

*Interest Groups, Coalitions and Monetary Integration in the XIXth Century**

Carsten Hefeker
University of Konstanz

«The idea of a world monetary union is almost as old as the different monetary constitutions of each state¹».

1. Introduction

There is an as yet unresolved conflict whether economic interests determine political actions or whether economic behaviour adjusts to politically determined situations. In this article, using a political economic approach, it is shown that a combination of both approaches is necessary to understand nineteenth-century national and supra-national monetary integration². The national cases of

¹ Helfferich (1923, p. 135) my translation.

² I use monetary integration to describe arrangements with fixed exchange rates between states, where at least part of each other's currencies having legal tender status. An alternative definition is given by Tavlas (1993) who understands monetary integration as an attempt of countries to irrevocably fix their exchange rates and to follow a common monetary policy.

* I would like to thank Rolf Bommer, Reiner Eichenberger, Achim Körber, Günther Schulze, Heinrich Ursprung and participants of workshops in Zürich and Silvaplana for helpful comments and Philipp Harms and Susanne Holder for research assistance. Financial support from the Deutsche Forschungsgemeinschaft through the SFB 178 is gratefully acknowledged.

Switzerland, Italy and Germany are presented as examples for successful attempts, and the supra-national Austro-German Monetary Union, Latin Monetary Union and Scandinavian Monetary Union as examples of failures³.

The examples show that economic policy is determined by the influence of gainers and losers of a particular policy, the objectives of the policy makers themselves, and the institutional setting in which economic policy takes place. Nations' behaviour is generally shaped by domestic interest groups advocating a certain external policy, while politicians as optimizing agents attempt to achieve their own goals under the restricting need for interest groups' support. Given that international actions are influenced by national interest groups, the question is what interests are behind monetary integration and what makes it survive or fail?

The historical evidence offers several conclusions. First, the movement towards the introduction of a single currency is determined by an implicit coalition of economic and political interests. Although most of the economic literature acknowledges political influences, these are not explicitly covered. Hence, the traditional normative literature on optimum currency arrangements cannot explain monetary integration as it neglects, I will argue, one important factor. These political interests, seeking hegemonic dominance over other political entities, are supported by economic interests which are derived from trade integration. Reduced interests in trade integration, or return to protectionism, then severely undermine the movement towards monetary integration.

Secondly, states and nations will engage in competitive monetary issuing whenever not restricted from doing so. For them to abstain from this requires another source of finance, i.e. some compensation. Compensation, however, is necessary but not sufficient for viable monetary integration. External shocks, as they raise the fiscal needs of

³ Surveys on nineteenth century monetary integration can be found in Janssen (1911), Veit (1969), Krämer (1971), Bartel (1974), and De Cecco (1992). Theurl (1992) provides the most detailed and comprehensive account.

governments, may render this compensation insufficient and states might again resort to monetary financing. It follows, third, that for monetary cooperation among states or nations to be viable requires an enforceable and credible coordination mechanism. If this is absent, international cooperation will break down. Thus, one single regulating monetary authority is needed. This basically also explains the difference between successful national integration and failed supra-national integration. In the latter cases there is neither sufficient compensation nor the constitutional solution of a common central bank.

These conclusions also suggest that the standard public choice interpretation of integration as collusive behaviour among states and monetary authorities to restrict competition is not applicable in the case of nineteenth-century monetary integration. Instead, the former independent states and monetary issuing institutions were the ones which most vigorously opposed monetary integration because they feared losing their independent sources of profits and finance. In the national cases they thus had to be forced into monetary union. In the supra-national cases the cartel interpretation is just as unconvincing since no provisions were made to secure the stability of a possible cartel.

The cases considered also clarify that the politically feasible monetary union is in no manner similar to the famous optimal currency area concept. Instead, *politically optimal currency areas* differ from optimum currency areas as usually defined (see Tavlas, 1993) because a large amount of compensation is involved to make the costs of integration bearable for losers. The politically optimal currency area is thus more determined by financial power and political will of redistribution and compensation than by efficiency.

The text proceeds as follows. After this introduction, I will first describe the coalition between political hegemony and free-trade interests before turning to the three national cases of Switzerland, Italy and Germany. In Section 3, it is shown how monetary integration followed the trade pattern and how another coalition between sovereign states and money-issuing institutions opposed

common regulation and how this resistance could be overcome. In Section 4, I turn to the supranational attempts of the Austro-German Monetary Union, the Latin Monetary Union (France, Italy, Switzerland, Belgium) and the Scandinavian Monetary Union (Norway, Sweden, Denmark). The breakdown in the free-trade movement is portrayed, giving rise, in combination with hegemonic decline, to the breakdown of the nationally successful coalition in supra-national perspective. Some implications for the processes of European monetary integration and the monetary disintegration in eastern Europe conclude the paper.

2. Political Hegemony and Free Trade

This section will show that the economic desire for monetary integration in the nineteenth century was mainly driven by trade integration. The economic interest, however, would probably not have been able to succeed without the support of the political hegemony interest⁴. Economic and monetary integration was seen and used as a vehicle for hegemonic extension, leading to the formation of customs unions and subsequent monetary integration⁵. While monetary integration in ancient history had been primarily a byproduct of hegemonic extension alone, for which the Roman empire might be an example (Trimborn, 1931; Veit, 1969), in the nineteenth century economic interests in general became increasingly influential in the course of the industrial and *bourgeois* revolution. The

⁴ The role of ideology will not be considered as a decisive factor behind politics, although it might have had a certain influence. I regard the cultural and ideological idea of unity to be indecisive unless supported by other interests. Moreover, I find it appropriate to disregard citizens' interests, as in the nineteenth century democracy was not yet widely established and citizens had only limited political influence.

⁵ The Swiss case is a rare example in which nearly equally powerful states united. This, however, is no surprise as one might also expect small states to form a union among themselves rather than joining larger powers (Bernholz, 1985). Moreover, the theory of international relations illustrates that it is possible for a group of countries to substitute the hegemony and to provide stability themselves (Snidal, 1985).

restructuring of economies towards manufacturing enlarged the sector of tradable goods considerably (see Pollard, 1981). Although this progress had been continuing for nearly three centuries, it accelerated considerably towards the end of the eighteenth and the beginning of the nineteenth century (Bartel, 1974). While the political philosophy of the eighteenth century had been mainly mercantilistic, trade being regarded as a zero-sum-game in the static perspective of mercantilism, thriving industries now no longer accepted restrictive trade policy and thrust towards economic liberalism⁶. The increasing economic concentration and specialization of industries required increased trade, while the large number of internal customs barriers posed significant obstacles to this process by inducing transportation inefficiency and incurring high costs for both producers and consumers⁷. Hence, there was growing pressure from industrial interests for free trade and monetary unification as increased trade raised the costs of monetary confusion. With sovereignty in monetary matters for every city, state, or region, countries were particularly poorly prepared for the industrial *take-off*.

