



# The Bank, the States, and the Market: an Austro-Hungarian Tale for Euroland, 1867-1914

Marc Flandreau

► **To cite this version:**

| Marc Flandreau. The Bank, the States, and the Market: an Austro-Hungarian Tale for Euroland, 1867-1914. 2001. <hal-01064887>

**HAL Id: hal-01064887**

**<https://hal-sciencespo.archives-ouvertes.fr/hal-01064887>**

Submitted on 17 Sep 2014

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

A detailed black and white engraving of three figures in 19th-century attire. On the left, a man in a top hat and long coat holds a document. In the center, a woman in a bonnet and long dress stands with her hands clasped. On the right, a woman in a high-collared dress and hat holds a large, ornate bag or portfolio. The background is a textured, light-colored surface.

W O R K I N G P A P E R 4 3

T H E B A N K , T H E S T A T E S , A N D T H E M A R K E T :

A N A U S T R O - H U N G A R I A N

T A L E F O R E U R O L A N D ,

1 8 6 7 - 1 9 1 4

MARC FLANDREAU

## **Editorial Board of the Working Papers**

Eduard Hochreiter, Coordinating Editor  
Ernest Gnan,  
Wolfdietrich Grau,  
Peter Mooslechner  
Kurt Pribil

## **Statement of Purpose**

The Working Paper series of the Oesterreichische Nationalbank is designed to disseminate and to provide a platform for discussion of either work of the staff of the OeNB economists or outside contributors on topics which are of special interest to the OeNB. To ensure the high quality of their content, the contributions are subjected to an international refereeing process. The opinions are strictly those of the authors and do in no way commit the OeNB.

Imprint: Responsibility according to Austrian media law: Wolfdietrich Grau, Secretariat of the Board of Executive Directors, Oesterreichische Nationalbank

Published and printed by Oesterreichische Nationalbank, Wien.

The Working Papers are also available on our website:

<http://www.oenb.co.at/workpaper/pubwork.htm>

## Editorial

In this study Prof. Marc Flandreau takes the historical example of the currency union between Austria and Hungary (1867 to 1914) to compare it with the future prospects and the likely consequences of the European Monetary Union. The „Compromise“ between Austria and Hungary (1867) has established a single currency system, in which the monetary policy was conducted by a common central bank while each part of the monarchy remained sovereign in fiscal matters. At the same time no equivalent to the „Pact on Stability and Growth“ existed and the two countries could run (at times rather large) deficits to the extent of the public’s willingness to lend to them. The author shows that this control was sufficient in order to induce budgetary discipline over the medium run, to create incentives for monetary stability and to secure the continuation of the monetary union. This process has led to an increasing importance of the central bank, to a standardization of debt instruments and to a general competition about reputation between both parts of the monarchy. Prof. Flandreau concludes: „If there is one Austro-Hungarian lesson for Euroland, it is that behind the role of formal mechanisms to limit the recurrence of excessive deficit, the market does undoubtedly provide a second line of defense for monetary stability.“

March 26, 2001.



# **The Bank, the States, and the Market: An Austro-Hungarian Tale for Euroland, 1867-1914**

Marc Flandreau\*

Professor of Economics, University of Lille  
Research Fellow, OFCE (Paris), and CEPR (London)

## **Abstract:**

In 1867, the "Compromise" between Austria and Hungary laid the foundation of a single currency system with a common central bank. As in today's euroland, each part of the monarchy remained sovereign in fiscal matters. Moreover, the borrowing needs of both parts of the monarchy were quite large, since Austria and Hungary sought to promote their own economic development through government spending. Yet no 'fiscal stability pact' existed: the two countries could run deficits to the extent of the public's willingness to lend to them. They were thus only subjected to the discipline of the capital market. This paper documents the record of the Austro-Hungarian monetary union and shows how this discipline led to a process of increased power of the central bank.

Key words: Credit channel, balance sheet channel, investment, panel data

JEL Classification: D92, E22, C23, G31, G32

---

\* Corresp. to Observatoire Français des Conjonctures Economiques, 69 quai d'Orsay, 75007 Paris, France. Many thanks to the Lyonnais archives and to Christine Paquentin at the OFCE reference library for outstanding help for sources and figures. The comments of several participants to the AMEX conference and to the European Summer Symposium in International Macroeconomics in Sintra, Portugal, are gratefully acknowledged. Special thanks to Luca Einaudi, Edi Horchreiter, Benedikt Koehler, John Komlos, Max Stefan Schulze, Jacques Le Cacheux, Jacques Mélitz, Morris Perlman, and Gian-Maria Milesi Feretti. Errors remain mine.



*Something Old,  
Something New,  
Something Borrowed,  
-And Something Blue...*

## **1. Introduction**

All experts appear baffled by the novelty of the monetary experiment in which countries participating to 'Euroland' have embarked. According to Buiter [1999] for instance, the switch to the new currency is like the move of Alice through the looking glass. Everything is going to be new. But economic historians have their doubts towards novelty. Unlike those economists who only focus on current issues, they are not afraid of looking glasses, being frequent users of the mirror of history. They feel that, thanks to the wealth of past experiences, economic history shares some features with experimental sciences: lessons can be learned. This explains why research in the economics of past monetary unions has recently been especially active. The European nineteenth century experiences of monetary unification have received special attention, in an attempt to shed light on current endeavours.

While other studies provide references to these by now well-documented episodes, this paper focuses on the so far entirely neglected record of the Habsburg monarchy between 1867 and 1914. The dual monarchy — "kakania" as novelist Robert Musil called it, mocking a complex legal-bureaucratic structure which is not without resemblance with today's eurocracy — rested on a series of economic arrangements between its two constituent political entities, the Empire of Austria and the Kingdom of Hungary. These arrangements, known as 'compromises', provided for the free circulation of goods and capital while at the same time leaving complete fiscal autonomy to both parts. Moreover, the dual monarchy retained a single central bank. If not a monetary union by name, kakania was thus a de facto union.

During its 50 years of existence, the Habsburg 'union' operated without major disruption, providing for a doubling of incomes per head. It took a global war with massive political consequences that were not limited to central Europe to destroy what had so far been a fairly stable construct. Ironically, it is only the collapse of the



Habsburg monarchy, not its normal functioning over a course of 50 years, which has attracted the attention of researchers. Some have claimed that the collapse of the Habsburg monarchy had lessons for the post - Soviet Confederation of Independent States.<sup>1</sup> Nothing one may say, European central bankers with their self-proclaimed “ culture of stability ” should think about. In fact, our memories of the operation of the Habsburg experiment are obfuscated by the trauma of its ending. However, as this chapter intends to demonstrate, one has to go beyond the post - war hyperinflation and disintegration to find an economic system that bears more than casual resemblance with Euroland.

This article revolves around the following theme. The most familiar monetary unions which research has identified so far are of two kinds: on the one hand, we have the experiences of ‘nation building’. These produced a full centralisation of fiscal, monetary, and trade policies. In these experiences, newly created central authorities became solely responsible for the management of the country. On the other hand, we have the experiences of ‘international monetary groupings’, where a number of countries tightened their monetary links, but continued to have their own central bank, fiscal authorities, and trade policies. In these decentralised arrangements, the central level was kept to minimum, and the national governments were entirely responsible for the national performance. Euroland and the Habsburg Empire have in common to stand in the uncomfortable middle ground between the ideal types of full centralisation and full decentralisation. In both cases, monetary sovereignty has been entirely surrendered to a common central bank, but participating countries retain a more or less complete fiscal sovereignty. The Achilles heel of such a setting is obviously fiscal discipline. In the case of Euroland, fear of member states exploiting the union has led to the introduction of protective devices, such as the ‘Stability Pact’, which is supposed to prevent the accumulation of ‘too much’ deficits. Because the Habsburg monarchy had no stability pact, it provides us with a sort of counterfactual experience of what could be a system without formal checks on fiscal profligacy, and thus helps to think of the

---

<sup>1</sup> The post soviet lessons are presented by Garber and Spencer [1994], Dornbusch [1992], and Maurel [1998].

significance of current arrangements. This, we believe, makes its record especially valuable.

The tale which emerges from the Habsburg episode involves three types and four characters with potentially conflicting goals: the common central bank who waged a long war in order to increase its control over monetary policy; the two 'national' governments (Austria and Hungary) who in times sought to increase public spending in order to foster economic development in their part of the monarchy; and the 'market mechanism' which lent to governments and was thus concerned about minimising the risks of investing in public securities. We argue that the combined actions of these four players determined the fiscal and monetary record of the union as well as much of its dynamics. In particular, it will be shown that the market mechanism served as a disciplining device that contributed to the increase in the power of the common central bank.

The remainder of the paper is organised as follows. Section 2 provides a critical review of the "lessons" which may be derived from nineteenth century monetary unions. We argue that the ideal types of monetary unification which have been constructed so far from the existing experiences are not very useful to think of current arrangements. Section 3 surveys the evolution of fiscal and monetary rules within the Habsburg monetary union. Section 4 focuses on the record of market discipline and documents its operation. We argue that market discipline was Austria-Hungary's lost recipe for stability.

## **2. National vs. Supranational Unions**

The literature on past monetary unions has developed exponentially with the process of EMU. Numerous contributions (Bartel [1974], Perlman [1993], Hefeker [1995], Vanthoor [1996], Bordo and Jonung [2001]) have sought to draw general lessons from the available sample of nineteenth century European experiences which contains six major specimen. On the one hand we find the national unions: the Swiss unification of 1848 (Theurl [1992]), the Italian unification of 1861 (Sanucci [1989]), and the German unification of 1871 (Holtfrerich [1993], James [1997]). On the other hand, we find the

supra-national unions: the Austro-German Monetary Union of 1857 or AGMU (Holtfrerich [1989]), the Latin Monetary Union of 1865 between Belgium, France, Italy and Switzerland or LMU (Willis [1901], Flandreau [1993], [1995], and [1998], Einaudi [1998]), and finally the Scandinavian Monetary Union of 1873 between Sweden, Norway, and Denmark (Bergman, Gerlach and Jonung [1993], Henriksen and Koergard [1995]).

Synthetical lessons from these 'experiments' have already been hammered out. A divide has been drawn between the national experiments and the supranational ones. While the German, Italian, and Swiss currencies have enjoyed a fairly long existence (the first two being only today about to give way to the Euro), the AGMU, the LMU, the SMU, belong to the past. This has led research to think of the national experiments as 'successes', while supra-national ones are seen as 'failures'. And since the key difference between these various endeavours was the degree of political centralisation they achieved, conclusions seem all too obvious to draw: not surprisingly, among the scholars' favourites we find the need for a critical level of co-operation for the union to survive, the key role of centralisation in controlling free riding, and finally the importance of large economic shocks or changes in political preferences in bringing the union down.

No doubts that these conclusions contain much wisdom. Yet upon closer scrutiny the parallels between the experiments of the nineteenth century and current European endeavours are not so easily drawn. The supra-national groupings involved a considerably lower degree of transfer of monetary sovereignty than is being done in Euroland. On the other hand, the national monetary unions of the nineteenth century involved nothing less than the creation of new states: from that point of view, they went way beyond what today's Europeans are seeking to do. In other words, none of the existing 'models' provides an acceptable parallel to the current experience, which remains half way between federalism and subsidiarity.

### **a) 19th century monetary unions, type I: international groupings**

The international currency groupings of the 19th century (LMU, AGMU and SCU) were not monetary unions in the modern sense. These treaties, in effect, never sought to pool national monetary sovereignties under a common central bank. Each country retained its domestic note issue system, and agreed that 'national' gold or silver specie (but not banknotes<sup>2</sup>) would be accepted within the "union". In effect, these arrangements merely legalised a phenomenon that had developed spontaneously. In the age of commodity money, it often occurred that states adopted for their national currency the technological characteristics of their neighbours'. This was to benefit from the better design of the currency of countries with superior minting technology (Darnis [1988]), or to attract finance by adopting the same 'price language' than some capital rich country (Flandreau [1998]). As a result, in regions close to the border, identical or similar foreign and domestic coins circulated side by side (Willis [1901]). This could sometimes create confusion: foreign coins were in principle not legal tender and they could be turned down. There were thus private calls to put some order in the system, either by clearly banning foreign coins, or by legalising their use. Such was for instance the origin of the Latin "Union". Through the agreement of 1865 Italy, France, Belgium and Switzerland, who had shared for years an identical coinage system, agreed that their gold or silver coins would be accepted for payments in their respective 'public treasuries'. The Latin Union was called in French 'Convention monétaire de 1865' ('Monetary Agreement of 1865'), suggesting that contemporaries realised the difference between a currency 'treaty' and a true monetary union.

