and the German Empire survived until 1918, when it was replaced by the federal republic (The Weimar Republic, 1919–1933) and subsequently followed by the ‘Third Reich’ (1933–1945). Looking at Figure 1, which presents the gross domestic product (GDP) in Germany, France and Italy in 1850–1938,¹⁰ we see that the economic developments in France and Germany were highly correlated over this time period (the correlation coefficient for GDP in France and Germany over this period was 96 percent, and in per capita terms, 94.8 percent). In contrast, the plot for Italy (the dashed line) is significantly different from the two other lines during World War I when the GDP growth was positive in Italy, but negative in France and Germany (the correlation coefficient for GDP in Italy and Germany over this period was 93 percent and in per capita terms, 84.9 percent).

9 Marcia Pointon, *Money and Nationalism*, in: Geoffrey Cubitt (Ed.), *Imagining Nations* (York Studies in Cultural History). Manchester 1998, pp. 227–254.

10 Data for Italy before the unification is only available for the year 1850.

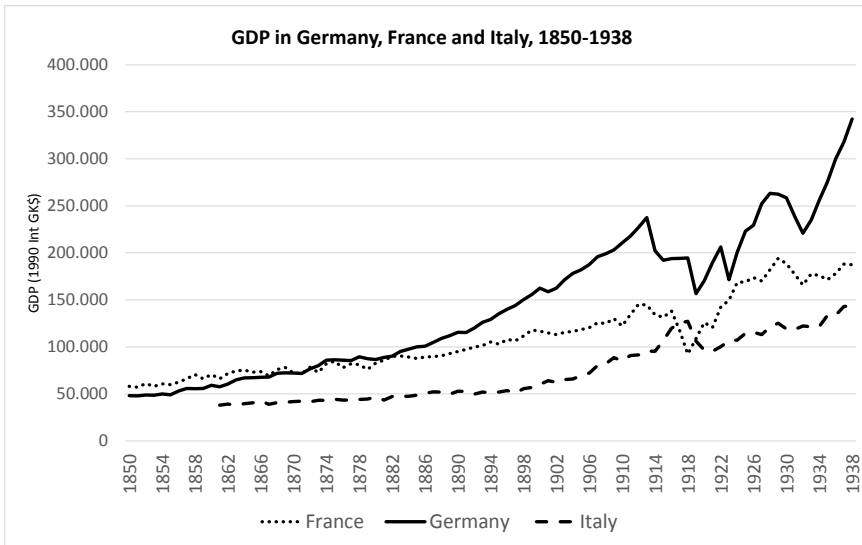


Figure 1: GDP in Germany, France, and Italy, 1850–1938 (1990 Int. GK\$)

Source: Own work based on <http://www.worldeconomics.com/Data/MadisonHistoricalGDP/Madison%20Historical%20GDP%20Data.efp> (accessed 9 October 2013).

Given the geographical proximity and similarity in political and economic developments in these three countries, it is thus reasonable to make a comparison between their economies and trends in banknote design to see whether the trend observed in Germany can be also seen in other European countries.

Although Great Britain was one of the leading European economies in the period considered, we deliberately leave out the discussion of British banknotes for several reasons. First, in Great Britain a new state was not formed in this time, and second, British banknotes were very simple in design and did not include any artistic or economic symbols – they roughly resembled a plain check containing a number and signature. In addition, coins played a more important role than notes in the British economy, and the first banknotes with meaningful references and designs were not issued by the Bank of England until the 20th century.

In the following sections, we describe the German, French and Italian banknote design in relation to the economic situation in these countries. We end our analysis with the outbreak of World War II. It is important to note that in part of the period considered, there was no central bank monopoly on note issuance and as such, private banks, too, had right to issue notes in Germany, France and Italy. In our paper, we focus on banknotes issued by the central bank of the respective country.

II. Banknotes of the German Empire (1871–1918) and the Weimar Republic (1919–1933)

We start with the discussion of banknotes issued in the German Empire. We find it useful to summarize the German economic development in the form of a table, similar to the one constructed by Kindleberger for France (see Table 2).¹¹ The summary is provided in Table 1, and similarly to Kindleberger, we leave the period of World War I out.

Table 1: Economic growth in Germany 1871–1939

Period	Economic growth
1871–73	Speculative growth
1873–95	Slowdown to 1879, boom to 1882, slowdown to 1888, recovery to 1890, economic slump to 1895
1895–1914	Rapid growth
1918–26	Postwar crisis, 1921–23 hyperinflation
1926–29	Upswing
1929–33	Great Depression
1933–39	Economic recovery

Source: Own work based on Tipton, History (cf. note 13); Bresciani-Turroni, Economics (cf. note 14); National Monetary Commission, Reichsbank (cf. note 12).