Free-trading Britain was conducive to this free-trade movement in two regards. First, because of its economic success, it increasingly became a model for European countries to change policies toward free trade; «progress» now meant unification and industrialization. Secondly, already at the end of the eighteenth century it had made attempts to conduct free-trade agreements with continental Europe, which were, however, rejected after the agricultural price decline of 1815. In 1846 Britain started a unilateral tariff reduction with the reversal of the Corn Laws (Irwin, 1993)⁸. In 1860, this desire finally

⁶ Arcand and Brezis (1991) interpret mercantilistic behaviour as being necessary for financing military power in a balance of power. Only hegemony could overcome the wasting of resources, making it obsolete by guaranteeing peace. Here another interpretation is advanced. I consider free trade as also being driven by economic interests, not by hegemony alone. McKeown (1983) and Irwin (1993), too, reject the common notion that the nineteenth-century free-trade movement is only due to hegemony provided by Britain.

⁷ In the later united Germany alone, for example, there were 1,800 customs barriers at that time.

culminated in the Anglo-French Commercial Treaty leading to a wave of bilateral free-trade treaties in continental Europe as well.

To understand the drive for a stable international monetary order in this context requires a short look at the chaotic monetary system of that time. At the outset of the nineteenth century, monetary systems were still dominated by metal currency, circulating freely across borders where currencies were also accepted according to their metal value. Gold and silver were the traditional currency metals, however generally not minted in pure form but rather in alloys of decreasing purity. Metal currencies consisted of minted coins, whereby the mint par, i.e. the amount of coins of a certain value the mint would give when receiving a certain weight of metal, was the essential instrument of monetary supply control (De Cecco, 1992). The other critical value was the free-market price of silver in terms of gold. Generally, a legal rate of exchange between gold and silver was specified by the authorities. In the resulting bimetallic system, where both metals were legal tender, the legal price ratio was determined by the weights assigned to gold and silver coins. Usually, this legal price ratio was upheld even under changing market conditions. This difference between the market and nominal price of a currency gave rise to the so-called Gresham's law⁹. Hence the occurrence of two major gold strikes in the 1850s was to have a profound impact on the world monetary system. In 1848 gold was discovered on the Pacific Coast of north America and within the following three years enormous deposits were also found in Australia, accompanied by an increased

⁸ Schonhardt-Bailey (1991) is less enthusiastic about Britain's unilateral move and Peel's role as a benevolent politician. She interprets the repeal of the Corn Laws as being driven by interest groups.

⁹ This term is used to describe the situation under fixed exchange rates where the coins with smaller metal value will drive the coins with higher value out of circulation because these are either hoarded, exported and used abroad with an agio, or melted and sold at metal value. When the market price differed substantially from the legal ratio, only the metal that was cheaper at the market price would be brought to the mints (Friedman, 1990). See Vaubel (1978, 83pp) and Rolnick and Weber (1986) for a detailed specification of the conditions under which Gresham's law holds. I return to its working below.

supply from Russian deposits. Thus, gold depreciated considerably against silver.

Table 1: Development of Gold and Silver Shares in World Production: (1801 - 1930)

Period of Time	Gold in %	Silver in %
1801 - 1810	2	98
1811 - 1820	2	98
1821 - 1830	3	97
1831 - 1840	3	97
1841 - 1850	7	93
1851 - 1860	18	82
1861 - 1870	14	87
1871 - 1880	8	93
1881 - 1890	5	96
1891 - 1900	6	94
1901 - 1910	10	91
1911 - 1920	10	90
1921 - 1930	7	93

Source: Veit, 1961, 345f

Table 1 shows the dramatic rise in the production of gold between 1850 and 1870. It also shows, however, that in the long run, after new silver discoveries in Nevada and elsewhere, the situation changed again to the benefit of gold (see also Veit, 1969).

Given the situation of changing gold and silver prices and with decentralized minting where the nominal value of coins was unsecured, traders were eager to reduce the transaction and information costs arising from monetary confusion. Money had only reduced unit of account status while the extensive variety of currencies intercirculating implied high costs, especially in cross-border transactions. Stable exchange rates among currencies were seen as a necessary condition for fostering trade and foreign investment¹⁰. Traders, hence, were not interested in monetary union

per se but in a stable currency order and convertible currencies¹¹. They rather looked for mutual acceptance between trading partners than for a commonly issued money (Theurl, 1992, 253). This desire culminated in a movement away from bimetallism towards a single gold standard. During the World Coinage Conference of 1867, a single gold standard was almost unanimously voted and when the dominant trading nations finally turned to gold, smaller states dependent upon them changed to gold as well.

The desire for trade integration was combined with the desire for political integration as well. In Italy, for example, the movement towards national autonomy was combined with the desire of the regional dominant power Sardinia to substitute earlier contenders. Following the Vienna Congress of 1815, Austria had established itself as the dominant political force in Italy, with most of Italy under its influence, while other sections were dominated by Savoy. From the 1820s onward, however, forces lobbying for political unification gained recognition. With the help of France, Sardinia was eventually able to force Austria out of Italy. Moreover, the Sardinian Prime Minister, Cavour, driven also by the free-trade interests (Cafagna, 1985, 312), already before national unification in 1861 began to unify the tariff system of Sardinia, using economic integration to reach political dominance¹². Following the parliamentary elections of 1861, the

¹⁰ This is still a dominant theme in the discussion on monetary integration. The resurrection of the gold standard after World War I was mainly driven by the desire to have stable exchange rates, thereby enhancing trade and foreign investment (Eichengreen, 1992). The Bretton Woods System and the European Monetary System can also (at least partly) be interpreted in this light (Giavazzi and Giovannini, 1989). Irwin (1993, 113f) even states: "One important lesson about facilitating multilateral free trade is that long periods of macroeconomic stability provide an environment conducive to the adoption of liberal trade policies. That is based on nineteenth century and post-war experiences, a sound international monetary and financial system appears to be a prerequisite for (or at least an important complement of) an open trading system".

¹¹ Convertibility at that time was generally understood as the avoidance of fluctuating exchange rates that would result from severing the fixed link between the national currency and the metal standard (Bloomfield, 1959).