Further evidence that the 'supra-national' groupings of the nineteenth century were no unions is that they did not eliminate exchange rate fluctuations between member states. In the absence of a common central bank agreeing to clear international balances at a fixed price, importers had still to buy foreign exchange to settle their purchases, or to arrange for sending specie abroad. Because sending specie entailed transportation costs, importers generally preferred to buy foreign exchange as long as the loss in exchange rate was smaller than the cost of shipping bullion. Thus bilateral exchange rates between member states could move within 'bullion points', in exactly

---

<sup>2</sup> One partial exception was the AGMU which touched, albeit in a very limited manner the question of paper issues.

the same manner as it did between countries that were not part of the same monetary union but shared a common standard. Thus, these international groupings should be called 'common standard areas' rather than unions. Members of the AGMU for instance, shared the silver standard. Members of the Latin Union shared a bimetallic standard. Members of the Scandinavian Union shared a common gold standard: but again, that didn't make them a 'union'.

Another difference between these groupings and true monetary unions is that nothing prevented any member state to undertake debt monetisation. Under a regime of full monetary sovereignty, it is not possible to prevent any member from financing deficits through money printing. As a matter of fact, Italy did this just when the Latin "Union" was ratified by the respective national parliaments: in May 1866, it decided to finance through money creation its war effort against Austria. Convertibility was suspended, and Italian exchange rates moved beyond the "union's" specie points: Italy had de facto left the Latin currency area. In effect, exchange depreciation far from being evidence of the 'failure' of these unions, can be seen as the way through which, in a system where no rule was binding monetary policy, discipline was maintained: if one country inflated, it faced the possibility of de facto exclusion from the monetary union (Flandreau [1993]). Moreover, the de facto exclusion of one member state had limited externalities on the monetary policies of other participating countries, at least if the departing country was relatively small.<sup>3</sup> Italy's depreciation of the 1860s for instance, did not cause exchange depreciation elsewhere in the Latin Union.<sup>4</sup> The only possible disruption which exchange depreciation could produce was to create intra-union transitory competitive advantages. But since none of these arrangements provided for a customs union, import duties could be used as an offsetting device: indeed, as Hefeker

---

<sup>3</sup> Because the Latin union had provided for the intercirculation of subsidiary (debased) coins as well as of silver écus which became overvalued in the 1870s as a result of the demise of bimetallism, exchange depreciation also led to substantial exports of silver monies in other members of the union. This occurred in the late 1860s when France received a large amount of subsidiary Italian coins, and again in the 1870s when silver écus were received. The importance of these phenomena should not be underestimated: they were responsible, in the late 1860s, for the French Administration's reluctance to Latin Union enlargement (Einaudi [1999]). Yet the fact that countries had retained monetary sovereignty turned out to be a powerful weapon against such externalities, as it appeared in the 1870s (Flandreau [1993]).

<sup>4</sup> Note that, by contrast, France's decision to float at the outbreak of the franco-prussian war, led Belgium, where a number of financial institutions lived off French credit to follow suit. But this had nothing to do with the Latin Union as such, but rather with the interdependencies between the Belgian and the French financial systems.

[1995] has emphasised, the AGMU was a way to avoid creating a customs union. Similarly, after some talks about creating a custom union, duties were eventually raised among members of the SCU and trade declined over time (Henriksen and Koergard [1995]). LMU members France and Italy waged a trade war in the 1880s. Fitting a 'gravity equation' which captures regional biases to European trade patterns between 1860 and 1880, it is in fact possible to show that neither the LMU nor the SCU displayed greater trade integration than the European 'norm' at large (Flandreau [1998])

All this makes the nineteenth century "unions" fairly different from the current situation, which has often been presented as the natural extension of the single market. It shows why the nature of discipline in these unions was totally different from the one we have today. From that respect, the nineteenth century European groupings do at most provide an imperfect parallel for the defunct ERM (Europe's former Exchange Rate Mechanism), which established parities, fluctuation bands and exit options. But they cannot help to think of Euroland, where monetary sovereignty has been effectively surrendered to the European Central Bank, and where the single market prevents retaliatory actions against exchange depreciation. Discipline cannot work today in a decentralised fashion as it did in nineteenth century groupings.

### **b) 19th century monetary unions, type II: nation state building**

By contrast to the 'international groupings' described above, Italy, Germany, and Switzerland's nineteenth century's 'successful' experiences did lead to complete monetary unification. A common specie standard was introduced and a common market was sealed. At the same time, a fully-fledged central/federal fiscal level was created resulting in the limitation of the ability of "regional" authorities to spend, for they had no longer access to seigniorage. Thus, unlike what happened in the international groupings, regions could not carry on their own monetary course. Hence at the same time when members lost the power to protect themselves against competitive devaluations through higher import duties, they also lost the very ability to implement these monetary policies that could lead to regional exchange depreciation: political

integration mitigated centrifugal regional forces. The robustness of the political construct even enabled these unions to set up their central bank only gradually, with monetary rules acting as a substitute in the more or less extended period before which full monetary centralisation was achieved. In practice, in all these experiments, a long debate about the relative merits of free banking and central banking took place, reflecting the fact that former regional economic prerogatives were hard to die.<sup>5</sup> But since regional banks of issue could no longer finance regional deficits, the debate had no public finance flavour. In the end of the day, all these countries evolved towards central banking: decisive steps were taken in 1876 in Germany (Holtfrerich [1989]), in 1894 in Italy (Sanucci [1989]), and in 1907 in Switzerland (Theurl [1992]).

Despite the appeal which these experiments may have, we should be careful not to hasten too much in drawing implications for Euroland: today's Europeans have adopted a single currency without political unification, suggesting that the current experience is fairly different from the three 'national' precedents of the nineteenth century. In fact, the process through which Italy, Germany and Switzerland went cannot be distinguished from the broader context of 19th century nation-state building. The centrepiece of these experiences was the creation (according to specific dynamics in each case) of a central or federal state with large spending, taxing, and borrowing privileges. Of course, the degree of centralisation was a matter of taste: Cavour opted for a French inspired, highly centralist, Italian state. Bismarck by contrast, had to do with the fierce resistance of some opponents to Prussia, chiefly Bavaria. But the 'Imperial' (Federal) state was run by a government designated by a Parliament: the German Reich was a nation.<sup>6</sup> Switzerland finally, although the most culturally heterogeneous country of the lot and for that reason the one in which local prerogatives were most protected, did also adopt a federal government which gradually acquired authority over monetary and budgetary

---

<sup>5</sup> Note that in general, the notes issued by the competing banks had to be accepted at par. This forced central authorities, or the banking system itself to introduce regulation upon these competitive issues. On the resistance of former fiscal and monetary authorities, as well as on the precise dynamics through which each country went, see Hefeker [1995].

<sup>6</sup> A nation can proceed without a common language as the Swiss experience reminds us. But given the more limited size of this country we have found that it was perhaps not wise to include it into the sample discussed here. Recall however that the Swiss experience has a lot of parallels with the Italian and German one. The creation of the common currency followed the political reorganization of 1848. Once the political situation was consolidated the creation of a common central bank could wait - in effect until 1907.

issues.<sup>7</sup> The centralisation of political power in turn thus meant a centralisation of fiscal discipline.

It is obvious that these features of the ‘true’ monetary unions of the nineteenth century are at odds with the current European situation. Some may announce the making of the ‘United States of Europe’. But the fact is that the critical mass of basic agreement to create a supranational government with large powers seems to be lacking today. The painful debates that take place each time national contributions to the (tiny) EU budget are being renegotiated remind us that fiscal federalism is far ahead. But then, in the absence of central institutions, the question of the way through which discipline is enforced comes back with a vengeance. How can we possibly combine federalism in the monetary area and sovereignty in the fiscal area? It could well be that the current experience is entirely new.

In conclusion, Euroland stands half way between full unification and complete decentralisation. This is summarised in Table 1 which compares the areas of sovereignty in various monetary unions. Unlike the LMU, the SCU or the AGMU, Euroland, has a common central bank and a unified exchange rate. Moreover it does have a single market: discipline cannot be achieved through retaliatory protection, contrary to what had obtained within 19th century pseudo-monetary unions. On the other hand, unlike the Italian, German or Swiss experiences which led to the making of national economic institutions, Euroland provides large measures of fiscal sovereignty. This somewhat awkward setting, we shall argue in the next section, was precisely that of kakania.

### **3. The Habsburg Monarchy as a monetary lesson**

The defeat of the Habsburg by Prussia in 1866 marked the end of the Austria’s attempts at controlling Central Europe. Austrians had to find a way to grant Hungary increased economic freedom while at the same time retaining the economic unity of the stumbling Empire. The result was the so-called “Compromise of 1867”

---

<sup>7</sup> Of course the forces of push have to be compared to the forces of pull Switzerland had a tradition of fiscal balance and monetary stability. As a result cantonal debts were limited and backed by the income from railways which they had



(“Ausgleich” in German, or “Kieghyezès” in Hungarian). The Ausgleich was a comprehensive agreement signed for ten years.<sup>8</sup> It was renewed every ten years until 1917 through negotiation rounds. It recognised that the two parts of the monarchy were distinct political entities, and defined the domains where the two countries were fully sovereign, and those where sovereignty was shared. There was a common market, a common trade policy, a common army, a common diplomacy and foreign representatives, and a common currency. On the other hand, the parliaments, the budgets, and the debts, were ‘national’. Thus the dual monarchy can be called a de facto monetary union. It is true that the Austro-Hungarian setting had not emerged from a monetary “marriage ” between participating countries, as in Euroland. Instead, the design of the dual monarchy was the product of the fiscal “divorce ” of 1867. Yet if the starting points are quite different, the resulting institutional structures were strikingly similar.

### **a) Budgetary organisation of the Habsburg Monarchy**

*i. The set-up.* Musil used to describe the constitution of ‘Cacania’ as more difficult to comprehend than the Mystery of the Holy Trinity. Trained as we are by the subtleties of the ‘European Compromise’ (aka the Maastricht Treaty) the Austro-Hungarian budgetary set up may appear, if not of Biblical simplicity, at least manageable. It is summarised in figure 1. The Compromise defined a two-tier fiscal system with a ‘confederate’ level and a ‘national’ level. The ‘common’ finances were placed under the joint supervision of the ‘Delegations’ made of representatives of each national parliament, that regional authorities controlled confederate ones, not the other way round.<sup>9</sup> The common expenditures regrouped expenses of joint interest, mainly military spending (above 90% of the total). The interest service on the ‘common debt’ that had

---

served to finance. This certainly enabled the longer maintenance of a higher level of subsidiarity.

<sup>8</sup> See Komlos [1983] for an introduction to this issue.

<sup>9</sup> Common finances had a ‘government’ appointed by the Emperor and King. But this government was a mere administration with no initiative as the agreement of the Delegations was necessary before any decision could be taken. The common government, once funding rules for the common debt were agreed upon, turned out to be a mechanism rather than an authority.

been issued before 1867 was supported directly by Austria, with Hungary paying as its counterpart an annuity corresponding to the share (roughly one third) which Hungarians had acknowledged as their own. The common budget was financed from the proceeds from customs. Given the highly self-centred nature of Austro-Hungarian trade (most of Hungarian imports came from Austria and vice versa) these typically fell short of overall expenses. Since 'common' deficits were essentially ruled out, extra resources had to be found to make up the difference: any remaining 'deficit' had thus to be borne out by Austria's and Hungary's 'national' budgets, according to a pre assigned rule of roughly two thirds for Austria and one third for Hungary.

At the 'country' level we find the 'special' budgets of Hungary and Austria. By contrast to the budgets of the Delegations, these were not bound to be in equilibrium. As contemporary observers remarked: " Political dualism could not go without budgetary dualism, and, accordingly, the Compromise of 1867 clearly established the principle of separation between Austrian and Hungarian finances".<sup>10</sup> In each part of the Empire, national parliaments controlled the fiscal process. To fund deficits, they could vote new loans. Thus each country could manage its own, 'special', debt. Since the common debt outstanding in 1867 was subject to an amortisation scheme and since no new common loans were issued, special debts were bound to take over.