The first most important date to note is 18 January 1871, which marks the founding of the German Empire. On 8 May 1873, a stock market crash took place, followed by hundreds of bankruptcies. Although output did not suffer as much as the stock market itself, growth in output was subdued until 1895. The years 1879–82 are considered as a boom period, driven mainly by the railway industry. From 1883 on, the economy began to slow down again and it only regained its momentum from 1888,¹² when prices began to rise and new business ventures to spring up. In 1891, Germany suffered from bad harvests, which in turn impacted the purchasing power of the population, and in 1893, the tariff war with Russia started. The German economy only began to flourish again after 1895.¹³ The next important episode is World War I, which led to rising gov-

11 Charles Poor Kindleberger, *Economic Growth in France and Britain 1851–1950*. Cambridge, Mass. 1967.

12 National Monetary Commission, *The Reichsbank 1876–1900*. Washington, DC 1910, p. 243.

13 Frank B. Tipton, *A History of Modern Germany since 1815*. London/New York 2003.

ernment expenditures financed by the increase of money in circulation (gold standard was suspended with the outbreak of the war), as well as high war reparations. After the end of the war, inflation rose dramatically,¹⁴ and it ended with the introduction of a new currency, the Rentenmark, on 15 October 1923. On 15 November 1923, the Rentenbank – a new issuance bank – was opened. However, the upswing in the German economy only began in the second half of 1926 and soon came to a halt with the Great Depression that spread throughout the world. The years of the economic upturn starting in 1933 coincided with the development of Nazi power in Germany, which in turn led to the outbreak of World War II in 1939.

Let us turn now to the German banknote design, starting from the first issues of the Reichsbank. After unification in 1871, Germany faced the difficult task of building an inherent monetary system. As the National Monetary Commission describes, there were seven coinage systems functioning in different states.¹⁵ Economic development and the demand for higher denominated currency prompted the shift from the coin to banknote system. Before the foundation of the German Empire, 31 issuing banks existed (private institutions) on German territory and soon after unification, this number increased to 33. The leading role among the issuing banks was played by the Prussian Bank and indeed this was the issuing bank that was later transformed into the Reichsbank. On 14 March 1875, the Bank Act was published which regulated the issuance of bank notes (only notes of the denominations 100, 200, 500, 1,000 and multiples of 1,000 marks were allowed; it was only after the Bank Act of 20 February 1906 that the issuance of 20 and 50 mark notes and their quantities were allowed). On 1 January 1876, the Empire took over the Prussian Bank and the Reichsbank was founded. In 1909, the Reichsbank's notes were granted the character of legal tender, but until 1934, four other private banks had also right to issue notes.¹⁶

Most of the allegorical content can be found on 100 mark banknotes issued by the Reichsbank from 1876 to 1918. The first 100 mark banknote and, at the same time the first nationwide banknote after reunification, was issued on 1 January 1876 (Figure 2). Its design was based on the model of the 100 mark issue of 1 May 1874 by the Bank of Prussia. Instead of the coat of arms of the Kingdom of Prussia, the newly-issued banknote showed the imperial eagle bearing the Hohenzollern coat of arms and the chain of the Order of the Black Eagle on its chest; also the word 'Preußische Banknote' on the obverse (the front of the note) was substituted by 'Reichsbanknote'. Apart from these two differences, the banknotes were virtually identical. The design referred to commerce, trade and agriculture. In the middle of the face side, we can see four caduceus symbols – the attribute of the Roman god of trade, Mercury. The bust of a woman wearing an antique helmet on the right hand side represents the Roman goddess of

14 Constancio Bresciani-Turroni, *The Economics of Inflation. A Study of Currency Depreciation in Post-war Germany 1914–1923* (Sir Halley Stewart Trust, Publications 4). London 1953.

15 National Monetary Commission, *Reichsbank* (cf. note 12).

16 Salomon J. Flink, *The German Reichsbank and Economic Germany. A Study of the Policies of the Reichsbank in their Relation to the Economic Development of Germany, with Special Reference to the Period after 1923*. New York, NY 1969.

arts and crafts, Minerva. The bust of the goddess is surrounded by a wreath made of laurel and oak branches, which is a double symbol of victory. The references to agriculture were placed on the reverse side of the note in the form of a wreath of agricultural products, held by two-winged putti. The banknote has a blue color, and since the introduction of the 100 mark in 1876 until 2002, when the euro was introduced, blue was the predominant color on all German 100 mark banknotes.¹⁷



Figure 2: 100 mark note (1876, obverse and reverse)

Source: http://www.bundesbank.de/Redaktion/EN/Standardartikel/Bundesbank/Coin_and_banknote_collection/coin_and_banknote_collection_reichsbank_note.html (accessed 9 October 2013).

The next issue of the 100 mark note took place on 3 September 1883 (Figure 3). It was soon after the economic boom in the German Empire, which lasted until 1882 (Table 1). This issue has a more ideological content than the previous one, which likely relates to the years of prosperity that preceded the design. The design refers to the German Empire, agriculture and industry. The underprint of the obverse shows the imperial eagle – a reference to the German state. The underprint on the reverse (the back of the note) represents another eagle with a medallion with Germania on his chest. Germania, which is an allegorical representation of Germany, has a wreath of oak leaves on her head. The medallion is supported by two women who are personifications of industry and agriculture. A woman on the left symbolizes German industry and trade; her attributes are: a hammer, an antique helmet and a mineral ore. The collection of these things can be interpreted as the production process: the material (mineral) is being processed (hammer) in order to obtain the final product (helmet). German industry was developing rapidly at the end of the nineteenth century in three major mining and industrial regions: the Ruhr, Saar and Upper Silesia. On the other side of the medallion, we can see the personification of agriculture as a woman. Her attributes are: a sickle, a sheaf of wheat and various fruits. Agriculture in the German Empire dominated in areas located east of the River Elbe.