¹² After Italian unification the Sardinian tariff system was extended to the whole of Italy (Clough, 1964, 40).

Kingdom of Italy was promulgated and the Sardinian constitution, itself modelled after the French example, was adopted.

Most obvious yet is the combination of political and economic interests in the German customs union (*Zollverein*), example which illustrates how two dominant powers, Prussia and Austria, extended their political rivalry into the economic sphere (Holtfrerich, 1989; Theurl, 1992). Prussia also saw the *Zollverein* as an excellent opportunity to extend its political power to smaller states (Helfferich, 1894, 1895; Trimborn, 1931; Fischer, 1960; Theurl, 1992) although it initiated the *Zollverein* to unite the various parts of its empire. The move towards customs union was caused by Prussia's desire to substitute internal duties for external tariffs as it received new territories in the Rhineland following the restoration of 1815. Since there was no connection between these different sections, the Prussian state wished to unite its territories. Moreover, the ruling class of landowners, connected with the production of the main export product, grain, was interested in free trade and was supported in this desire by the merchant communities of the port towns. After a failed attempt to counterbalance Prussia's dominance by forming an alliance with Austria, one by one, the southern states too moved over to the dominant (and more efficient) Prussian *Zollverein* system. As a compensation, Prussia agreed in the *Zollverein* treaty to distribute tariff revenues according to population, receiving only 55 per cent of the total. It is said that Prussia sacrificed about two million *thalers* a year (Kindleberger, 1975). By sacrificing tariff revenues and distributing them among smaller states, Prussia could prevent these states from siding with Austria¹³.

This compensation was necessary since at that time tariffs were a main source of income for most states (Fischer, 1960, 67). Until well after 1900, the German *Reich* had no direct tax revenue and had to rely to a considerable extent on customs revenue (Borchardt, 1985).

¹³ However, for fear of foreign retaliation and exporter interests, the level of the external duties was considerably lowered (Pollard, 1981, 28). In fact, from 1818 on, Prussia had the lowest tariff levels in Europe. One more reason to lower tariffs was to keep Austria out of the *Zollverein* (McKeown, 1983).

Likewise, the first Swiss constitution of 1848 ruled that the federal authority had to compensate the former tariff-receiving cantons by distributing most of its external tariff revenues to the cantons as a compensation (Bickel, 1964). The cantons themselves increasingly started to tax income and wealth. Only step by step was the federal state able to restrict redistribution of tariff revenues to the cantons from 53 percent of total tariff revenue in 1850 to 16 percent in 1874. The second constitution of 1874 no longer required the federal state to compensate cantons.

Matrix 1

		STATE B	
		Free-Trade	Protection
STATE A	Free Trade	8,4	2,5
	Protection	5,2	3,3

Matrix 2

		STATE B	
		Free-Trade	Protection
STATE A	Free-Trade	$(8-s), (4+s)$	2,5
	Protection	5,2	3,3

The significance of compensation becomes clear in matrices 1 and 2. In matrix 1, the dominant strategy for every state is protection, leading even state A, e.g. Prussia, to choose protection and raise tariff

revenue. In matrix 2, however, state A uses some of its gains in the form of political dominance to compensate the other states for lost revenue. The side-payment [s], when having a sufficient amount [$1 < s < 3$], makes both parties better off, and thus fosters economic integration.

These customs unions were scarcely a single event but part of a general European trade integration¹⁴. Other customs unions were formed within the Austrian-Hungarian empire and between Moldavia and Walachia. The British desire to use Europe as a supplier of raw materials and as a market for manufactures prompted it to sign a free-trade treaty with France in 1860. France, in turn, moved to free trade as Napoleon III saw the needs of imports and duty-free raw materials for industrial development (McKeown, 1983). This treaty inspired other European countries to seek most favoured nation status with France as well, which was attained by the German *Zollverein* in 1863, and by the later Latin Monetary Union members Belgium (1862), Italy (1863) and Switzerland (1864). Sweden, Norway, Spain and the Netherlands (1865), as well as Austria (1866) and Portugal (1867), negotiated similar treaties with France¹⁵.

3. National Monetary Integration

In this section I describe the national monetary integration in Switzerland, Italy and Germany. First the political and economic interests for unification are explained, taking up the arguments developed above. Then the interests of the opposing coalition are

¹⁴ See Viner (1950) for a comprehensive overview of customs unions in a theoretical and historical perspective.

¹⁵ All of these developments toward free trade were greatly encouraged by an evolving transportation system. The development and rapid growth of railway traffic and interconnection via rivers lowered considerably the costs of transportation. Later, however, reduced transportation costs would also contribute to the revival of protectionism. Free capital movements were also a determining factor in economic integration, with London, Paris, Hamburg, Amsterdam and Basel as European financial centres.

shown and finally the section turns to the constitutional solution of this conflict.

3.1. Political and Commercial Integration

As a result of the Vienna Congress of 1815, the 35 principalities and 4 free cities of Germany were granted full sovereignty in regulating their own coinage system. In the first decades of the nineteenth century, however, Germany was not only flooded with the various coins issued by the sovereign principalities, but in addition coins of French, Russian, British and Danish origin were in circulation. Not only were the coins of different weights and denominations, but they were also based upon completely different standards like the *thaler* in northern Germany and the *gulden* in southern Germany. Gold was only used for wholesale commercial transactions and as a store of value¹⁶. Due to the fiscal needs of the states during the Napoleonic Wars, there was also a considerable amount of paper money circulating in Germany.

The same trading-oriented industries and commercial interests which pushed for the *Zollverein* in the north were successful in the south. Driven by these economic interests, the southern *gulden* states were the first to unify their coinage system. The Munich Coinage Treaty of 1837 prescribed the silver content of the *gulden* and made it a legal tender in all participating states. One year later, cooperation was extended to the north. In the Dresden Coinage Convention, the northern states of the *Zollverein* and the southern states agreed to mint *thaler* and *gulden* according to common metal-content specifications, to withdraw depreciated coins from circulation, and to restrict the circulation of lower value coins. Nevertheless, the states were not obliged to accept coins from other states as legal tender with the exception of a common *vereinsmünze*. This union coin was created to facilitate the exchange between the *thaler* and the *gulden*, as 2 *thaler* and 3.5 *gulden* constituted one *vereinsmünze*. But the common coin

¹⁶ Only Bremen, through its oversea connections, operated on a gold standard.

did not acquire the significant role intended because its value was too high for everyday business¹⁷. Instead, the Prussian *thaler* extended its circulation throughout Germany and was even accepted in the *gulden* area of southern Germany, becoming the common coin for all practical purposes. Still the diversity of the small-change coins remained a problem. Even though over-issuing was ruled out by the treaty and an obligation to redeem any amount of coins beyond a certain level, the diversity of coins minted before the Convention remained unchanged. There was no obligation to withdraw coins issued earlier which were still in circulation.