*ii. The record.* Since no " stability pact " had been signed, both Austria and Hungary could go on borrowing on the capital market. And indeed, the pressures for borrowing were large. Alexander Gerschenkron's theory of " relative backwardness " has provided a well-known characterisation of the policies which a number of Central-Eastern European states implemented in order to achieve " big spurts " supposedly resulting in a quantum leap of economic development. These policies involved heavy public intervention in industrial investment through protection, subsidies, interest guarantees or direct undertakings.<sup>11</sup> They implied large spending and required large borrowing. As a matter of fact, the Habsburg Empire had begun with these 'gerschenkronian' policies

---

<sup>10</sup> Arch. Crédit lyonnais.

<sup>11</sup> The extent to which such policies were actually successful in Austria-Hungary is the focus of a continuing discussion. See Gerschenkron [1977], Eddie [1982], Komlos [1983], Schulze [1997].

after 1848, but their implementation had often collided with diplomatic and military requirements. The reorientation towards more peaceful policies that followed the final defeat against Prussia paved the way for an intensification of such endeavours.<sup>12</sup>

While the trauma that had followed the war of 1866 and the need to reorganise its finances on a narrower basis induced the Austrian part of the monarchy to remain comparatively sober in the very first years of the era of dualism (1867-1873), Hungarians immediately engaged into aggressive investment policies (Eddie [1982]). The creation and consolidation of a national economy meant heavy public borrowing most notably to improve transportation which, the Hungarians felt, had so far been neglected by the Habsburg. Thus, while Austria did not issue long term loans until after 1875, Hungary immediately used its newly acquired autonomy to borrow extensively. The economic depression caused by the 1873 market crash led Austria to join the band. The result was, after 1875, a parallel rise in public borrowing in both parts of the monarchy.

Figure 2 describes the evolution of Austrian and Hungarian 'special' deficits as a share of government revenues. As is visible both series exhibited strikingly similar patterns. Until the late 1880s, persistent deficits were obtained everywhere in the monarchy. Moreover, there were a number of 'hikes' corresponding to the construction or repurchase of railway lines by the two governments. Given that the extension of the railway network was sometimes the result of joint undertakings by both parts of the monarchy, it is only a half surprise that some of these hikes occurred at the same time. At the turn of the decade however, both parts of the Empire began to make efforts to stem the recurrence of public deficits. In the Parliamentary debates there were intense discussions about tax increases. Several indirect duties, such as that on spirits, were raised (Eddie [1982]). Railway building slowed down as the large programs designed in the 1880s came to completion.

The 1890s were years of remarkable sobriety in both parts of the monarchy. Deficits however resumed in the later part of the decade, first mild, then more pronounced after

---

<sup>12</sup> The most comprehensive attempts to study the nature of public spending in the Habsburg Empire then in the Austrian part of the dual monarchy are Brandt [1978] and Wysocki [1975].

the turn of the century, although Austria sustained its fiscal effort longer.<sup>13</sup> Recurrent deficits were again obtained after 1905, with some hikes in Austria. It is obvious, however, that the claim by Eduard März that Austria was, in the pre-war years, a “state living beyond its means” is a vast exaggeration. Part of the deterioration of the public finances of the monarchy was traceable to the growth of military spending, which accelerated after the annexation of Bosnia-Herzegovina in 1908. As is visible from Figure 3 which compares the evolution of common expenses and common revenues, the balance to which Austria and Hungary had to contribute increased during these years. Common accounts thus provided a channel through which national accounts could fluctuate in unison, when international political shocks led to increased military spending. While of moderate implications in periods of peace, this interdependence could have drastic consequences in periods of war. This was certainly one reason why Franz-Josef regarded peace as an essential ingredient for the stability of the Habsburg economic union. This also explains (although such is not our focus here) why WWI turned out to be deadly for Austria-Hungary.

Figure 4, to conclude, presents estimates of the nominal public debts of Austria and Hungary (special debt and share of common debt added) in terms of national income. Both debt burdens series display a rapid accumulation until 1890. Hungary's initially higher stock of debt gives it a lead, which it does keep during the 1880s. The two ratios slow down around 1890 and by 1895 the trend was reverted. The 1907-09 Austrian deficits are perceptible and cause the debt burden gap between the two parts of the monarchy to narrow. Both public debt ratios however became substantially smaller than those obtained during the 1880s, reinforcing the conclusion that, despite the comments of contemporaries such as Böhm-Bawerk, the deterioration of the Austrian fiscal balance after 1900 was fairly sustainable in both absolute and relative terms.<sup>14</sup> The

---

<sup>13</sup> As is evident from the Figure 2, the big canal and railway projects launched in Austria by the Körber administration in 1900-1901 did not result in much deficits: this is hardly surprising given that we know that the project was dropped. See Gerschenkron [1977], especially chapter 3. The figures involved in the original plan however (500 million florins or 1 billion crowns, spread over the course of 10 to 15 years) suggest that the effort was not that large even in its genuine form, when compared with the public spending of the 1870s and 1880s. One may wonder why Gerschenkron made so much of so little.

<sup>14</sup> Note that the reverted U shaped pattern observed here is identical to the one identified in Flandreau et al. [1998], who explain it as a result of the post 1895 gold inflation which did much to relieve indebted countries from part of the burden of their public debts.

same holds also true for Hungary, where indebtedness had seriously declined by the outbreak of WWI.

These findings raise an interesting question: the respective fiscal performances in Austria and Hungary bear a lot of similarities. The common accounts were one channel through which fiscal shocks could be shared. But given their small size with respect to special budgets they certainly do not explain the overall tendencies observed over a course of 40 years. In the absence of a stability pact, this correlation is an interesting fact which deserves to be explained. The discussion of the monetary setting may presumably give some clues.

## **b) Monetary Rules in the Habsburg Monarchy**

*i. From the ÖNB to the ÖUB.* In 1867 the dual monarchy inherited its monetary institutions from the Austrian Empire. The nominal monetary standard was silver but the circulation was made of inconvertible paper money issued by both the government and the proto central bank, the Austrian National Bank. The Austrian National Bank (Österreichische National Bank or ÖNB) was a private institution created at the end of the napoleonic wars in order to stabilise the Austrian currency as mentioned explicitly in its statutes.<sup>15</sup> However, political obstacles had stood in the way and the resources of the bank had been called upon every time the Empire had been involved in military conflicts, which was often (Zuckerandl [1911]). In 1862, the ÖNB received its third privilege. The new charter had been designed to mop up the paper monies that the government had circulated at par with ÖNB banknotes to finance the war with Piedmont. Automatic credit lines to the government were ruled out but for a 80 million-florin interest free advance. As Zeuceanu observed, “in the new statutes, there was more independence with respect to the State”.<sup>16</sup> The ‘agio’ (discount of a paper currency against specie) on the florin declined and convertibility was in sight when the

---

<sup>15</sup> Statutes of the ÖNB, Archives of the ÖNB. I am grateful to Edi Hochreiter for having sent me the relevant documents.

<sup>16</sup> Zeuceanu [1924], p. vi.

1866 campaign erupted. The Austrian government again obtained emergency credit by circulating paper and using overdrafts from the Bank.

Such was the situation when the Compromise was signed. It was first decided that the inconvertible government paper in circulation (reaching about 400 million of florins, about the same amount as the notes of the ÖNB) would remain legal tender with the joint guarantee of both parts of the monarchy. New issues were ruled out. It was also stated that the two parts would share the same standard.<sup>17</sup> The question of the bank of issue was not included in the Compromise itself. It was settled in September 1867 by a separate arrangement with the Hungarian government promising not to allow any bank of issue to be created in 'Transleithania', as Hungary was called. The introduction of dualism had not reached the realm of money: as before 1867, there was one currency for Austria-Hungary at large.

This was not, however, Hungary's final word. The Magyar wanted to trade the monopoly of issue for their part of the territory against some advantage. They wanted some overdraft facilities and insisted that the bank should open a Direction in Budapest. The bank refused. The Hungarian requests escalated after the 1873 crash of the Vienna stock exchange which resulted in economic stagnation throughout the monarchy, increasing the pressure for government action and raising the question of the support which the bank of issue could provide to more aggressive spending policies. The expiration of the privilege of the ÖNB in the end of 1876 conveniently happened to coincide with the renegotiations of the Compromise in 1877. This provided room for a complete reshuffling of the monetary organisation of the monarchy. On July 1, 1878, the ÖNB became the Austro-Hungarian Bank (Österreichische-Ungarische Bank or ÖUB - Osztrak-Magyar Bank in Hungarian). The new ÖUB inherited the ledger of the ÖNB, but it was reorganised to give Hungary greater control. The ÖNB became a bilingual institution with two main directions in Vienna and Budapest, and a central office in Vienna. The governor was to be appointed by the Emperor upon joint

---

<sup>17</sup> Since this occurred in the midst of the campaign for the adoption of universal currency which climaxed in the 1867 Paris International Exhibition in Paris with the decision that a 25 francs gold coin should become the basis of the first truly global currency, the monarchy also considered the adoption of a new gold florin that would be such that 10 florins = 25 francs. A formal agreement was even signed between Austria's Baron de Hock and France's Parieu,

nomination of the Austrian and Hungarian finance minister.<sup>18</sup> The duration of the privilege of the central bank was shortened to 10, until the close of 1887. Its renewal would coincide with the negotiation of the third Compromise: the question of the common monetary institutions and policies was moving into the realm of Austro-Hungarian negotiation rounds.

*ii. Partial fiscal dominance before 1892.* The charter of the ÖUB was renewed in 1887 without substantial modifications. In the 1890s, however, the stabilisation of the currency, which so far had floated, led to drastic changes in the organisation of the Austro-Hungarian monetary union. To understand why, we need to go back to some special features of the Austro-Hungarian monetary system. As explained, in 1867 the monarchy had a silver standard, but in effect an inconvertible paper currency. The depreciation of silver after the collapse of bimetallism in 1873 progressively reduced the gap between the value of the paper florin and that of the silver florin. Silver threatened to drag the florin in its fall and in 1879 it was decided to sever the link between silver and the florin by suspending the free coinage of that metal for private parties (Eichengreen and Flandreau [1996]).<sup>19</sup> However, the governments of Austria and Hungary retained the right to coin silver for their own account. Since each part of the monarchy had large obligations payable in either paper or silver, there existed both the possibility and the incentive to collect seigniorage. Moreover, since 1867, there still existed in the circulation huge amounts of outstanding government notes (more than 50% of the overall high powered money, according to figures provided by Nemeč [1924]). The government papers created another source of instability. For instance they could be sterilised by fiscal authorities in times of abundance (e.g. when a loan was floated), and then injected again in the circulation when financial needs increased. Thus because of the specific constitution of the monarchy's specie and paper systems, both governments had a soft budget constraint. Of course, this soft constraint did not go unchecked. Each government's incentive to coin silver could not lead to issues beyond

---

paving the way for the eventual admission of the monarchy within the Latin Union and to its move to gold. The Austro-French agreement is reprinted in Noël [1889].

<sup>18</sup> See Noël [1889], Conant [1895], Zuckerkandl [1911] for a thorough description of the precise rules.

the point at which Austria-Hungary's currency would have depreciated to a silver standard.<sup>20</sup> Moreover, the Compromise ruled out new issues of government paper: once the government paper in the coffers were entirely released, the budget constraint was again becoming tight. But it remains that, as a result of this somewhat complex situation, the ÖUB was fairly powerless in stabilising the value of the florin. Its reserves, compared with the outstanding paper currency (bank notes plus government paper) were extremely small (around 20% in 1890) compared to European standards. It was said that the possibility for the governments to inject state notes in the circulation reduced the effectiveness of the discount rate as a monetary policy tool. And finally the governments' ability to coin silver was a threat to the ÖUB's capacity to stabilise the florin in terms of gold currencies.