17 http://www.bundesbank.de/Redaktion/EN/Standardartikel/Bundesbank/Coin_and_banknote_collection/coin_and_banknote_collection_reichsbank_note.html (accessed 9 October 2013).



Figure 3: 100 mark note (1883, obverse and reverse)

Source: Own scan.

The third issue of the 100 mark note took place during the rapid growth in the German Empire in the years 1895–1914 (Table 1). The issue of 7 February 1908 is the most extensive presentation of the Second Reich (Figure 4).¹⁸ The banknote includes references to the German Empire, agriculture, industry, electrical industry, transport, trade

18 George S. Čuhaj (Ed.), *Standard Catalog of World Paper Money. General Issues 1368–1960*. Iola, WI 2008, pp. 557–559.

and military power.¹⁹ On the obverse underprint we notice the imperial regalia – a scepter, an orb, a crown and a sword. This side of the note also depicts two eagles in a nimbus – a reference to the Holy Roman Empire of the German Nation. The portrait of the first emperor of the united Germany – William I – appears in the watermark. On the reverse side we can see the seated Germania holding a shield with coat of arms of the German Empire and a sword. She has a laurel wreath – a symbol of victory – and a crown of the German Empire on her head. Behind Germania we can see two oak trees – a symbol of strength and endurance (an oak motive was present not only on mark banknotes, but also on pfennigs and German eurocents in form of an oak twig). On the left hand side, in the foreground of the banknote, we can see six objects that refer to the different sources of strength of the German economy: a plough as a symbol of agriculture, an anvil with a hammer lying next to it as a symbol of industry, a gear as a symbol of electrical engineering in which Germany was a pioneer before the outbreak of World War I, a package as a symbol of transport (in particular rail transport), and a caduceus – a symbol of fast developing trade. The background of the banknote features three battleships at sea – the symbol of rising German naval strength following the appointment of the Grand Admiral Alfred von Tirpitz as Secretary of State of the German Imperial Naval Office in 1897. Admiral von Tirpitz, unlike Otto von Bismarck, did not try to maintain good relations with its rival naval power, Great Britain – on the contrary – he defined Great Britain as the principal enemy of Germany and started developing his own country's naval fleet.²⁰

The Weimar Republic used the 100 mark issues of 1882–1908 and 1908–10 for propaganda purposes. The first years after the end of World War I coincided with crisis and rising inflation (Table 1). Re-issues of banknotes from the Empire era were intended to strengthen peoples' beliefs in economic development, as well as to raise hope for the economic reconstruction of the country after the war. The design of the banknotes changed in the period of the Weimar Republic (notes issued in this period are called *Papiermark* since they were not backed by gold) with respect to the ones printed in the German Empire – references to German art appeared for the first time. The banknotes showed reproductions of paintings by German artists: Hans Memling, Albrecht Dürer and Hans Holbein the Younger. Instead of numerous previous references to industry and the economic power of the country, the dominating motif on the banknotes of that time was agriculture. The second sector of the economy was represented in the form of women with appropriate attributes (wreaths on the head, hand-held fruit, ears of corn, scarf, sickle) or men holding a scythe.

19 Marcin Markowski, *Propagandowy obraz II Rzeszy ukazany w szacie graficznej banknotu 100 marek emisji 7 lutego 1908 roku*, in: *Rocznik Polsko-Niemiecki 22* (2014), pp. 15–20.

20 Wojciech Morawski, *Pancerny banknot*, in: *Banknoty polskie. Niezwykła historia kraju i pieniądza. 1815–1914 8* (2006).



Figure 4: 100 mark note (1908, obverse and reverse)

Source: Own scan.

At the end of World War I, with increasing demand for higher-denominated banknotes, denominations from 5,000 marks to 100 trillion marks were issued. With the advent of hyperinflation, banknote designers stopped paying attention to the aesthetic side of the paper money (Figure 5), allowing the design of banknotes to become increasingly simplified. Instead of allegorical figures and references to the economy and art of the state, the banknotes issued in this period are dominated by legal clauses, numbers and words expressing the note value, as well as the signatures of bank management. Whereas at the beginning of the 1920s the front side remained more or less representative, the biggest change can be noticed on the reverse side of the banknotes. For the banknotes issued in 1923 the observed trend was even more striking – the reverse side of the banknotes was left blank. During the German period of hyperinflation, the Reichsbank issued 46 different types of banknotes without any ornamental elements.²¹

21 Cuhaj, Catalog (cf. Note 18), pp. 561–569.



Figure 5: 50,000,000 and 50,000,00,000 mark notes (1923, obverses (one-side banknotes))
 Source: Own scan.