In the 1860s the tradeable goods sector in Germany started pushing for the adoption of a single gold standard and for the unification of the coinage system. Germany, when wishing to trade, had to find a common standard with trading partners. The outcome of the Franco-Prussian war in 1870/71 and French gold reparations made it then possible for Germany upon unification in 1871 to switch the currency standard to gold. Although silver *thalers* remained legal tender until 1907, Germany was exclusively on a gold standard for all practical purposes from 1873 onward.

Following the southern German states which, in 1837, adopted the *gulden* as a standard, the eastern cantons of Switzerland adopted it as well and minted it themselves because their trade was oriented towards this region, while the western cantons which mainly traded with France and Piedmont remained on the French *franc* standard. This adoption of foreign coins as national units of payments resulted in waves of *gulden*s and *franc*s flooding Switzerland, depending on the actual exchange rate between *gulden* and *franc*. Putting an end to this chaos, several plans towards coinage unification were developed in the 1830s. But only after 1848, when Switzerland became a federalist state (Bundesstaat), was it possible to centralize, among other rights, minting rights¹⁸.

¹⁷ The ordinary citizens named it "Champagner thaler", indicating that this treaty was viewed by the population as a rich men's affair (Holtfrerich, 1989).

¹⁸ Subsequent negotiations among cantons concerning monetary reform were, however, not concerned with paper money since this was deemed to be solely of minor

As there was not yet a common «Swiss nationality» feeling, the creation of a Swiss currency was still ruled out. Because of France's dominant position, its political stability and the franc's status as a world currency, Switzerland adopted a coin with the same value and content as the French coins to help Switzerland's participation in international trade. The Swiss parliament (*Bundesversammlung*), nevertheless, retained exclusive minting rights and only coins from France, Sardinia, Belgium and Parma received legal tender status in Switzerland.

In Italy likewise, the monetary system before unification was organized along trading lines. Northern Italy oriented itself towards France, while the Bourbon south gravitated towards England. Hence, Piedmont and Parma adhered to the French bimetallic standard while the south was on a pure silver standard. Additionally Austrian and Vatican state coins were in circulation so that by 1859 nearly 90 various coins were counted. Most of the circulating means of payments were coins, only one fifth was paper money. Banking laws in all provinces differed in the regulation of coin emission, metal coverage and banking activities, reflecting the particular needs of the state governments to finance their budgets. Banknotes were only accepted in the states which issued them and were not legal tender beyond their borders.

After Italian unification in 1861, due to the political preponderance of Sardinia, the *Banca Nazionale di Sardinia* (BN) became the leading bank. As a compensation for that, a side-payment had to be made to Tuscany. Florence became capital of Italy in 1865 in exchange for surrendering its coinage privileges (Fratianni, Spinelli, 1985).

The choice of the common metal standard was a disputed issue. The BN opted for a single gold standard, but the dominance of silver coins circulating in southern Italy and the trading relations with

importance. At that time banknote issuing was not profitable as notes had to be fully convertible and redeemable on a 100 percent metal basis. They had no legal tender status and were solely accepted by the issuing banks themselves.

countries on a silver standard suggested another decision. A compromise was finally reached by instituting a formal bi-metallism. Coins from the time prior to unification were exchanged for new coins; full-valued coins could be issued privately and without restriction while subsidiary coins were restricted to a certain per capita level. The ratio between gold and silver was legally bound to 1:15.5 in the north, while in the south the market rate prevailed, leading to wide-spread arbitrage.

3.2. Budget Sovereignty and Money

Apart from the bimetallic confusion depicted above, a second reason for the widespread working of Gresham's law was the competitive behaviour of states (Redish, 1993b)¹⁹. States, for reasons of budget financing, had a tendency to issue currency of which the nominal value was higher than its real value, i.e. subsidiary coins or paper money, to reap seigniorage. While new money was generally accepted at the beginning, the public, after having realized its minor value, later called upon the authorities to convert the subsidiary money into full-valued money, exploiting the gap between its real and its nominal value. This depleted the metal reserves of the issuing institutions and, to avoid further depletion, the new money then usually received forced legal tender status, i.e. it lost its convertibility, beginning to drive out the «good» money. As to the full-valued money's exit from the country, and the ongoing creation of subsidiary coin or paper money, fixed exchange rates were finally given up and the process reversed because with full capital mobility speculation against a currency could not be tamed. Bad money was now driven out of circulation²⁰.

¹⁹ I will use "state" to describe smaller communities which later merged to form a "nation". Thus, the cantons of Switzerland will be called states while united Switzerland will be called a nation.

²⁰ Bernholz (1989) named this reversal Thier's law. Kindleberger (1992, p. 18) describes this process as follows: "At the height of the inflation set in motion by the debasement

In the first phase when new money was readily accepted, governments had an incentive, especially in a monetary union where coins were mutually accepted, to flood not only their own country with new money but other countries as well. Fixed exchange rates therefore provided an excellent opportunity for states to enrich themselves at others' costs by exporting part of the domestic inflation²¹. Were states, instead, to restrict their money issuance under a regime of fixed exchange rates, all those participating in the treaty could profit from low inflation and the reduced transaction costs of international trade at the same time. Thus, international monetary stability under fixed exchange rates can be seen as being subjected to an inherent free-rider problem (Casella and Feinstein, 1989; Eichengreen, 1989). Again, this evidence speaks against the interpretation of monetary integration as a cartel.

Moreover, seigniorage revenue beside tariff revenues was a source of budgetary finance. Thus monetary issuing rights, like former tariff revenues, were defended by the sovereigns of the former independent states against being merged in a single political entity. Following the nation-building process these former independent states not only lost their political influence to a considerable degree but also financial resources. As these sovereigns were particularly interested in keeping

and the ultimate refusal of producers to sell for the debased money, riots broke out in various cities, involving several hundred participants and ending in the death of some rioters. The populace blamed the mint masters and the exchangers, especially the Jews, but most historians writing on the subject denounce the princes, dukes, counts, abbots, city authorities and the like that sought to increase their incomes by further seigniorage.... The working classes and others who had been exploited in the early stages of the debasement, giving up their good coins for progressively worse ones, finally proved unwilling to accept them where they had any choice. Goods stopped coming to the market, as in the spring of 1947 in the western zones of Germany. Government accounts could no longer be kept”.