As a result, while no clear downward trend in the value of the florin was observed after 1875, the Austro-Hungarian currency experienced wide fluctuations on exchange markets (Figure 5). In the late 1880s it was found that this had to be changed. Plans to stabilise the currency were actively discussed in 1890 and 1891, causing further gyrations due to speculation (Yeager [1969]). The reform began in 1892. The monetary laws of 1892 (Austria) and 1893 (Hungary) formalised the new basis of the Austro-Hungarian monetary union and reorganised the existing relations between the ÖUB and each part of the monarchy. The gold content of a new gold crown was proclaimed and steps were taken to stabilise the florin in terms of the crown. First, silver coinage for government account was discontinued. And second, it was decided that the two governments would repurchase their outstanding notes with gold, which would then be remitted to the ÖUB.<sup>21</sup> The process of government paper sterilisation began in 1893 and was carried in earnest in the following years. While the currency was not yet stabilised, the government control over the money supply had come to an end.<sup>22</sup>

---

<sup>19</sup> See e.g. *Neue Freie Presse*, August 22, 1879, p. 6.

<sup>20</sup> If so much silver was coined that the gulden depreciated to the level of its silver content, the advantage of coining silver would have gone to zero: thus the governments had an incentive not to overissue.

<sup>21</sup> Of the 312 million florins of outstanding paper notes outstanding in 1892, Austria committed itself to reimburse 70% while Hungary had to pay 30%.



*iii. Monetary dominance after 1892.* By abolishing the two mechanisms through which each part of the monarchy had retained a measure of monetary power, the reform of 1892 had in effect tightly restricted each government's ability to tamper with money creation. This worried the governments of the Emperor and King. Hungarians in particular claimed that they were dissatisfied and asked for compensations. According to external observers, "the general opinion is that there ought to be substantial restrictions to [the] privilege [of the ÖUB]".<sup>23</sup> The ÖUB, for her part, was concerned with exploiting the situation. It argued that in order to fulfil its goal of preservation of the external value of the currency, it had to limit as much as possible the advances made to both Treasuries. The 'loss' allegedly suffered by the two governments, it claimed, was a gain of 'credibility' and did not call for compensations. The ÖUB wanted a new charter to be extended until 1912, a typically longer period than that of Compromise rounds:<sup>24</sup> this was to free itself from the political pressures generated by the periodical Compromise rounds. These arguments were presented in a pamphlet released by the ÖUB in the spring of 1894. Among the concessions that the Bank was prepared to grant in return, was the suggestion that it could give to both States a greater share of its dividends. It also proposed the creation of a "curatorium", analogous to the one that existed in Germany, that would consist of highest representatives of the Ministries of Finance vested with the responsibility to audit the bank's actions.<sup>25</sup>

The two governments rejected the propositions of the ÖUB. The resulting gridlock blocked the completion of the transition to gold since it was feared that if a comprehensive arrangement was not reached, subsequent disagreements could lead to a return to inconvertibility that could trigger a panic and damage reputation. The florin kept floating and the fight about the new statutes continued. In late 1895, however, the bank realised that it had now the effective power to introduce the gold standard, regardless of the debates between Austria and Hungary, and thus establish itself as the true custodian of the external value of the national unit. By 1896, the amount of gold

---

<sup>22</sup> A collection of contemporary assessments of the Austro-Hungarian monetary reform by leading monetary experts in Austria-Hungary can be found in the volume published by the ÖNB from articles that appeared in the *Budapester Tagblatt* (ÖUB [1894]). I am grateful to Benedikt Koehler to have directed my attention to this source.

<sup>23</sup> Arch. Crédit lyonnais.

<sup>24</sup> See Raffalovich, *le Marché Financier en 1894-95*, pp. 152-4, and Conant [1895], p. 233

which the two governments had transferred to the Bank gave an effective cover ratio above the ÖUB's statutory limit of 40%. Feeling strong enough to undertake single-handed the stabilisation of the currency, the ÖUB implemented in early 1896, a 'shadow' gold standard, using its gold reserves to acquire foreign exchange and in turn foreign exchange to buy or sell Austro-Hungarian bills each time the exchange rate approached notional gold export or import points: the currency thus behaved 'as if' Austria was on a gold standard. The success of this scheme (which operated until the war without interruption) is illustrated in Figure 5.

After long and painful negotiations (in 1897, Austria and Hungary, failed to reach an agreement, and extended the privilege of the ÖUB from one year to another) the charter was finally renewed through the law of September 21, 1899 for operation until 1910. Contrary to what had happened in 1887, the new statutes brought important changes. Hungary had stated that it would only accept the loss of monetary control if full parity within the bank was introduced. As a result, Hungary and Austria shared the exclusive privilege to designate half of the board thus reducing the power of shareholders. Another change brought by the 1899 statutes was the increased influence of the two national 'commissaries'. The commissaries exercised each government's control over the common institution and they now had a right to request a special veto, motivated by 'raison d'etat'. This new clause amounted to including a measure of subsidiarity within the management of the common bank. Some later analysts interpreted this provision as weakening the 'independence' of the ÖUB. They ranked the Austro-Hungarian Bank "behind the Reichsbank".<sup>26</sup> Contemporary observers representative of the foreign investors' vantage point remained cooler, pointing out that this was after all the only form of "state control".<sup>27</sup> They saw the arrangement as a necessary counterweight to the enormous power that the ÖUB had acquired during the 1890s. Moreover, at no time until the war, did the authority of the commissaries encompass decisions relative to the setting of the discount rate. Thus monetary policy, as such, fully escaped the realm of

---

<sup>25</sup> Arch. Crédit lyonnais.

<sup>26</sup> Hertz [1903], Némec [1924], Zeuceanu [1924], p. xiii. On central bank independence under the gold standard, see Flandreau et al. [1998]. Note that for contemporaries, the Reichsbank with its curatorium system and possible control by the government was perceived as the least independent banks among the three leading European institutions (Bank of England, Banque de France, *Reichsbank*).

politics and the exchange rate remained pegged to gold, through the ÖUB's deliberate action and without interference from the governments, until the war.

#### **4. The Market Mechanism: Austro-Hungarian Lessons for EMU**

The growth of power of the ÖUB as a formidable player is a fairly striking fact, which the most careful observers of the time did not miss. Knapp's 'state theory of money' features the ÖUB as the prototype of 'modern' central banking (Knapp [1905], pp. 249-252, 377-394). This was because the ÖUB, breaking with the conception of commodity money (according to which strict specie convertibility was the only foundation of the value of paper currency which by itself was valueless), had demonstrated that the value of money could be institution-based. According to Knapp, it was the prestige enjoyed by the legal-bureaucratic system that the ÖUB impersonated, which provided the backing for the stabilised florin. One may wonder why 'modernity' developed not at the 'heart' of the gold standard system, but rather in an area that has traditionally been portrayed as belonging to the 'periphery'. Yet our discussion of the record of the Austro-Hungarian union point to one straightforward interpretation: the new regime, which emerged in the 1890s opened an era of increased monetary power for the ÖUB which was in turn associated with a period of balanced budgets (or moderate deficits). What remain to be understood, however, are the reasons which brought this 'change of regime' about. The next section argues that the invisible hand, which was responsible for this transformation, was the discipline of the market.

*i. Market discipline, 1: early concerns over reputation.* The theory of 'market discipline' features prominently among the arguments used by some modern opponents of the Stability Pact. The point is that efficient financial markets will charge badly behaved governments a higher risk premium and that this will provide them with incentives to improve their finances.<sup>28</sup> This form of discipline would be a much more efficient

---

<sup>27</sup> Arch. Crédit lyonnais.

<sup>28</sup> There is indeed evidence that such a mechanism existed in the pre-1914 era: in Flandreau, Le Cacheux and Zumer [1998] we formally test this hypothesis for a comprehensive sample of European countries and found evidence that highly indebted countries experienced a measure of squeeze in the shape of exponential increases in risk premia.

mechanism than the fiscal straightjacket which has been imposed to European governments through the Pact, as it would enable countries to run higher deficits in bad times and would thus provide more scope for stabilisation. In the Austro-Hungarian monetary union, discipline if it existed, could only operate through the market mechanism. As Scott Eddie has put it “Austria and Hungary were [...] subjected to the discipline of the capital market, and could run deficits only to the extent of the public willingness to lend to them”.<sup>29</sup>

The capital market had two constituencies: the first was the underwriting syndicates responsible for issuing bonds, and thus mainly involved with the primary market. The syndicate par excellence was the Viennese Rothschild’s — “The Syndicate” as the *Neue Freie Presse* called it.<sup>30</sup> The other side of the market comprised the long-term investors (domestic and foreign) in Austrian and Hungarian state securities. These bonds were traded in active and well integrated ‘secondary’ markets, in Vienna and abroad. Of course, the price of public securities on secondary markets influenced the issuing conditions, and vice versa, and the governments of the dual monarchy had to worry about the yields of their securities, as this in turn influenced their bargaining position with the Syndicate or with its potential competitors.

The history of the Habsburg union displays continuing reputational concern, especially by those seeking to tap the capital market. This was discernible from the onset of the Compromise era. Among the challenges involved in 1867 was the sharing of the outstanding ‘common’ debt between Austria and Hungary.<sup>31</sup> The Hungarians had initially claimed that this debt had served to finance Austria’s imperial policies in central Europe: they were victims, rather than contributors.<sup>32</sup> Yet it proved eventually possible to agree on a sharing rule. The Hungarians acknowledged that “on the basis of equity

---

<sup>29</sup> Eddie [1982], p. 11.

<sup>30</sup> See Michel [1976], pp. 119-137. The masterminds of the Rothschild syndicate were Albert de Rothschild and Theodor von Taussig

<sup>31</sup> By many aspects the problems surrounding the negotiation of the 1867 Compromise can be seen as a small scale version of the troubles that would develop after WWI: an indemnity had to be paid to the victor (Prussia), currency was depreciating, and the burden of foreign obligations was rising.

<sup>32</sup> This principle was explicitly included into the Compromise law. As recalled by Gyorgy Kövér, “the Hungarian stance traditionally stated - and this was included in the law of the compromise, that the ‘debts ... had been made without the lawful agreement of the country, and thus they did not concern Hungary“ (1868. Art. 12 Par. 53.) “(Kövé [1988], p. 162). Eddie concurs that “the debt of the Empire, [...] could not be said to have commanded widespread support in Hungary” (Eddie [1982], p. 10).

[?] and for political considerations [?]"<sup>33</sup> they were liable of a fixed perpetual annuity " no subject to further changes ".<sup>34</sup> This move may be interpreted as resulting from reputational concern vis-à-vis prospective investors. Hungary was a whole new fiscal authority with no reputation whatsoever. As emphasised by Gille ([1967], p. 487) it " had to learn to manage its finances ". For a brand new country, acknowledging a share of the outstanding debt as its own was a way to 'buy', quite literally, a reputation. Thus the Magyars' willingness to service a debt which they insisted was not theirs.

A similar mechanism was again observed when the Austrian government, in order to smooth the profile of its interest service and reimbursements, but also to reduce the interest burden, undertook in 1868 - just after the signing of the Compromise - a forced conversion of its outstanding common debt (a conversion with a 16% withholding tax). To explain his action to the markets, the Austrian finance minister referred to Hungary's limited contribution to the service of the common debt, thus trying to split some of the blame.<sup>35</sup> In effect this led, after complex and drawn out discussions, to the exclusion of both Austrian and Hungarian securities from the London stock exchange in May 1870 unless a compensation was given to British bondholders.<sup>36</sup> Here again, the Hungarians worried about the resulting loss of reputation: in the early 1870s while the issue of a loan in London came under discussion, Hungary accepted to pay British bondholders the bill Austria had left there, thus making up for the capital loss which the foreign bond holders had suffered. Given the fairly moderate compensation required (England, by contrast to Belgium, Holland, Germany or France had not been in 1868 a large holder of Austro-Hungarians securities), we can safely conclude that the advantages for Hungary of being able to collect funds in London surpassed the costs of redemption.<sup>37</sup>

*ii. Market discipline, 2: convergence of product quality.* The completion of the fiscal divorce between Hungary and Austria clarified the situation. The responsibilities

---

<sup>33</sup> Kövér [1988], p. 162. Our question marks.

<sup>34</sup> Compromise Law of 1867, Art. 15. Par. 1. Kövér [1988], p. 163.

<sup>35</sup> "The different states of Austria, including Hungary, have to take their share of the old burdens" in order to "get rid of the label of refusing to pay" Kövér, [1988], p. 164.