With the introduction of Rentenmark, graphical representations returned to German banknotes. The Rentenmark, introduced in the last quarter of 1923, was not a legal tender but a replacement currency, so it is not surprising that its design was not particularly sophisticated. The notes mainly depicted agriculture – a woman with ears of grain on the five Rentenmark note, a woman in a headscarf on the 10 Rentenmark note and a man with a scythe on the 50 Rentenmark note (the highest denomination of the Rentenmark). Despite its legal status, the Rentenmark was widely accepted, even after the introduction of the new legal tender, the Reichsmark, on 30 August 1924. The first issue of the Reichsmark was also fairly simple in design, although the face side of each banknote depicted a portrait painted by Hans Holbein the Younger, a famous German Renaissance painter (the reverse side presented the denomination). The second issue of Reichsmark, effective in the late 1920s for banknotes of smaller denominations and in the 1930s for bigger denominations (Reichsmark had denominations from 10 to 1,000), referred more to the traditional designs of the late Papiermark. Each face side depicted a portrait of a famous German, and the reverse sides portrayed ornamental frames with two allegorical figures on both sides. For example, the 100 Reichsmark banknote from 1933 (Figure 6) depicted a portrait of Justus von Liebig, a German chemist, on the face side, and on the reverse side the head of a young man holding a torch in the ornamental frame with two female allegories of science on both sides. The global economic crisis of 1929–33 (Table 1) was not mirrored on German banknotes

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as much as the hyperinflation. During this time, the Reichsbank issued three new (in terms of the graphical design) denominations: 10, 20 and 50 Reichsmark notes. The design of the notes referred to agriculture (10 Reichsmark), industry (20 Reichsmark) and trade (50 Reichsmark). Despite the economic revival in 1933–39, the design of banknotes did not change significantly. The new element was the appearance of the swastika, which reflected the contemporary political situation of the country and had an ideological meaning (on banknotes: 100 mark 1935, 1,000 mark 1936 and 20 mark 1939). The art of the banknotes cannot be compared with the marks issued in the German Empire, which had a much more sophisticated and metaphorical design.²²



Figure 6: 100 Reichsmark note (1935, obverse and reverse)

Source: http://www.bundesbank.de/Redaktion/DE/Bilderstrecken/banknoten_deutsche_reichsbank_1924_bis_1945.html?notFirst=true&docId=107866 (accessed 9 October 2013).

²² Ibid., pp. 570–573.

The Deutsche Mark that replaced the Rentenmark and the Reichsmark in 1948 had a much simpler design than the Reichsmark, typically depicting a famous German figure on the front side, and one simple motif on the reverse (e.g. a piano, pen, the Brandenburg Gate). While the first series were more decorative, from 1989 on the banknotes had a much more simple design. No correlation between the economic situation and the banknote design can be observed.

III. Banknotes of the French Third Republic (1870–1940)

A summary of the French economic development in 1851–1950 is shown in Table 2.²³ For our purposes, we take a look at the period until World War II.

Table 2: Economic growth in France in 1851–1939

Period	Economic growth
1851–73	Very rapid to 1856, moderate to 1867, interruption in 1870/71
1873–96	Sideways to 1877, boom to 1882, depression to 1896
1896–1913	Rapid growth
1919–30	Boom
1930–39	Stagnation

Source: Kindleberger, Growth (cf. note 10), p. 13.

After the economic slowdown due to the Revolution in 1848, the early 1850s were a period of rapid growth in France, mainly due to the expansion of railroads and public works.²⁴ The Franco-Prussian War of 1870 changed the course of the French economy. Given both the indemnity in favor of Germans and the loss of territory (Alsace and Lorraine), the French economic development in the years 1870–1913 can be assessed positively.²⁵ Without taking these special conditions into account, however, French economic growth was rather subdued compared with its other European counterparts. France did not become an industrialized country until World War I, as too much emphasis was put on farming. The stagnation starting in 1882 was mainly caused by falling agricultural prices (due to phylloxera in wine and declining world wheat prices). The rapid growth in 1896–1914 rested mainly on iron ore, steel and textiles. After World War I the French economy experienced a boom again, accompanied by

23 Kindleberger, Growth (cf. note 10).

24 Ibid., p. 6.

25 E. Damsgård Hansen, *European Economic History*. Copenhagen 2001.

inflation (the French state resorted to inflationary financing, hoping for reparations from Germany for the destroyed territory²⁶), and whereas inflation was also present in the late 1930s, the economy stagnated until World War II.

The foundation of the Bank of France preceded similar developments in Germany and Italy by several decades. It was Napoleon Bonaparte who encouraged the founding of the Bank of France.²⁷ The bank was founded on 18 January 1800 as a joint stock company and it began operations on 20 February 1800. During this period alone in Paris, five other banking institutions were entitled to issue notes in the capital city²⁸ so the status of the newly-founded bank was not special. From 1848 on, the bank could issue banknotes in the whole of France, but officially its exclusive right to issue banknotes was not confirmed until 1936. The right to issue banknotes was subject to periodical prolongations. The act of 2 December 1945 ultimately finished the long history of these kind of acts, stating that the Bank of France was from that point on to be the sole issuer of banknotes in the country.²⁹

During the Third Republic, the Bank of France issued paper money denominated from five to 5,000 francs. From 1870 to 1940, sixteen different types of French paper money were issued.³⁰ Nineteenth century French banknotes had a more complex graphical design in terms of symbolism than the German banknotes of that time. The Bank of France also issued more denominations than the Reichsbank. It is remarkable that even notes of a very low face value, such as five francs (banknote issued in the years 1871–74, see Figure 7) – the lowest denomination of French paper money – had a very detailed graphical design.³¹ There was no sign of the lost war against Germany in 1871 on the banknotes³² designed in this year (nominal five francs) by the central bank of France. The graphical design of this note was related to justice (a woman with a sword), trade (a woman with caduceus), industry (hammer), knowledge (book), astronomy (astrolabe) and agriculture (agricultural products).