²¹ Flandreau (1993a) develops a model in which even in a monetary union a central bank's threat to refuse foreign currency eventually stops the act of printing money and sending it abroad. The resistance of a central bank to accept coins issued in excessive amounts by a foreign government forces that country to reimport almost all its inflation, as the public speculates against that currency. For this to happen, however, there must be a central bank that is able to reject foreign currency, i.e. legal-tender status for any foreign currency must be ruled out.

their revenue sources and in preserving their leeway for independent spending, they resisted monetary centralization as long as possible. Therefore a political central power had to be developed first which was capable of withdrawing monetary rights. Even more time was required to develop an efficient tax system to replace seigniorage revenue. Only then was it possible to nationalize the monetary system (see Section 3.3. below).

Issuing banks were also opposed to common regulation and monetary union. The State and private banks were those who actually made a profit from monetary confusion, issuing money, taking a margin when changing money and speculating on the changing relation between silver and gold (De Cecco, 1992). During times of bi-metallism banks, maintained the right to choose which metal to issue or redeem. Banks did not have the legal obligation to convert their notes into one specific metal upon request, but were free to choose between gold and silver. Even in the case of full metal-backing they were able to profit from issuing paper money. When they wanted to discourage redemption, they offered to convert notes into silver, which, because of its low intrinsic value, rendered large conversions troublesome. Moreover, they tended to issue only small notes to reduce the likelihood that these would be presented for conversion into full-metal coins. Hence, there was also considerable resistance from private or state banks, which took the central powers some time to overcome (Clough, 1985, 41; Hamada, 1977, 21).

These groups opposing monetary integration, which I identify as an implicit coalition, thus had to be compensated by the political central power. The larger hegemonic powers therefore had to «buy» the smaller states into accepting integration²². For the time being, and as no other sources existed, the former states were compensated by being allowed restricted monetary authority, especially for paper

²² Casella (1992) argues that small states generally have to be compensated with a overproportional share of seigniorage. They have to be “bribed” into the monetary union. In our cases a combination of seigniorage and fiscal redistribution was used. In the Italian case, the central power also took on the debt of the sovereign states upon unification (Clough, 1964, 43).

money²³. These preserved rights, not surprisingly, were used by the states to finance their budgets by printing paper money. Because treaties concerning the monetary relations among former independent states, and later among nations in supra-national monetary unions, did not initially cover issuance of paper money but only regulated the minting and metal standards of coins, every state had the means to issue paper money beyond domestic needs and to circulate it into other regions as well.

Table 2: Swiss Banknotes and Issuing Banks in the Period 1840 - 1900

	Note Issuing Banks (Numbers)	Banknote Circulation (Mio. Fr.)	Decade Growth (%)
1840	4	2,1	3400
1850	8	7,6	262
1860	17	13,8	82
1870	28	19,0	38
1880	36	92,9	389
1890	35	152,4	64
1900	35	216,7	42

Source: Theurl, 1992, 67

Thus when in Switzerland, upon unification in 1848, the question of paper money was not touched upon and it was left to the cantons to decide upon note-issuing banks, these took advantage of

²³ There is, however, no proof that the non-regulation of paper money at the outset of monetary unions encompassed a bargain between the central power and the states and was not simply due to ignorance. The fact, however, that there were already voices demanding the regulation of paper money (Trimborn, 1931, 69), shows that it actually did involve a bargain. This bargain was necessary to avoid a recurrent breakdown of the union, having the same side-payment role as in tariff agreements.

their freedom, continuing the tradition of using cantonal banks as an instrument to finance their budgets²⁴. The problem was aggravated when the so-called monetary crisis of 1870 — a coin shortage due to the French gold export prohibition during the Franco-Prussian War led to the wide-scale acceptance of paper money in Switzerland. Most of the circulating banknotes were issued by the cantonal banks which attempted to extend their own notes' circulation into other cantons as well. Obviously, banks quickly learned to use the possibilities provided by monetary integration to export their currencies (Veit, 1969). Private banks, on the other hand, gradually developed a voluntary clearing system with mutual acceptance of paper money²⁵. Table 2 shows how rapidly the number of issuing banks in Switzerland increased and how they used their issuing rights.

Italy, too, left paper money unregulated in its coinage reform. In 1861, eight banks had the right to issue banknotes, the *Banca Nazionale di Sardinia* (BN) being by far the most important²⁶. Upon political unification in 1861, other banks were merged with the *Banca Nazionale* so that in 1866 only six remained, making the BN the natural candidate for becoming the Italian central bank²⁷. With the banking act of 1874, the privilege of the remaining six banks to issue banknotes was confirmed but such banknotes had legal tender status only in the region of the respective bank. All those not authorized to issue currency had to leave the market, granting the remaining banks therefore a certain market share. However, as in the Swiss case, the regional banks attempted to extend their notes' circulation into

²⁴ Moreover, banks were seen as a political instrument; for instance, two rival banks affiliated with the liberal-radicals and the aristocrats were founded in Geneva in the 1840s (Weber, 1988, 473).

²⁵ This, however, can also be viewed as an attempt to avoid a federal regulation (Theurl, 1992, 77). In fact, banks ceased cooperation whenever they deemed it necessary.

²⁶ Between 1848 and 1851 and again in 1859 the BN had already issued money with forced legal-tender status (*corso forzoso*) to finance the fiscal needs of Sardinia.

²⁷ Even before the coinage reform of 1861 an attempt was made to unify the issuing of paper money with the BN. Parliament blocked this initiative for the obvious reason that it did not want to lose the monetary sovereignty of states.

others' regions as well (Sanucci, 1989, 266). Table 3 documents the increase in the advances to the State National Bank and the issuing of banknotes for their own account. As all notes, nevertheless, continued to be traded at par, over-issuance by banks was even encouraged (Fratianni, Spinelli, 1985, 487).