<sup>36</sup> Kövér [1988].

towards the common debt were by now more clearly defined. From that date on, new debts would be entirely 'national', thus enabling investors to discriminate between what was Hungarian and what was Austrian. But the incentives provided by the market continued to matter, perhaps with greater strength, generating a kind of 'quality competition' between the two sides of the monarchy. In the first ten years of the monarchy, when Hungary alone was borrowing on the market, it did issue all kinds of debt instruments. For instance various railway obligations of different types and maturities were floated. But when Austria came on the market, a standardisation of the securities issued by the two parts of the monarchy began. For instance the Austrians were the first to create, in 1876 a 4% perpetual gold rente, free of tax. The Hungarians followed suit a few years later with a Hungarian equivalent. Similarly, when the Austrians created, by the Law of February 1881 the 5% paper rente, tax free, observers commented that this had been prompted by the successful lead taken by Hungary in this segment of the market a few months earlier.<sup>38</sup> Not surprisingly, the 5% paper rente and the 4% gold rente were to become the two main components of the monarchy's outstanding debts.

The convergence observed among the debt instruments issued by the two parts of the monarchy in turn led to natural comparisons between the conditions at which each part of the monarchy borrowed. Analogous bonds led to straightforward assessments regarding which part had the highest credit, thus creating a fair amount of price transparency. When in 1892 Austria and Hungary, taking advantage of the decline in long term interest rates undertook a re - denomination of their paper securities from florins to crowns along with a conversion of the coupon from 5% to 4%, the Rothschild Syndicate met with officials first in Vienna, then in Budapest, and discussed the conditions that would apply to each part of the monarchy in reference to those granted to the other one.<sup>39</sup> The press reported the news concerning the performance of securities through pair wise comparisons between price changes: 4% gold Hungarians

---

<sup>37</sup> Kövér indicates that there was a capital of about £ 348,000 "converted under protest". The compensation being 5 per cent of total capital, this meant a cost of about £ 17,400, not a very large sum indeed. Kövér concludes that Hungary thus "'regained' its own credit and that of the Monarchy", Kövér [1988], p. 169.

<sup>38</sup> Arch. Crédit lyonnais.

<sup>39</sup> *The Economist*, January 7, 1893.

were compared to 4% gold Austrian, 5% paper Hungarians to 5% paper Austrians.<sup>40</sup> Each part of the monarchy thus became the natural benchmark to judge the other part. This situation, as recalled by Michel [1976], continued until the outbreak of WWI.<sup>41</sup> It was certainly one motive which explains the reluctance of the Austrian minister of finance Böhm-Bawerk to go along with premier Körber's famous public works program, causing its fall (Gerschenkron [1977]). The "loss of prestige" had Austrian credit been assessed below that of Hungary would have been intolerable.

*iii. Market discipline, 3: monitoring through debt structure.* The market mechanism also left its print onto the structure of the Austrian and Hungarian debts, and this, as we proceed to show, had an influence upon the evolution of the very rules presiding to the operation of the monetary union. Given that the Austro-Hungarian currency fluctuated widely, investors were less willing to hold Habsburg securities payable in paper florins than bonds with a gold clause. Accordingly, they charged a higher interest rate on the paper rentes, as opposed to gold denominated obligations. Evidence of this is provided in Figure 6, which shows that during the 1880s the yield on gold bonds was lower than that on paper bonds for both Austria and Hungary. This of course suggests that a government worried with getting the cheapest rate had an incentive to introduce gold clauses in its securities issues.

In effect, this is exactly what happened. As the governments in Vienna and Budapest kept borrowing in the late 1870s and 1880s, they found the financial markets unwilling to provide cheap funding unless guaranteed a fixed income in terms of marks, francs or pounds, that is, gold currencies. This led them to increase the share of their gold denominated debts along with the increase of their debt burden. The switch towards more 'gold intensive' debts in the late 1870s and 1880s is illustrated in Table 2 which underlines the cross section and time series correlation between the share of gold obligations in total outstanding liabilities and the level of public indebtedness: both Austria and Hungary gradually increased the share of their gold obligations as their

---

<sup>40</sup> id.

<sup>41</sup> Michel [1976], chapter on public debts and syndicates.

indebtedness grew and more indebted Hungary had also, other things being equal, a larger share of its debt denominated in gold.

In turn however, the growth of the gold denominated fraction of the two debts imposed a 'discipline' to the two governments. A higher fraction of gold denominated debt with a floating currency transferred the exchange risk from the lender to the borrower. But this in turn led gold indebted governments to be more worried about exchange rate stability. This mechanism is well known to macroeconomists who have suggested to interpret it as an optimal commitment technology: increasing the share of foreign currency (or in the instance, of gold) denominated debt might be seen as a way to reduce a country's incentive to inflate its paper debt away. Debt monetisation, by leading to exchange depreciation, will increase the burden of interest service on gold denominated obligations (see e.g. Missale and Blanchard [1994]). It is likely of course that the increase in the proportion of gold in the total outstanding obligations of Austria and Hungary was not designed out of such a conscious and explicit reasoning. But the result was the same. The growth of the share of gold denominated debts created serious motives for achieving greater monetary stability. Moreover, everything happened as if the market was able to customise the mechanism to fit each country's size: more indebted Hungary, being more concerned about reducing the interest service on its public debt, because it was charged a higher interest rate than Austria, increased its share of gold debts way beyond the point reached by Austria, and had thus stronger reasons, in the late 1880s to resist inflating away its obligations. This finding has obviously a considerable importance, as it suggests that the market mechanism was able to mitigate the potential conflict between Austria and Hungary regarding the optimal exchange rate regime.

It is in this light that we must understand why the project of monetary stabilisation gained momentum in 1888, precisely at a date when, due to renewed exchange rate instability, the spread between paper and gold obligations was biggest, reaching 100 basis points (Figure 6). Increasing the share of gold denominated debts increased the costs of currency instability as depreciating currency translated into a short-term increase of the interest rate service. This made currency stabilisation most desirable. To do this, however, one had to empower the central bank with greater control of the



monetary process, and in particular, to sever once and for all the defective link between government budgets and monetary creation, i.e., sterilise former paper issues and rule out silver coinage for government account. Doing this led, as is visible in Figure 7, to a sharp reduction of the paper-gold spread of both Hungarian and Austrian securities, way before the currency was actually stabilised, in 1896 (Figure 7). To a large extent, the ÖUB general secretary Mecenseffy had been right in emphasising that the governments of Austria and Hungary would benefit from the reform. This was indeed the reason why they had implemented it.

Clearly, the process was placing the Austro-Hungarian central bank at the centre stage of the Habsburg monetary union, providing an interpretation for the shift in power relations that we documented in the previous section. The credibility of the ÖUB was becoming a cornerstone of the Austro-Hungarian economic alliance. In front of the two national governments with no longer any control over monetary creation, the ÖUB was emerging as a super-actor to which both governments delegated the responsibility to foster currency stability. But this very process was operating a true revolution in the Austro-Hungarian monetary and financial relations, as the value of its currency rested not on a gold backing, but on the credibility of the Habsburg compromise. Such was the origin of what Knapp had analysed as the acme of modernity. In this process, the market mechanism and the ÖUB had turned out to be, as Marxist historians would say, 'objective allies'.

## 5. Conclusions

The French scholar Pierre Vilar once argued that the history of money could be a way to improve our analytical understanding of monetary phenomena. This, he suggested, could be achieved through the use of a conceptual tool, which he called "theoretical equivalents".<sup>42</sup> Monetary institutions do change over time: yet some fundamental issues survive owing to the very nature of money. According to Vilar, one such issue is the inflation tax: from the mediaeval technique of debasement to the modern use of the printing press, one may see a lot of change. Yet the essence of "seigniorage" has

remained the same. Because currency is a public good, it tends to be centrally managed. And because central authorities generally want to increase their resources, they tend to seek ways to exploit the money supply. Thus the modern printing press is the 'theoretical equivalent' of a debasement. This explains why for Vilar, monetary history has always been so rich in theoretical insights.

We hope that in the course of this article we shall have persuaded readers that the Austro-Hungarian precedent was a 'theoretical equivalent' for modern EMU. On the surface this may sound a bit surprising as the Habsburg monarchy is not usually portrayed as a monetary union. The reason for this is that unlike many other experiences of monetary unification which have relied either on a large decentralisation of monetary and commercial authority (thus enabling individual participants to retaliate against inflationary policies implemented in some parts of the union), or on a process of political integration (thus ruling out misbehaviour in the first place), both Euroland and Austria-Hungary occupy the uncomfortable middle ground of full monetary and commercial unification, cum fiscal subsidiarity. And one implication of this 'equivalence' is the surprising replication of issues and dilemmas.

The main dilemma, which both experiences have in common, is that of designing a mechanism through which fiscal discipline can be enforced in order to prevent the development of disruptive forces. The Habsburg monetary union, for its part, chose to rely on the market mechanism. From that respect, it has interesting lessons as it shows that the common central bank, rather than being predated by the two governments, gradually emerged as a strong player, indeed one of the main political actors of the monarchy. This was because, we argued, concerns over reputation loomed large. For instance, competition about reputation between both parts of the monarchy led them to standardise their debt instruments. This in turn improved the transparency of the price signals, so that investors could make direct comparisons between the credit standing of each. Moreover, public distrust of the Austro-Hungarian currency led the capital market to charge a higher interest rate on paper debts denominated in florins, as opposed to gold debts that were denominated in foreign currencies. The steps required

---

<sup>42</sup> Vilar, [1974], p. 17.

to foster the credibility of the currency in turn involved increasing the power of the Austro-Hungarian central bank so that it could move the florin onto a gold basis. Market discipline had thus eventually caused the growth in ÖUB's prominence in the Habsburg de facto union, and from that respect, the market was the theoretical equivalent to the Stability Pact. Of course, an important issue would be to understand why the founders of the Euro have taken the apparently more conservative route of explicit limits on fiscal profligacy, when Austro-Hungarian policy makers relied on the private sector. But if there is one Austro-Hungarian lesson for Euroland, it is that behind the role of formal mechanisms to limit the recurrence of excessive deficit, the market does undoubtedly provide a second line of defence for monetary stability.

We leave it to the reader to continue to unfold for himself or herself the whole implications of the 'theoretical equivalence' between the Habsburg union and euroland. For instance, the fiscal effort which took place in the 1890s in Austria and Hungary can be seen as a 'theoretical equivalent' to the convergence process that preceded the introduction of the Euro. Similarly, the resulting increase in the power of the ÖUB can be seen as a 'theoretical equivalent' of the way through which the Maastricht convergence criteria have paved the road for the large power enjoyed by the ECB, perhaps one of the most formidable bureaucracies on earth. The pessimist, finally, may wish to know what could be, in the European context, the 'theoretical equivalent' of the way the ÖUB came under, after WWI broke out and Austria and Hungary began to exploit the money supply transforming the ÖUB into "the abject agent of the governments in Vienna and Budapest and of their policies".<sup>43</sup> To that pessimist we shall reply that he or she will have to think of what could be a theoretical equivalent of WWI.

---

<sup>43</sup> Nemeč, [1924], p. 76.