26 Kindleberger, *Growth* (cf. note 10), p. 43.

27 Shepard Bancroft Clough, *France. A History of National Economics, 1789–1939*. New York 1964, p. 63.

28 Margrit Mersch, *Die Banque de France. Organisation und Operationen unter besonderer Berücksichtigung der Periode von 1946 bis 1968 und unter vergleichender Einbeziehung ausländischer Zentralbankoperationen* (Volkswirtschaftliche Schriften 183). Berlin 1972, pp. 13–18.

29 Bank für Internationalen Zahlungsausgleich, Basel (Ed.), *Acht europäische Zentralbanken: Banque nationale de Belgique, Deutsche Bundesbank, Bank of England, Banque de France, Banca d'Italia, Nederlandsche Bank, Schweizerische Nationalbank, Sveriges Riksbank. Eine Darstellung ihres Aufbaues und ihrer Tätigkeit*, pp. 167–168.

30 Cuhaj, *Catalog* (cf. note 18), pp. 504–508.

31 *Ibid.*, p. 504.

32 See Rosine Trogan / Daniel David (Eds.), *L'art du billet. Billets de la Banque de France 1800–2000*. Paris 2000.



Figure 7: Five francs note (1871–1874, obverse and reverse)

Source: <http://www.delcampe.net/page/item/id,227253619,var,5-Francs-NOIR-Type-1905-5-FRANCS-NOIR-F-1-18-SPL,language,E.html> (accessed 9 October 2013).

Banknotes with a similar graphical design, 20, 50, 100, 500 and 1,000 francs, were issued by the Banque de France from 1874 (20 francs) to 1940 (500 francs). The emergence of higher denominations in the French currency (from 50 to 1,000 francs) can be attributed to the economic boom that took place in France until 1882 (Table 2) – just like in Germany (Table 1). In the 1880s, the Bank of France issued 50, 100, 500 and 1,000 francs notes. The last two notes graphically alluded to banknotes of the same denomination, which were issued in the Second Republic. In the 1880s, a series of notes contained several symbolical references to different areas of the French economy: industry (a woman with a hammer on 50 francs, anvil and hammer on 1,000 francs), maritime economy (a woman with an oar and anchor on 100 francs, an anchor on 1,000 francs), agriculture (a man with agricultural equipment on 50 francs), Ceres – the Roman goddess of the agriculture – on 500 francs, a woman with a sheaf on 1,000

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francs) and commerce (a caduceus on 50 and 500 francs, Mercury on 500 and 1,000 francs). The most symbolical elements were placed on the two highest notes, 500 and 1,000 francs. Due to their high value, they were the most desirable banknotes, which was visible in their sophisticated graphic design and metaphorical content. In addition to references to the national economy, the banknotes included allegories of law (a woman with two tablets on 500 francs), force (Hercules, a Roman hero known for his strength, on 500 and 1,000 francs), architecture (a woman with a compass on 1,000 francs), wisdom (Athena, a Greek goddess of wisdom, and an owl on 1,000 francs) and power (putti with the scepter on 500 and 1,000 francs).



Figure 8: 100 francs note (1938, obverse and reverse)

Source: Own scan.

During the rapid economic growth of the French economy in the years 1896–1913 (Table 2), a new model of 100 francs came into circulation (Figure 8). Its graphical design referred to: agriculture (a woman with a shovel and a child with a sheep), maritime economy (a woman with an oar), trade (a boy with a package) and industry (a smith). In addition, on the reverse we can see the personification of fortune (a woman with cornucopia), who brings prosperity to French industry. The 100 francs that went into circulation in 1910 (notes were printed in 1908) were the first colored French note. Before then, the Banque de France issued only bi-colored notes.

From the second half of the 1920s, the image of French paper money became more modern. This change coincided with the economic boom in France in the years 1919–30 (Table 2). At that time, new versions of 50 and 1,000 francs went into circulation.³³ The graphical design of the 1,000 francs note (Figure 9) referred to knowledge (Athena), trade (Mercury), agriculture (a boy with a sickle and a rooster) and maritime economy (a boy with an oar and anchor). The reverse showed portraits of four different craftsmen.



Figure 9: 1,000 francs note (1940, obverse and reverse)

Source: Own scan.

33 Cuhaj, *Catalog* (cf. note 18), pp. 506–507.

The highest denomination – 5,000 francs – was introduced in 1938,³⁴ at the time of economic stagnation (Table 2). However, it is worth noting that the banknote called ‘Flameng’ (it was designed by Francois Flameng at the end of the 19th century and his design was initially supposed to appear on a 1,000 francs note) was first printed in 1918, but only went into circulation 20 years later (it was kept at the bank as a cash reserve, also, some people claimed that it was too sophisticated and beautiful to be seriously considered as a means of payment, see Figure 10). Both sides of the Flameng note represent scenes integrated into the richly-decorated frame. The reverse side shows a group of people in the palace patio with a view of Paris in the background. Figures situated in the foreground are personifications of: industry (a smith), maritime economy (putti with an oar), science (a man with books and a globe), and agriculture (a peasant with a scythe). In front of them is a naked woman standing on a wheel. Above her we can see a vignette with the caption ‘work and fortune’.