Table 3: Banknote Circulation in Italy (in millions of lire)

	Advances to the State National Bank and Consortium		Advances to the State National Bank and Consortium		Issued by banks for their accounts	
1866	250	246	1874	880	633	
1867	250	487	1875	940	621	
1868	278	563	1876	940	646	
1869	278	571	1877	940	628	
1870	455	497	1878	940	672	
1871	629	577	1879	940	732	
1872	740	623	1880	940	749	
1873	790	664	1881	940	735	

Source: Clough, 1964, 55

In 1866 Italy took part in the German-Austrian war. Financing the war by far exceeded national income and the government was forced to take a large loan from the Sardinian National bank. Moreover, the convertibility of paper money was suspended and banknotes received *corso forzoso* (fiat money) status throughout Italy. Not only budgetary needs, however, but also pressure groups stood behind the decision to introduce paper currency inconvertibility. The manufacturing industry and agricultural sectors pressed for inconvertibility, hoping for currency depreciation to discourage imports and promote exports. This coalition was also joined by the BN which was convinced that inconvertibility would support its expansionist programme by providing the possibility of issuing paper

money which was unrestricted by reserve requirements. BN's expansion, moreover, was supported by the other banks having to keep BN notes as a reserve for their own issuing.

The stability of the monetary system in Italy was therefore to a large extent dependent upon the budgetary situation of the government. Accordingly, the deterioration of the budget due to involvement in the war was responsible for the inconvertibility decisions of 1866 and the monetary expansion in 1866-67²⁸. Although convertibility was later to be restored in 1883, because of the banks' competitive note issuance due to the rapid economic development in the 1880s, a banking crisis was brought on. The excessive expansion of credit and banknote circulation triggered a speculative crisis, which during paper convertibility was again suspended. Since it was clear that the crisis was at least partly attributable to the competitive over-issuance of banknotes, the BN was merged with two Tuscan banks to form the *Banca d'Italia* in 1893. Nevertheless, the banks of Naples and Sicily could preserve a certain amount of paper issuance for themselves. In 1894 banknotes again received *corso forzoso* status and now the notes of all remaining banks had legal tender status throughout Italy, being redeemable in national paper money or in coin at market rates only.

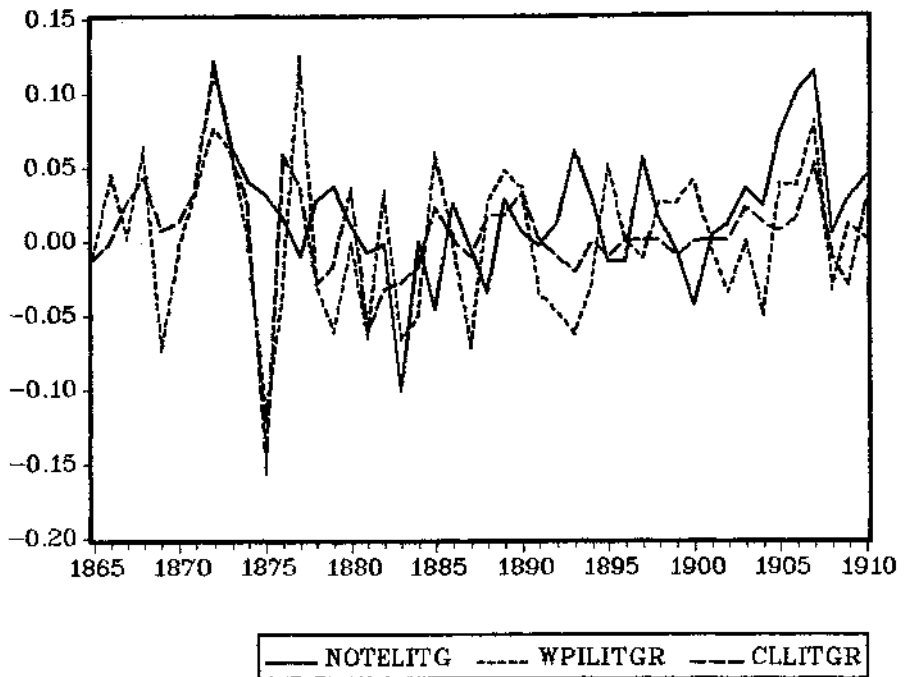
Figure 1 shows the large fluctuations in paper-money growth and the peak in 1893 followed by further increases. The different movements in prices can be explained by the fact that paper-money was only part of the currency and by the recession after 1870.

3.3. The Nationalization of Money

When the commercial-hegemonic coalition between free-traders and political interests was successful in forming a nation, this also

²⁸ The second source for government finance was the Parisian capital market. Because of a remarkable price difference for government bonds in Italy and Paris, however, speculative capital flows destabilized the exchange rates and rendered the intended stability of exchange rates in the Latin Monetary Union obsolete.

Figure 1
Increase in Paper Money Creation and Price levels in Italy, 1865-1910



Notes:

Notelitg: log of bank and state issue changes; Wpilitgr/cllitgr: log of wholesale and consumer price indices changes.

Source: Mitchell, 1975; 674, 736.

implied overcoming the interests of the banks and sovereign states in the fragmentation of monetary rights. Their revenue-defending interest could be overcome by using side-payments first and ultimately, after having gradually reduced their power and their resistance, by the dissolution of the states themselves. The diverging interests of the former independent states were forced into a «union» (Kronman, 1985), i.e. by political centralization the interests of any former independent state were merged with that of the others. Moreover, the

occurrence of several monetary crises due to over-issuance, at times leading to bank breakdowns, finally gave central powers an excuse to merge independent banks into one central bank and to create a two-tier banking system. To support this process, the central powers began granting privileges to one bank. In Italy and Germany, for example, the banks in the territory's dominant powers (Sardinia-Piedmont and Prussia), financed the budget of the central power²⁹. All convertibility restrictions for their notes were dropped and their notes were made a reserve currency for the other banks.

Therefore, the beggar-thy-neighbour behaviour of small states was actually the reason why Prussian government consented to the foundation of the Prussian Bank in 1846 after the small neighbour state of Anhalt-Dessau announced its intention to found a banknote-issuing bank, obviously to serve mainly Prussian customers, thereby reaping seigniorage gains (Holtfrerich, 1989). The Prussians followed Bavaria and Saxony, who in 1834 and 1838 had respectively founded note-issuing banks on the basis of private share capital, however, with government management and supervision.