## References

- Bagehot, W. (1869): *A practical plan to assimilate british and American money, as a step towards a universal money*, London.
- Bartel R.J. (1974): "International Monetary Unions: The 19<sup>th</sup> century Experience", *Journal of European Economic History*, N°3, vol.3, p.689-704.
- Bergman M., Gerlach S., and L. Jonung (1993): "The rise and fall of the SCU, 1873-1920", *European Economic Review*, vol. 37, 507-15.
- Bordo M. and Jonung (2001): "Lessons from monetary unions", in: F. Capie and G. Woods (eds.), *The History of Monetary Unions*, forthcoming, Macmillan, 2001.
- Brandt, H.-H. (1978): *Der österreichische Neoabsolutismus: Staatsfinanzen und Politik 1848-1860*, 2 vols., Göttingen: Vandenhoeck Ruprecht.
- Buiter W. (1999): "Alice in Euroland", *CEPR Policy Paper* 1.
- Conant, C. (1895/1915): *A History of Banks of Issue*, London: G. P. Putnam's Sons, first and fifth editions.
- Darnis, Jean Marie (1988): *La monnaie de paris, sa création et son histoire du consulat et de l'Empire à la Restauration (1795-1828)*, Paris: centres d'Etudes Napoléonniennes.
- De Mülinen, Comte (1875): *Les finances de l'Autriche*, Paris and Vienna.
- Dornbusch, R. (1992): "Monetary Problems of Post-Communism — Lessons from the End of the Austro-Hungarian Empire", *Weltwirtschaftliches Archiv*, 128, pp. 391-424.
- Eddie, Scott (1982): "Limits on the Fiscal Independence of Sovereign States in Customs Union: Tax Union Aspects of the Austro-Hungarian

- Monarchy, 1868-1911", *Hungarian Studies Review*, 7-29.
- Eichengreen B., and Flandreau M. (1996): "The Geography of the Gold Standard", in: Braga de Macedo, Eichengreen and Reis, eds., *Currency convertibility: the gold standard and beyond*, London: Routledge.
- Einaudi, L. (1998): "Money and politics: European monetary unification and the International Gold Standard, 1865-1873", unpub. Diss. Trinity College, Cambridge University.
- Flandreau, Marc (1993): "On the inflationary bias of common currencies: the Latin Union Puzzle", *European Economic Review*.
- Flancreau, Marc (1995): "Was the Latin Union a franc zone?", in J. Reis, ed., *Historical Perspectives on International Monetary Arrangements*, pp. 71-90.
- Flandreau, Marc (1998): "Ruling the Waves? France's Bid for Financial Supremacy, 1865-1873" mimeo
- Flandreau, Marc (1999): "Caveat Emptor: Coping with Sovereign Risk without the Multilaterals", CEPR discussion Paper N°2002, forthcoming as Audits, accounts, and assessments: Coping with Sovereign Risk under the International Gold Standard, 1871-1913", in H. James (ed.), *The International Financial System: Past and Present*, Cambridge University Press.
- Flandreau, Marc, Le Cacheux, Jaques and Zumer, Frédéric (1998): "Stability without a Pact? Lessons from the European Gold Standard 1880-1914", *Economic Policy*, 26, pp. 117-162.
- Garber, P. and M. Spencer (1994): *The dissolution of the Austro-Hungarian Empire: Lessons for Currency Reform*, Princeton Essay in International Finance N° 191.
- Gerschenkron, Alexander (1977): *An Economic Spurt that Failed: Four Lectures in Austrian History*, Princeton:

Princeton University Press.

- Gille, Bertrand (1967): *Histoire de la Maison Rothschild*, vol. 2, Droz: Genève.
- Hefeker, C. (1995): "Interest groups, coalitions, and monetary integration in the XIXth century", *Journal of European Economic History*, vol. XXIV, N° 3, pp. 489-537.
- Henriksen I. and Koergard N. (1995): "The Scandinavian Currency Union 1875-1914", in: *International Monetary Systems in Historical Perspective*, Jaime Reis, London, Macmillan, pp.91-112.
- Hertz, F.(1903): *Die Osterreichisch-ungarische Bank und der Ausgleich*, Vienna, 19p.
- Holtfrerich, C.(1993): "The monetary unification process in 19<sup>th</sup> century Germany: Relevance and Lessons for Europe Today", *European Economic Review*, vo.37, p.518-24.
- Holtfrerich, C.(1998): "The monetary unification process in 19<sup>th</sup> century Germany: Relevance and Lessons for Europe Today", in: de Cecco, and Giovannini (eds.), *A European Central Bank? Relevance and lessons for Europe today*, Cambridge University Press, pp. 216-40.
- James Harold (1997): "Monetary and Fiscal Unification in nineteenth century Germany: what can Kohl learn from Bismarck?" *Princeton Essays in International Finance*, Princeton University, n° 202.
- Knapp, G. F. (1905): *Staatliche Theorie des Geldes*, Leipzig.
- Komlos, John (1983): *The Austro-Hungarian Empire as a Custom Union: Economic development in Austria-Hungary in the 19th century*, Princeton: Princeton University Press.
- Komlos, John (1987): "Financial innovation and the demand for money in Austria-Hungary, 1867-1913", *The Journal of European Economic History*, vol 16, N° 3, pp. 587-605.





- Köver, Gyorgy (1988): "The London Stock Exchange and the Credit of Austria-Hungary 1867-1871", *Acta Historica Academiae Scientiarum Hungaricae* 34 (2-3), pp. 159-170.
- Köver, Gyorgy (1991): "The Austro-Hungarian Banking System", in Cameron and Bovykin, *International Banking 1870-1914*, (eds.), p. 319-44.
- Lévy,R.-G. (1911): *Banques d'Emission et Trésors Publics*, Paris: Hachette.
- Maurel, M.(1998): *Régionalisme et Désintégration en Europe Centrale et Orientale: une approche gravitationnelle*, Paris: Presses du CNRS.
- Maurel, B. (1976): *Banques et Banquiers en Autriche au début du XIXème siècle*, Paris: Presses de la Fondation Nationale des Sciences Politiques [This is the published version of an unpub. Sorbonne diss., 1970. The unpublished version is virtually identical but for footnotes and tables that have been excluded from the published version. For reference we used the original version held at the Bibliothèque de la Sorbonne, 920 p.]
- Michel, B. (1976): *Banques et Banquiers en Autriche au début du XIXème siècle*, Paris: Presses de la Fondation Nationale des Sciences Politiques.
- Missale, A. and Blanchard,O. (1994): "Debt burden and debt maturity", *American Economic Review*, March, pp. 309-19.
- Nemec, C. (1924): *La Banque Austro-Hongroise et sa Liquidation*, Paris: Giard.
- Noël, O. (1889): *Les banques d'émission en Europe*, Paris: Berger Levraut, 2 vols. (only volume I was ever published).
- Österreichisch-Ungarische Bank (1894): *Gutachten über die Österreichisch-ungarische Währungsreform*, Vienna: Bank of Austria.

- Perlman, Morris (1993): "In search of Monetary Union", *The Journal of European Economic History*, , vol. XXII, N° 2, , pp. 313-32.
- Pressburger, S. (1966): *Osterreichische Notenbank 1816-1966*, Vienna.
- Sanucci (1989): "The establishment of a central bank: Italy in the 19<sup>th</sup> century", in: de Marcello de Cecco and Alberto Giovannini (eds.), *A European Bank? Relevance and lessons for Europe today*, Cambridge University Press, pp.244-280.
- Schulze, Max Stephan (1997): "Re-estimating Austrian GDP 1870-1913, Methods and Sources", LSE Working Papers in Economic History, N°36/97.
- Theurl, T. (1992): *Eine gemeinsame Währung für Europa-12. Lehren aus der Geschichte*, Innsbruck, Österreichischen Studienverlag.
- Vanthoor, W. (1996): *European Monetary Union since 1848, a Political and Historical Analysis*, Cheltenham.
- Von Mülinen,Comte (1875): *Les finances de l'Autriche*, 1875, Paris and Vienna.
- Vilar, Pierre (1974): *Or et monnaie dans l'histoire*, Paris: Flammarion.
- Willis, H.P. (1901): *A History of the Latin Monetary Union*, Chicago.
- Wysocki, J. (1975): *Infrastruktur und wachsende Staatsausgaben: Das Fallbeispiel Österreichs, 1868-1913, Forschungen zur Sozial- und Wirtschaftsgeschichte*, Band 20, Stuttgart: Gustav Fischer.
- Yeager, L. B. (1969): "Fluctuating exchange rates in the nineteenth century: the experience of Austria and Russia", in: R. Mundell and A. Swoboda (eds.), *Monetary Problems of the International Economy*, Chicago: University

of Chicago Press.

Zeuceanu, A. (1924):

*La liquidation de la Banque d'Autriche Hongrie*, Vienna, Mechitaristes.

Zuckerlandl, Robert  
(1911):

"The Austro-Hungarian Bank", in: United States. National Monetary Commission. Banking in Russia, Austro-Hungary, the Netherlands and Japan. Washington: Publications of the National Monetary Commission XVIII (no.2); (also appeared in: Conrads Handwörterbuch der Staatswissenschaften 3<sup>rd</sup> ed.).

Table 1. Lessons from the Past?

	<i>Arrangement</i>	<i>Common Central Bank/Exch. Rate</i>	<i>Common Market/ Trade Policy</i>	<i>Fiscal Federalism</i>
<i>'International Groupings'</i>	LMU (1865-1927)	NO	NO	NO
	SMU (1873-1914)	NO <sup>(a)</sup>	NO	NO
	AGMU (1857-1866)	NO	NO	NO
<i>'Nations'</i>	Italy (1860-1998)	YES	YES	YES
	Germany (1871-1998)	YES	YES	YES
	Switzerland (1848- ?)	YES	YES	YES
<i>'Pure Monetary Unions'</i>	Austro- Hungarian monarchy (1867-1919)	YES	YES	NO (dualism)
	Euroland (1999- ?)	YES	YES	NO (subsidiarity)

Source : see text.

(a). Except in 1885-1905 when the clearing agreement between central banks operated. The arrangement was suspended when participating banks found themselves effectively financing other members.

Table 2. Debt Burden and Debt Structure: Austria and Hungary

	Austria		Hungary	
	Debt Burden	Share of Gold Debt	Debt Burden	Share of Gold Debt
1880	63	11	78	25
1885	70	13	87	33
1890	75	17	99	32
1895	75	19	108	32

Source: author's computations from Lyonnais files and average GDP estimates.