Figure 10: 5,000 francs (1918 note (1938), Fleming type, obverse and reverse)

Source: <http://www.numismondo.net/pm/fra/fraP.765000Francs11.1.1918RB.jpg> (obverse);

<http://www.numismondo.net/pm/fra/fraP.765000Francs11.1.1918RB.jpg> (reverse) (accessed 9 October 2013).

34 The only previous issue of a 5,000 francs banknote took place in 1846, in the times of the July Monarchy (1830–1848), even before the establishment of the French Second Republic, in the period not discussed in our paper.

It is interesting to note that, on the same day as the Fleming 5,000 francs were made accessible to the public (26. September 1938), another 5,000 francs note went into circulation, the 'Victoire note', designed in late 1934. The devaluation of the franc increased the need for higher-denominated notes. The name of the banknote, Victoire (victory), was meant to strengthen the belief in the victory over the ongoing crisis in the French economy in the 1930s. The note design is not as artistic as the Fleming type, but it includes references to the personification of France wearing an olive wreath and holding a winged victory symbol on both sides of the note. In the background, we can see bay leaves, oak branches and bundles of wheat symbolizing the French agriculture and economic strength.

After the outbreak of World War II until the introduction of euro, French banknotes remained very colorful and rich in ornaments, while the state of the economy was not mirrored on the notes. In 1945, first 10,000 francs banknotes were designed and went into circulation in 1950. Ten thousand remained the highest denomination of the franc until the introduction of euro. In the second half of the 20th century, French banknotes showed mainly portraits of famous French artists, scientists, philosophers and politicians, such as Victor Hugo, Antoine de Saint-Exupery, Paul Cezanne, Montesquieu, etc.

IV. Banknotes of the Kingdom of Italy (1861–1946)

We summarize the economic stance of Italy from 1861 to 1939 in Table 3.

Table 3: Economic Growth in Italy, 1861–1939

Period	The course of economic growth
1861–70	Moderate growth
1870–95	Speculative boom until 1873, slowdown until 1875, upswing until 1888, crisis until 1893
1895–1914	Boom until 1906 Moderate growth until 1914
1919–26	Boom
1926–29	Slowdown
1929–33	Great Depression
1933–39	Economic recovery

Source: Own work based on Cohen/Federico, Growth (cf. note 35); Luzzatto, anni (cf. note 36); Zamagni, History (cf. note 37).

Cohen and Federico, investigating the economic growth in Italy in the years 1820–1960, conclude that in the period considered in our paper (1861–1939), Italy went through three phases of rapid economic growth: the 1880s, 1895–1906 and the 1920s. The first one was due to a jump in industrial production that coincided with an agrarian crisis (collapsing grain prices) which resulted in increased protectionism.³⁵ The crisis years in the Kingdom of Italy (1873/74) occurred due to the ample capital and speculation that was a repercussion of similar crises that happened in Frankfurt/Main, Berlin and Vienna. The most critical years of the newly-founded Italian state took place in the period 1888–93³⁶ and preceded the founding of the Bank of Italy in 1894. The crisis was not only restricted to agriculture, but involved a big part of industry and credit institutions (due to speculation), and resulted in a wave of emigration. The next crisis period came along with World War I. Public expenditure rose without increasing the fiscal burden, which resulted in a high budget deficit and the depreciation of the lira.³⁷ The Italian inflation rate in the period of World War I surpassed respective rates in Germany and France. In 1922, Italy entered a period of fascism, accompanied by an inflationary economic revival that lasted until 1926. Mussolini's speech on 18 August 1926 sparked a period of falling domestic prices and on 27 December 1929 the lira was tied up once again to gold. The inflation rate began to rise again substantially during World War II.

The central bank of Italy, Banca d'Italia, was founded in 1893, but it only became the sole banknote-issuing institution in Italy in 1926 (due to the Banking Act).³⁸ Before this date, there were multiple issuing institutions operating in the previously independent states. In 1874, the Minghetti law was passed that officially restricted the number of banknote-issuing institutions to six, it also defined limits of total note issuance and individual circulation of each issuing bank. In the wake of the law enacted on 10 August 1893, the number of issuing banks was reduced to three: Banca d'Italia was the clear leader (formed out of the Banca Nazionale nel Regno d'Italia and the two Tuscan banks, Banca Nazionale Toscana and Banca Toscana), accompanied by Banca di Napoli and Banca di Sicilia.

From its foundation in 1893 until 1939, Banca d'Italia issued notes in denominations of 25, 50, 100, 500 and 1,000 lire. The creation of the bank took place after the banking crisis in 1893 (Table 3). The Bank was created from the former Banca Nazionale nel Regno d'Italia, and the first banknotes issued by the Bank of Italy have the signature of Banca Nazionale nel Regno d'Italia on them and follow the design of the replaced bank. In the years 1894–96, the bank issued four denominations: 50, 100, 500 and 1,000

35 Jon S. Cohen / Giovanni Federico, *The Growth of the Italian Economy, 1820–1960* (New Studies in Economic and Social History 44). Cambridge 2001, p. 39.

36 Gino Luzzatto, *Gli anni più critici dell'economia italiana*, in: *L'economia italiana dal 1861 al 1961. Studi nel 1. centenario dell'unità d'Italia* (Economia e storia, Biblioteca 6). Milano 1961, pp. 420–452.