The subsequent regulation of issuing rights again also reflects the industrial interest which had expressed its preferences for a unified regulation of the banknote system for an extended period of time (Holtfrerich, 1989). The changing structure of the currency system towards using paper money implied that this had to be regulated to ensure its stability and reliability. The competitive wave of over-issuing among German states in the 1850s affected trading interests adversely, as the larger states (Prussia, Saxony, Bavaria, Baden and Württemberg) outlawed payment in notes issued in other states in order to hinder their appropriation of disproportional seigniorage gains. In 1867, commercial interests finally prevailed. The German Federation (Deutscher Bund) empowered its legislature to unify not only the coinage system but also the national paper money

²⁹ Goodhart (1988, 19) interprets this as a contract between central bank and nation by exchanging banking monopoly for seigniorage. Since central banks, however, were usually state-owned, this is nothing less than an appropriation of rents and their securement in a monopoly position by the central power.

and banknote system for the entire territory. In 1870 the Federation's legislature outlawed the creation of new banknotes, reserving this right for new federal institutions in its *Banknotensperrgesetz*. This centralization left the Prussian Bank with the exclusive right of unlimited banknote issuance. The Coinage Act of 1873 also required all paper money that was not denominated in marks to be withdrawn from circulation by 1876. This, of course, was aimed mainly at the private banks in the small states and paved the way for the dominant role assigned to the *Reichsbank*. Yet again the central power had to compensate the smaller states for the lost revenue. Of the 184 million marks needed to replace the old coins of the small states, the *Reich* paid 120 million marks.

With the Banking Act of 1875, monetary unification was completed. It was followed by the establishment of the *Reichsbank* on January 1, 1876 and gold convertibility for banknotes. Smaller banks were driven out of business through a provision forbidding the issuing of notes under 100 marks. In 1906 only the larger states still had their own bank. Figure 2 depicts the fluctuations in note issuing which only after 1876 began to stabilize. The divergent price movements can be explained by the widespread recession after 1870. I return to this below.

Resistance to the creation of a common central bank originated mainly from traditionally liberal political circles and from individual states. Accordingly the federal chamber of Parliament (the *Bundesrat*) resisted the creation of a common bank. Even the Prussian government was reluctant to make its bank a central bank for seigniorage reasons, only agreeing to sell the bank to the *Reich* at a considerable price in 1875. It was the national chamber, the *Reichstag*, which insisted on the idea of a central bank.

Switzerland, too, experienced cantonal resistance in several attempts to unify monetary authority. In 1874 the Swiss federal government made a first attempt to regulate the emission of banknotes. Because of cantonal resistance this was rejected in a referendum. The law, however, became valid in 1882. It only determined the rules of banknote issue and the mutual acceptance of

banknotes, but did not affect the competitive structure of banknote issuing. Not until 1891 were these rights fully transferred to the central authority and in 1907 a central bank was finally created. This bank had no limit concerning the issue of notes, but it was to maintain full convertibility. World War I, however, suspended convertibility into metal until 1921. To counterbalance the public's hoarding of money, a huge amount of subsidiary coins were issued (breaking the rules of the Latin Monetary Union (LMU)) along with state paper money. After 1921 Switzerland also moved towards the adoption of a single gold standard, which was actually established in 1925.

4. Supra-national Monetary Integration

The impetus for supra-national monetary integration can be derived from the same interests and motives as national monetary integration. Political expansion and trade integration were also behind supra-national monetary integration. It also, however, provided the same possibility to appropriate resources from other members of a union since decisions concerning circulation and the issue of paper money were in any of the three cases left entirely to the domain of the individual nation (Theurl, 1992). When nations thus used paper money to finance chronic budget deficits until it far exceeded the amount of specie, redemption in metal was no longer possible at the official rate. To avoid the depletion of currency reserves, paper money received forced legal tender status at which time Gresham's Law began operating. The flooding of other countries with subsidiary coins resulted in over-abundance there and, although subsidiary coins could be presented for redemption by the sending country, the receiving countries at least temporarily granted a credit to the issuing country.

Over-issuance led to a market devaluation of the currency and eventually to the breakdown of the official exchange rate because exchange rates could not be defended under full capital mobility and without support from the involved central banks³⁰. Nevertheless, in

case of external shocks like wars, countries frequently resorted to printing money³¹. For an example see Figure 3 which shows the importance of monetary financing for France in the case of external shocks and wars (1870/71). Taxation as an alternative instrument had not yet developed and it was unattractive, because by printing money, the (inflation) tax had a broader basis and through money export other nations bore the tax burden too.

The following sections describe first the formation of supra-national currency areas and then their problems and the reasons for their breakdown are addressed.

4.1. Trade Liberalization in Western Europe

The first attempt at supra-national monetary integration was made between Austria and the *Zollverein*, and was caused by a struggle for political leadership. Prussia opposed Austria's participation in the *Zollverein*, but, as a compromise, a free-trade treaty with Austria was concluded in 1854, setting the stage for negotiations for a common coinage convention between the *Zollverein* and Austria. Still hoping to join the *Zollverein*, Austria saw monetary integration as a vehicle to reach this goal by instrumentalizing monetary policy. Prussia on the other hand considered the Austro-German Monetary Union (AGMU) as a way to extend its political power to the adversary's domain.

Having operated a central banknote monopoly since 1816 and being on an inconvertible paper standard since 1848, Austria was expected to re-establish convertibility before negotiations in 1854.

³⁰ Flandreau (1993b) argues that the *Banque de France* was unwilling to act as a lender of last resort to the Latin Monetary Union. Kindleberger (1986) derives the necessity of a lender of last resort for the stability of the international monetary system.

³¹ DeKock and Grilli (1993) derive theoretical arguments for exchange-rate regime switches and fiscal autonomy for large external shocks. Bordo and Kydland (1990) also derive the benefits of "escape clauses" from monetary systems for large shocks. Thus for them the collapse of exchange-rate regimes is due to a government's welfare considerations. For a critique to this approach see Giovannini (1993).

Table 4 shows how differently structured the monetary system in Austria and Germany was, already indicating problems which were to follow. Austrian efforts to reach convertibility by selling the railroads and taking a loan on the capital market were thwarted by the outbreak of the Crimean War. For Austria's participation in it, inconvertibility had to be extended.

Table 4: Currency Structure in Austro-German Monetary Union (per cent)

	<u>Austria</u>		<u>Germany</u>	
	Paper Currency	Metal Currency	Paper Currency	Metal Currency
1856	89	11	26	74
1857	89	11	29	71
1858	89	11	30	70
1859	92	8	31	69
1860	91	9	34	66
1861	91	9	36	64
1862	90	10	35	65
1863	89	11	35	65
1864	88	12	35	65
1865	86	14	38	62
1866	91	9	36	64
1867	91	9	38	62

Source: Theurl, 1992, p. 170.

Another problem was the changing relationship between the prices of silver and gold. Austria wished to establish a gold standard in the AGMU, for it assumed that it would be easier to resume specie payment in gold which was relatively cheaper. Prussia, however, wished to maintain the silver standard and the dominant position of its *thaler*. Negotiations broke down over this issue and were only resumed in 1856 when Austria dropped its demand for the gold

standard. In 1857, the Vienna Coinage treaty was signed between the *Zollverein* and Austria, in which Liechtenstein also took part.