Figure 1. The Austro-Hungarian Budgetary Structure

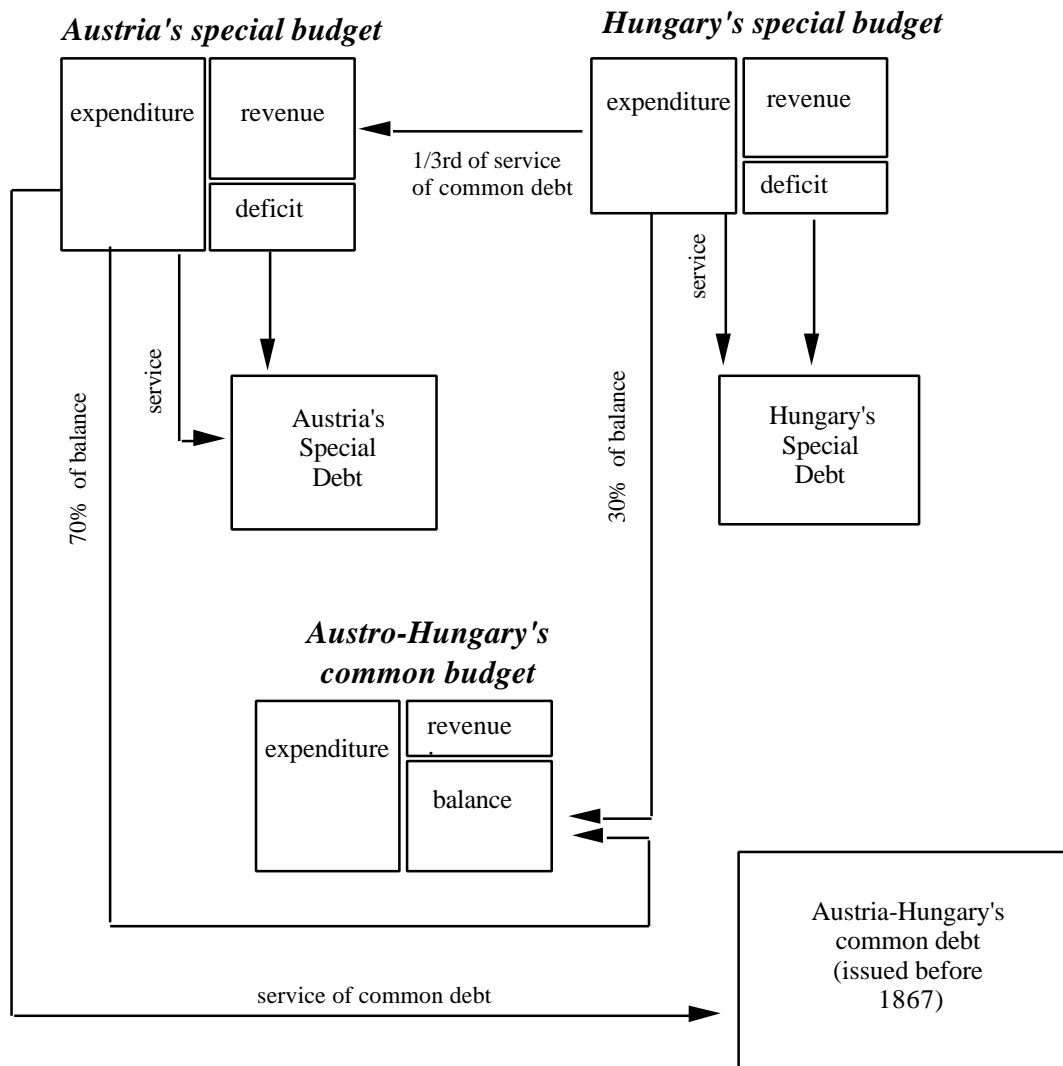


Figure 2. Deficits (as a % of revenue) in Austria and Hungary 1875-1912

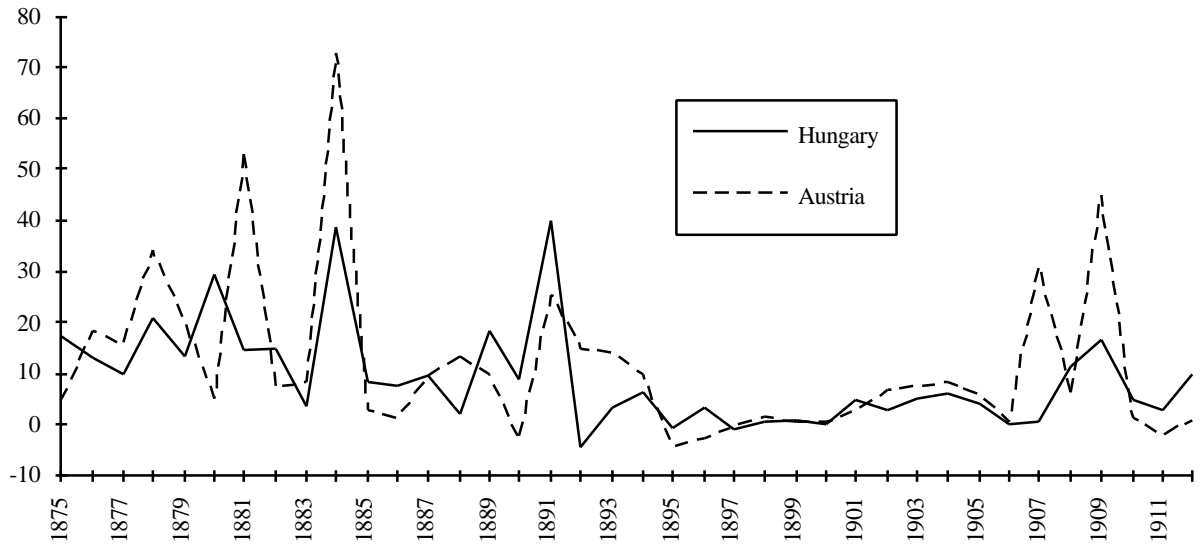
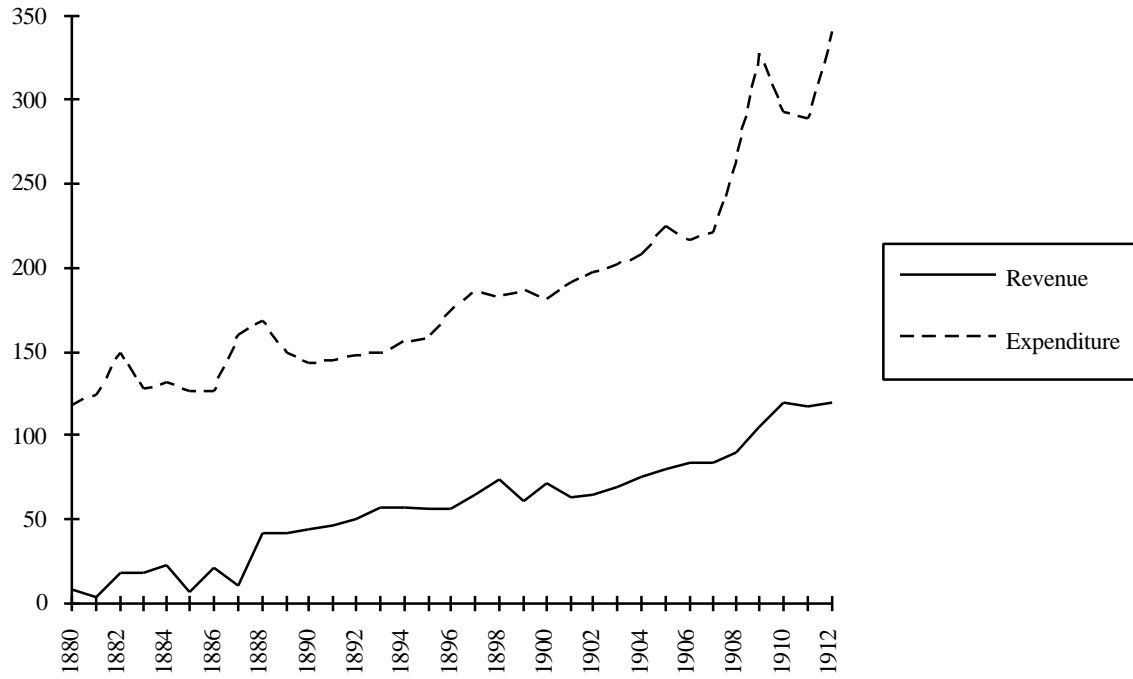




Figure 3. Common Budgets (millions of florins)



*Source: author's elaborations from Lyonnais files*

Figure 4. Debt GDP ratios in Austria and Hungary

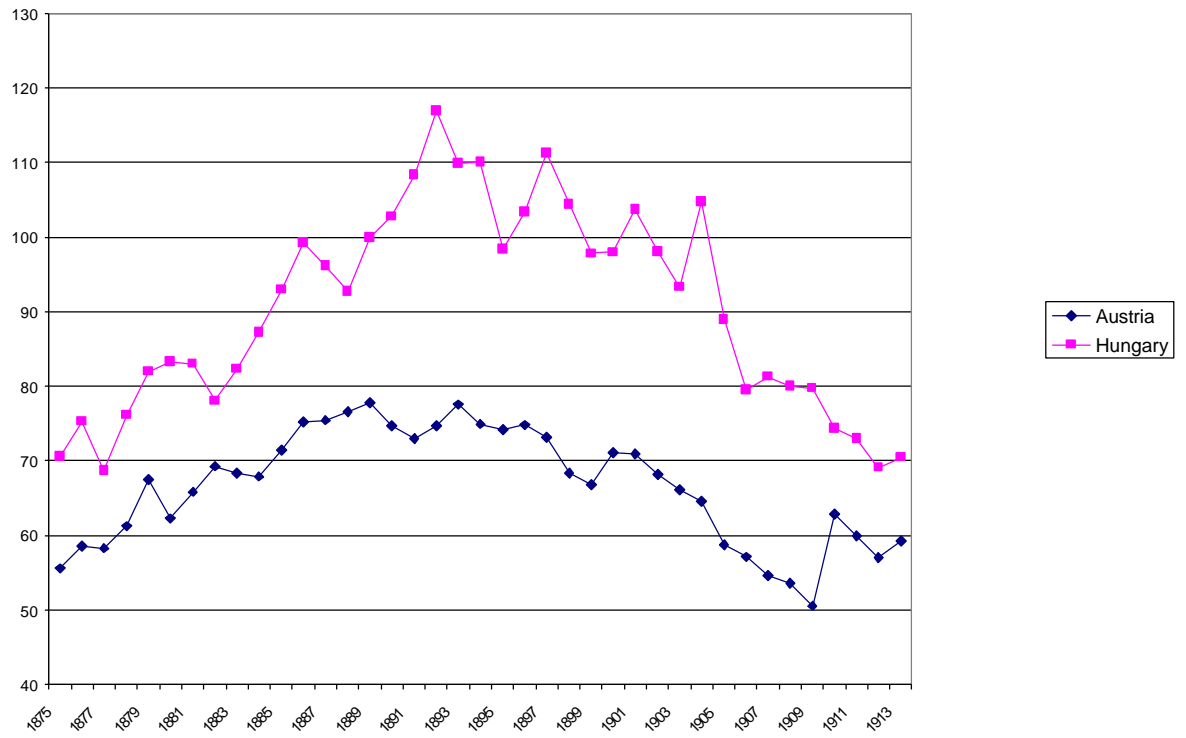
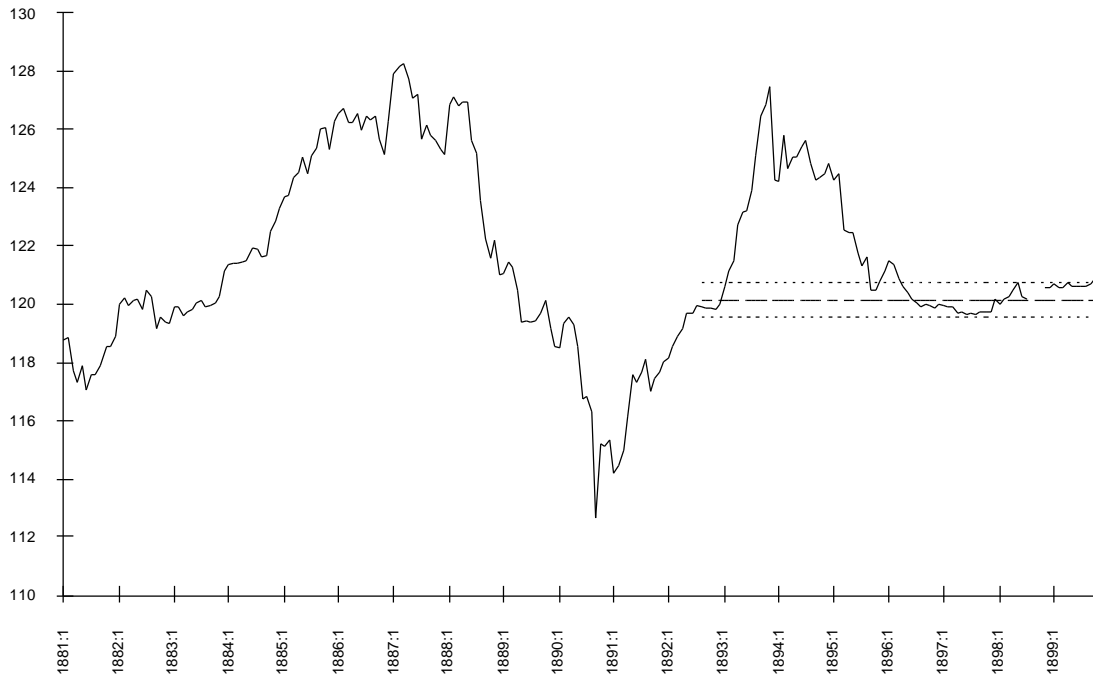


Figure 5. Exchange rate in Vienna: Forins per 10 Pounds Sterling (Straight line)  
(dashed line: gold parity; dotted lines: upper and lower notional gold points)