37 Vera Zamagni, *The Economic History of Italy, 1860–1990*. Oxford 1993, pp. 209–302.

38 For the history of the Bank of Italy see Giordano Dell'Amore, *Il processo di costituzione della banca centrale in Italia*, in: *L'economia italiana dal 1861 al 1961. Studi nel 1. centenario dell'unità d'Italia* (Economia e storia, Biblioteca 6). Milano 1961, pp. 360–419.

lire³⁹. Both the 100 and 500 lire notes were uniface. The 100 lire banknote was created for the first time in 1873 by Banca Nazionale nel Regno d'Italia and was based on the uniface 100 lire issued by Banca Nazionale negli Stati Sardi in 1851.⁴⁰ Thus, the uniface banknotes were not a symbol of economic weakness or inflation, as was the case in Germany during the 1920s hyperinflation, but rather a reference to tradition. The face side of each of Italian banknotes in the period considered is much more representative than the reverse: it refers to the different cities of the Kingdom, Royal coats of arms, often also to Christopher Columbus. The most ornamentally-developed banknote was the 1,000 lire note, containing allegories of agriculture and industry on the face side and a symbolically-rich reverse. The reverse side of the banknote shows a bust of Italia, the personification of Italy. In the middle and on the left hand side, there are different instruments relating to chemistry, physics, astronomy, geodetic surveying, and navigation, while on the right side we find symbols of sculpture, architecture, painting, music, drama, and ceramics.

In the years 1896–98, the bank began to introduce its first 'own' banknotes from 50 to 1,000 lire headed 'Banca d'Italia.' The banknotes issued in this period were bicolor, as in France at that time. The iconography of the Italian banknotes is more complex on higher denomination notes. References to the economy appear on the two highest denominations. The 500 lire banknote from 1898 (Figure 11) includes references to the national economy: agriculture (putti with a basket of fruit), maritime economy (putti with an anchor), wine production (a woman sitting on a barrel of wine with grapes in her hand) and trade (the head of Mercury in the watermark). In addition, we can see the allegorical presentations of: justice (a woman with a sword), knowledge (a tripod with vase), and cartography/navigation (a woman with maps and compass). Moreover, the second watermark represents the head of Roma – a female deity from the ancient Roman religion who personified the city of Rome.

The highest denomination note – 1,000 lire from 1897 – shows a man with a long beard and a necklace on its reverse, who can be interpreted to be the personification of credit and, from a broader perspective, as the personification of the Banca d'Italia itself⁴¹. He is surrounded by different symbols representing: abundance (cornucopia filled with coins), wisdom (an owl) and wealth (the wreath, a symbol of wealth before the introduction of money). The obverse of the 1,000 lire note shows three characters that are personifications of: industry (a woman with a gear), agriculture (a woman with a sheaf of grain) and trade (Mercury).

39 <http://www.bancaditalia.it/media/fotogallery/museomoneta/museobanconota> (accessed 9 October 2013).

40 Guido Crapanzano / Ermelindo Giuliani, *La cartamoneta italiana*. Vol. I. Milano 2003.

41 The personification of credit was also visible in the middle of the reverse side of the 500 lire banknote; however, it was much less representative than on the 1,000 lira note and not surrounded by different symbols of wealth.



Figure 11: 500 lire note (1896, obverse and reverse)

Source: http://www.bancaditalia.it/media/fotogallery/museomoneta/museobanconota/foto_1896_98/lire500_recto (obverse); http://www.bancaditalia.it/media/fotogallery/museomoneta/museobanconota/foto_1896_98/lire500_verso (reverse) (accessed 9 October 2013).

During World War I, new 50 lire notes (Figure 12) came into circulation (emitted in the years 1915–20) with references to agriculture. This was the first Italian note where small ornamental designs and elaborate decorations were abandoned in favor of bigger and clearer images. On the obverse of the note there was a sizeable figure of Athena Pallas, and the reverse depicted two oxen and a plough driven by a peasant. The watermark showed Dante Alighieri. At the end of the war, in 1918, a 25 lire note came into circulation with a very sparse decoration relating to national symbols: an eagle holding an Italian flag and the female personification of Italy, known for its mural crown (crown representing city walls or towers), which gave the popular name to the banknote: Italia Turrata (torre in Italian means tower). It was a common symbol on Italian banknotes, even before the foundation of the Bank of Italy. For example, in the issue from 1874, just after the introduction of the Minghetti law, banknotes of all denominations depicted Italia Turrata. Such a design just after 1861 was most likely

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aimed at strengthening the belief of the people in the unification of the Italy. With time, the figure of Italia Turrita became less common on Italian banknotes.



Figure 12: 50 lire note (1915, obverse and reverse)

Source: http://www.bancaditalia.it/media/fotogallery/museomoneta/museobanconota/1915_31/50_1915 (obverse); http://www.bancaditalia.it/media/fotogallery/museomoneta/museobanconota/1915_31/50_1915_Verso (reverse) (accessed 9 October 2013).

During the economic boom from 1919–26 (Table 3), the Bank of Italy introduced one new note into circulation, the 500 lira. The graphical design of the 500 lira from 1919 includes references to agriculture (a woman with a sheaf of grain and sickle), maritime economy (a man with a rudder), law (the woman with fascio⁴² – a bundle a rods), and

42 In ancient Rome it symbolized a magistrate's power and jurisdiction. Fascio is widely known as a symbol of the fascist party.

finance (a man with a cornucopia that spills out coins). The design of the banknote is different from that of the 500 lire from 1898, but comparable in terms of ornamental sophistication. The banknotes issued during Great Depression do not seem to mirror the worsening economic situation in Italy, which likely had a propaganda role. The 1,000 lira note (Figure 13) issued in 1930 is very ornamental and includes references to trade and banking through personifications of two Italian republics of Venice and Genoa, agriculture (a woman with a sheaf of wheat and a sickle), industry (a man with a gear and hammer) and trade (Mercury).



Figure 13: 1,000 lire note (1930, obverse and reverse)

Source: http://www.bancaditalia.it/media/fotogallery/museomoneta/museobanconota/1915_31/1000_1930_recto (obverse); http://www.bancaditalia.it/media/fotogallery/museomoneta/museobanconota/1915_31/1000_1930_verso (reverse) (accessed 9 October 2013).

The 100 lira note issued in 1931 includes imperial references, which were in line with Mussolini's vision of a majestic Italy. On the obverse, we can see the seated figure of Roma with the she-wolf – the symbol of the capital of the Roman Empire. The reverse side represents a Roman eagle and ornaments made from olive trees. The 50 lira note

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issued in 1933 also depicts a Capitoline she-wolf on the reverse, and is rather sparse in the allegorical design of the obverse. It contains a couple of fasci, which were also present on the 100 and 1,000 lira banknotes issued in the 1930s. After that, until the outbreak of World War II, all new Italian banknotes that went into circulation were based on the design of notes previously issued by the Bank of Italy in 1896–1898. Only the colors were slightly different.

From the mid 19th to mid 20th century, the design of Italian banknotes did not reflect the state of the economy. Compared with their German or French counterparts, Italian notes were relatively simple in design, referring mainly to the biggest national symbols, such as Italia or Roma. They neither referred to the power of the Kingdom such as in Germany (battleships), nor were they as colorful as the French notes. Italian banknote designers seemed to concentrate on the humanistic origins of Italy rather than other sources of its strength. The only period in which we can notice the impact of politics and economics on the design was during World War II, when in 1944 all banknotes were practically unified, with the main decorating element – Italia – on the front side and different colors for different denominations enabling the distinction. After World War II, the banknotes of Italy became more colorful and less connected to ancient Roman history. Face sides of notes often represented famous figures from the past, such as Galileo Galilei, Giuseppe Verdi, Michelangelo, etc. rather than the mythical Italia. In addition, with time, smaller denominated banknotes were no longer printed due to the ongoing inflation, and were replaced by coins.

V. Conclusion

Comparing the evolution of the German, French and Italian economies in the second half of the 19th and first half of the 20th century, we notice similar trends in all three countries. It seems that booms and busts were indeed globalized in that period. Regarding the banknote design, the design of German notes bore the closest relation to the economic condition of the state. The French and Italian money tended instead to mirror the artistic tradition of these countries. French and Italian banknotes were designed by famous painters and artists, and on some notes we can find their signatures. They created banknotes not only for French and Italian banks. French artists created e. g. banknotes for French colonies, Greece, Yugoslavia and Romania. In comparison, we can find the names of German banknotes' designers issued between 1875–1918 only in specialist catalogues.

Notes issued in each country included references to agriculture, industry, crafts and trade that were represented in an allegorical and symbolical form. Greek and Roman gods as personifications of certain traits, as well as their attributes, were very common in all three countries. French and Italian banknotes were beautiful irrespective of the economic state of the country. In the case of Germany, we can see that the design of notes was more sophisticated in boom periods. On all notes, we observe

the change described by Hymans⁴³ – the design shifted from state representations to portraits of individuals, thereby becoming increasingly similar in all three countries, a trend already noted in other Western European nations by Pointon.⁴⁴

It is important to note that although all the countries that we observe suffered from inflationary times in the periods considered, only Germany underwent a period of hyperinflation. Could thus the results of our case study and differences noticed between the banknotes in three countries hinge on that fact? One certainly cannot deny that the period of hyperinflation had the most obvious impact on the design of German banknotes in the period considered. Does this mean that if Italy and France had suffered from hyperinflation, we would have had the same results for these countries too? In order to answer this hypothetical question, one would have to examine the design of banknotes in states that suffered from hyperinflation, preferably at the same time as Germany did. This can be done, but looking at the countries that suffered from a spike in prices in the 1920s (Austria, Poland, Hungary, Russia), we first have to notice that the inflation rates in these countries were not even close to those in Germany, and secondly, the geopolitical situation in these countries was completely different at that time. We thus leave the comparison of banknote designs under hyperinflationary environments for further research. However, giving a quick glimpse at banknote issuance in Austria, Russia, Poland and Hungary during the period of hyperinflation, the relation that we observed in Germany cannot be seen. Thus, the tendency to simplify the banknote design in hard times seems to be German-specific. Why it is so is less a question for an art historian or an economist than perhaps for a sociologist. The first attempt to analyze the links between economics and currency design in European countries leaves many questions open and offers a lot of room for future research in different disciplines.

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43 Hymans, *Color* (cf. note 7).

44 Pointon, *Money* (cf. note 9).