Source: Währungen der Welt, I

Figure 6. Yields on Austro-Hungarian Securities: Gold vs Paper

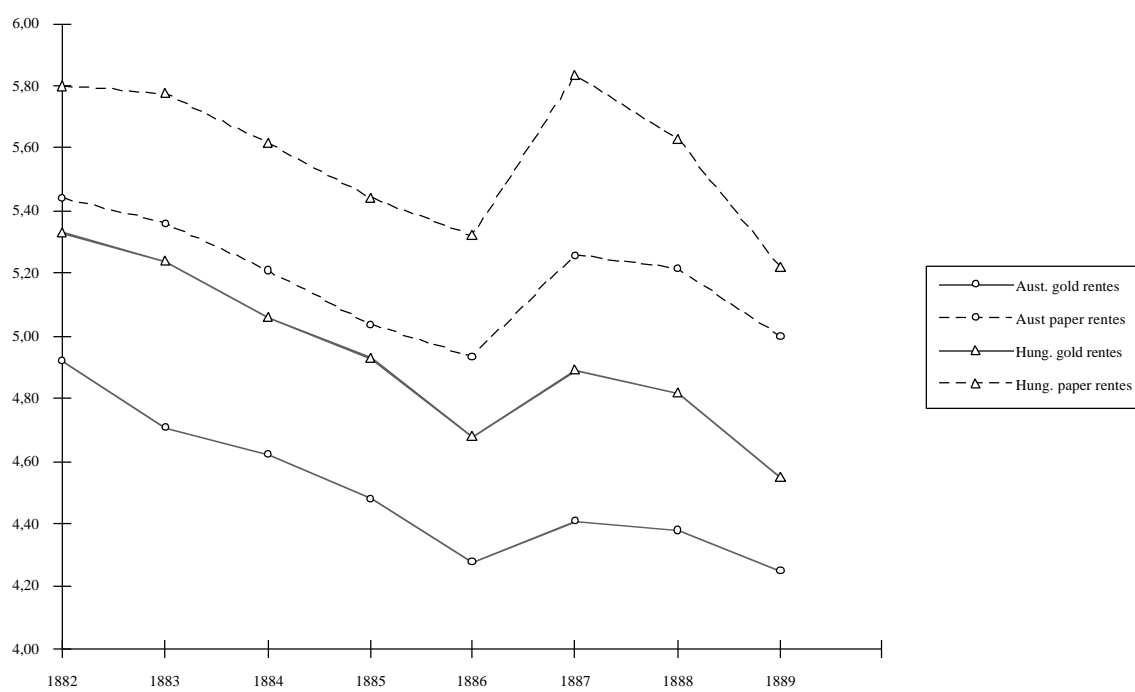
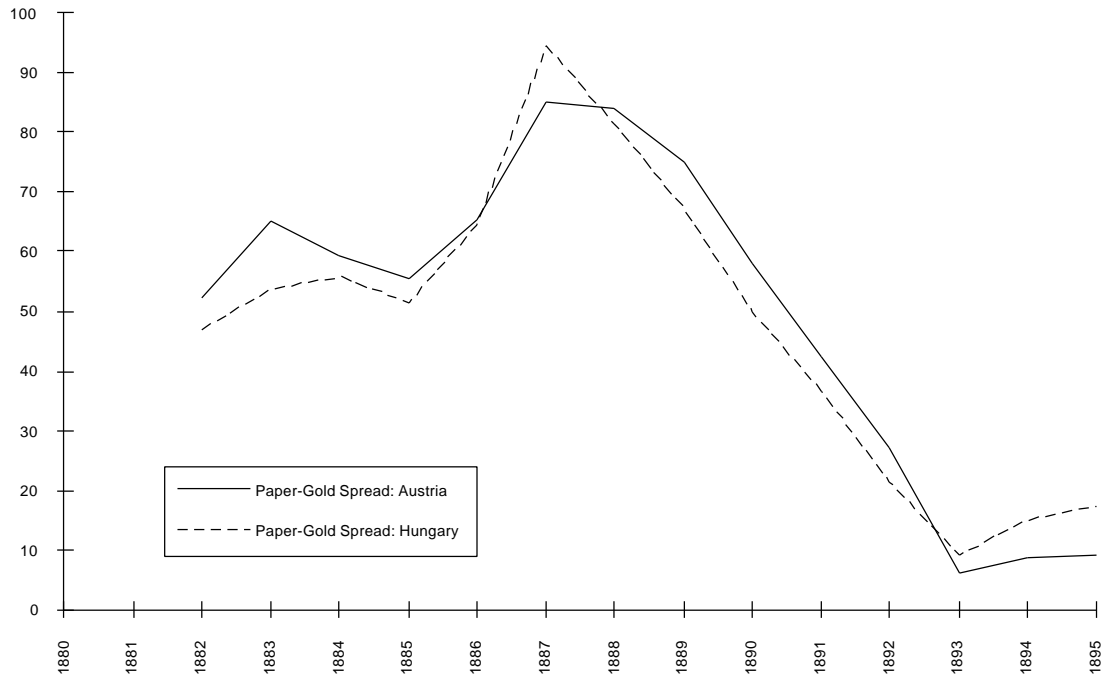


Figure 7. Paper-gold spread between paper and gold denominated currencies  
(percentage basis points)



## Annex

### *Archival sources*

Crédit Lyonnais Archives, Paris.

### *Periodicals:*

*The Economist*

L'Economiste Français

*Neue Freie Presse*

### **Data:**

Figures on public debts and deficits were constructed using fiscal studies made by the Credit Lyonnais. For a description of the type of work performed by Lyonnais economists and for an appraisal of their relevance, see Flandreau [1998]. Figures on Austro-Hungarian GDP were communicated by M. S. Schulze. Figures for interest rates were constructed on the basis of quarterly prices of Austrian and Hungarian bonds. The price for gold rentes was collected from the Paris stock exchange return, '*Cours Authentiques de la Bourse de Paris*'. The price for paper rentes was collected from the Vienna stock exchange return, '*Amliches coursblatt der Wiener Börse*'. Since 5% paper rentes were converted in early 1893 in 4% obligations, a correction had to be made on the series. We used the price of the 4,2% 'common paper rente', in effect, an Austrian obligation which was not converted in the 1890s and which, as efficient market hypothesis would predict, behaved in an almost identical fashion as the 5% paper debt of Austria as long as no conversion was in sight. Thus in 1891-92, we substituted the interest rate on the common debt for that on the Austrian bond, and the same series, augmented by the spread between Austrian and Hungarian paper obligations for the Hungarian interest rate. While this procedure may induce some minor distortions in the exact process at work, it provides a very reasonable interpolation of the convergence process whose starting and ending levels (in 1890 and 1893 respectively) are known with full certainty). Figures for the interest rate on the common debt also come from the '*Amliches coursblatt der Wiener Börse*'.

## Index of Working Papers:

August 28, 1990	Pauer Franz	1 <sup>1)</sup>	Hat Böhm-Bawerk Recht gehabt? Zum Zusammenhang zwischen Handelsbilanzpassivum und Budgetdefizit in den USA <sup>2)</sup>
March 20, 1991	Backé Peter	2 <sup>1)</sup>	Ost- und Mitteleuropa auf dem Weg zur Marktwirtschaft - Anpassungskrise 1990
March 14, 1991	Pauer Franz	3 <sup>1)</sup>	Die Wirtschaft Österreichs im Vergleich zu den EG-Staaten - eine makroökonomische Analyse für die 80er Jahre
May 28, 1991	Mauler Kurt	4 <sup>1)</sup>	The Soviet Banking Reform
July 16, 1991	Pauer Franz	5 <sup>1)</sup>	Die Auswirkungen der Finanzmarkt- und Kapitalverkehrsliberalisierung auf die Wirtschaftsentwicklung und Wirtschaftspolitik in Norwegen, Schweden, Finnland und Großbritannien - mögliche Konsequenzen für Österreich <sup>3)</sup>
August 1, 1991	Backé Peter	6 <sup>1)</sup>	Zwei Jahre G-24-Prozess: Bestandsaufnahme und Perspektiven unter besonderer Berücksichtigung makroökonomischer Unterstützungsleistungen <sup>4)</sup>
August 8, 1991	Holzmann Robert	7 <sup>1)</sup>	Die Finanzoperationen der öffentlichen Haushalte der Reformländer CSFR, Polen und Ungarn: Eine erste quantitative Analyse
January 27, 1992	Pauer Franz	8 <sup>1)</sup>	Erfüllung der Konvergenzkriterien durch die EG-Staaten und die EG-Mitgliedswerber Schweden und Österreich <sup>5)</sup>

1) vergriffen (out of print)

2) In abgeänderter Form erschienen in Berichte und Studien Nr. 4/1990, S 74 ff

3) In abgeänderter Form erschienen in Berichte und Studien Nr. 4/1991, S 44 ff

4) In abgeänderter Form erschienen in Berichte und Studien Nr. 3/1991, S 39 ff

5) In abgeänderter Form erschienen in Berichte und Studien Nr. 1/1992, S 54 ff

October 12, 1992	Hochreiter Eduard (Editor)	9 <sup>1)</sup>	Alternative Strategies For Overcoming the Current Output Decline of Economies in Transition
November 10, 1992	Hochreiter Eduard and Winckler Georg	10 <sup>1)</sup>	Signaling a Hard Currency Strategy: The Case of Austria
March 12, 1993	Hochreiter Eduard (Editor)	11	The Impact of the Opening-up of the East on the Austrian Economy - A First Quantitative Assessment
June 8, 1993	Anulova Guzel	12	The Scope for Regional Autonomy in Russia
July 14, 1993	Mundell Robert	13	EMU and the International Monetary System: A Transatlantic Perspective
November 29, 1993	Hochreiter Eduard	14	Austria's Role as a Bridgehead Between East and West
March 8, 1994	Hochreiter Eduard (Editor)	15	Prospects for Growth in Eastern Europe
June 8, 1994	Mader Richard	16	A Survey of the Austrian Capital Market
September 1, 1994	Andersen Palle and Dittus Peter	17	Trade and Employment: Can We Afford Better Market Access for Eastern Europe?
November 21, 1994	Rautava Jouko	18 <sup>1)</sup>	Interdependence of Politics and Economic Development: Financial Stabilization in Russia
January 30, 1995	Hochreiter Eduard (Editor)	19	Austrian Exchange Rate Policy and European Monetary Integration - Selected Issues
October 3, 1995	Groeneveld Hans	20	Monetary Spill-over Effects in the ERM: The Case of Austria, a Former Shadow Member



December 6, 1995	Frydman Roman et al	21	Investing in Insider-dominated Firms: A Study of Voucher Privatization Funds in Russia
March 5, 1996	Wissels Rutger	22	Recovery in Eastern Europe: Pessimism Confounded ?
June 25, 1996	Pauer Franz	23	Will Asymmetric Shocks Pose a Serious Problem in EMU?
September 19, 1997	Koch Elmar B.	24	Exchange Rates and Monetary Policy in Central Europe - a Survey of Some Issues
April 15, 1998	Weber Axel A.	25	Sources of Currency Crises: An Empirical Analysis
May 28, 1998	Brandner Peter, Diebalek Leopold and Schuberth Helene	26	Structural Budget Deficits and Sustainability of Fiscal Positions in the European Union
June 15, 1998	Canzeroni Matthew, Cumby Robert, Diba Behzad and Eudey Gwen	27	Trends in European Productivity: Implications for Real Exchange Rates, Real Interest Rates and Inflation Differentials
June 20, 1998	MacDonald Ronald	28	What Do We Really Know About Real Exchange Rates?
June 30, 1998	Campa José and Wolf Holger	29	Goods Arbitrage and Real Exchange Rate Stationarity
July 3, 1998	Papell David H.	30	The Great Appreciation, the Great Depreciation, and the Purchasing Power Parity Hypothesis
July 20, 1998	Chinn Menzie David	31	The Usual Suspects? Productivity and Demand Shocks and Asia-Pacific Real Exchange Rates

July 30,1998	Cecchetti Stephen G., Mark Nelson C., Sonora Robert	32	Price Level Convergence Among United States Cities: Lessons for the European Central Bank
September 30,1998	Christine Gartner, Gert Wehinger	33	Core Inflation in Selected European Union Countries
November 5,1998	José Viñals and Juan F. Jimeno	34	The Impact of EMU on European Unemployment
December 11,1998	Helene Schuberth and Gert Wehinger	35	Room for Manoeuvre of Economic Policy in the EU Countries – Are there Costs of Joining EMU?
December 21,1998	Dennis C. Mueller and Burkhard Raunig	36	Heterogeneities within Industries and Structure-Performance Models
May 21, 1999	Alois Geyer and Richard Mader	37	Estimation of the Term Structure of Interest Rates – A Parametric Approach
July 29, 1999	José Viñals and Javier Vallés	38	On the Real Effects of Monetary Policy: A Central Banker’s View
December 20, 1999	John R. Freeman, Jude C. Hays and Helmut Stix	39	Democracy and Markets: The Case of Exchange Rates
March 1, 2000	Eduard Hochreiter and Tadeusz Kowalski	40	Central Banks in European Emerging Market Economies in the 1990s
March 20, 2000	Katrin Wesche	41	Is there a Credit Channel in Austria? The Impact of Monetary Policy on Firms’ Investment Decisions
June 20, 2000	Jarko Fidrmuc and Jan Fidrmuc	42	Integration, Disintegration and Trade in Europe: Evolution of Trade Relations During the 1990s

---

March 06, 2001	Marc Flandreau	43	The Bank, the States, and the Market, A Austro-Hungarian Tale for Euroland, 1867-1914
-------------------	----------------	----	---

---