In the AGMU convention, three distinct currencies were linked together by a constant rate of conversion and a common unit of account, the silver mark. At that time (before the German Monetary Union), Prussia and the northern states used the *thaler* which was valued at 14 to one silver mark, while Bavaria and the southern states used the *gulden*, which had a value of 24.5. Austria used the *gulden* as well, but its currency unit was valued slightly higher than the Bavarian *gulden*. Although no attempt was made by AGMU to introduce a common currency, provision was made for a common *vereinsthaler* to be the only coin in circulation in all participating states of which a minimum number had to be coined each year providing for the necessary unit of payment. The choice of the *thaler* as a common unit clearly reflects Prussia's preponderance as does the decision to maintain the silver standard. But as in the case of the Dresden coinage convention, the common *vereinsmünze* was rarely used by the public. Instead the Prussian *thaler* was used in Austria as well. For external payments, a gold-based unit, the *krone* and half-*krone*, was created. The price ratio between gold and silver was left to be determined by the market, avoiding the confusion of the bi-metallic standard. Another important element was the regulation that as of 1859 all paper money had to be redeemable into silver.

The rising influence of economic interests in forming monetary unions, however, was most visible in the case of the Latin Monetary Union (LMU) constituted by France, Italy, Switzerland and Belgium. Another important reason for the formation of a common currency area stemmed from bi-metallism and the problems resulting from changing relative prices of gold and silver. When increasingly silver coins left France due to silver scarceness in neighbouring states because of the gold flood after 1848, a shortage of full-value silver coins became virulent because there was virtually no small-payment medium left. The government attempted to adjust to the situation by reducing the fine content of silver coins.

Having acquired the technique for producing standardized token

coins (Redish, 1993a), governments generally resorted to minting subsidiary coins. When Switzerland also began reducing the fine content of subsidiary coins, the result was a difference in fineness among circulating coins, hindering trade, commerce and travel with the neighbouring states Belgium, Switzerland and Italy, since France in turn was reluctant to accept these coins. It became increasingly apparent that only concerted international action could remedy this situation.³²

Moreover, Napoleon III saw monetary integration as a welcome opportunity for extending France's political rule and for maintaining the status quo of France's superiority in the monetary system.³³

Once again monetary integration followed trade interests and the formation of the LMU reflects foremost a recognition of existing facts. All the countries which later formed the Latin Monetary Union already traded heavily with France (Cohen, 1993; Flandreau, 1993b). When, therefore, Belgium became independent in 1831, it had already adopted the French monetary system. Its coins were of the same fineness, value and name as the French coins. French money was even made legal tender in Belgium (Bartel, 1974). From 1853 onward, Belgium completely stopped its minting of silver coins, as it was easier to buy the coins (against gold) in France and import them for use (Willis, 1901), while full-valued coins were exported to the Netherlands and Germany, demonstrating once again the working of Gresham's law.³⁴ Switzerland and Italy, as we have already said, were also on the French standard, with the French franc as legal tender in both countries too. As the franc circulated in these countries, in turn the national coins of Italy, Belgium and Switzerland circulated in each others' countries. Notice in this context that France was also the main

³² According to Veit (1969, p. 701), the real reason behind the LMU was less the desire to stop the fragmentation of coinage and more the desire to avoid an ongoing deterioration.

³³ De Cecco (1992) thus sees the LMU an indirect outcome of the Napoleonic empire, as Napoleon was successful in preserving French economic and financial hegemony.

³⁴ In 1860 87% of coin circulation in Belgium was of French origin. Gold was widely used too, but its non-legal-tender character and the large denominations created difficulties for daily transactions.

creditor to these countries (Flandreau, 1993b). Although these capital flows diminished when the Latin Monetary Union was formed, the other countries now had the possibility to print the currency in which they had to repay their debts.

It was Belgium which actually proposed an international monetary conference in 1865 at which the juridical basis for the Latin Monetary Union was set. Together with the Swiss and Italian delegations, the Belgian delegation made formal demands for the adoption of a single gold standard but the French were reluctant. France had augmented her large silver deposit, thus preferring a standard which included silver. Redish (1993a) suggests that Napoleon might have wanted to use bi-metallism as a bargaining chip for the international monetary conference in 1867, in which he wanted to trade it against the common gold standard being based on the French gold coinage. French *haute finance* was also very much interested in continuing the existing system, as bi-metallism provided an opportunity for very profitable arbitrage operations by exploiting the gap between currencies' real and nominal value (De Cecco, 1992; Veit, 1969). Willis (1901, pp. 57-60) argues that the French government was very dependent on the *Banque de France*, which also preferred bi-metallism, for financing its budget deficits, thus giving it considerable influence. Finally, since the *Banque de France* was the only central bank with a reserve strong enough to stabilize the entire area's system, the official French view prevailed (De Cecco, 1992).³⁵ The treaty, valid for 15 years and renewable, was thus essentially a reinforcement of the status quo in which the contracting parties agreed on uniform standards for minting and issuing gold and silver coins. However, coins only had mutual legal tender status with public bodies; only in Italy and Switzerland did private subjects have to accept foreign coins.

Greece was nominally admitted to the LMU and joined it in 1868,

³⁵ The smaller states were also interested in convincing other nations to join the LMU (particularly Britain) which had required a gold standard, but feared the costs which would be incurred by a substitution of silver coins for gold (Willis, 1901). This might be another reason why they finally accepted the French position.

but subsequently proved to be a negative element because of its unsound financial and economic conditions. Later, a bilateral treaty between Austria and France welcomed the inclusion of another important member without formal admission. Spain and Romania also took steps towards adopting the franc system, so as of 1880 approximately 18 states were using the French monetary system.³⁶

The third attempt to form a monetary union, the Scandinavian Monetary Union (SMU), was initially the most successful. Like the LMU, the SMU was the formal integration of the Norwegian, Danish and Swedish monetary systems among which there already existed an informal intercirculation of coinage. This fact, together with the similarity of the economies in general and the high degree of trade dependence, all combined to make it a rather successful attempt. In this regard, the SMU was nearest to an optimum currency area. While Sweden and Denmark had already established the SMU in 1873, due to anti-Swedish sentiments and the wish to demonstrate independence, Norway did not join the LMU until 1875.³⁷

To a certain extent, the SMU was a copy of the LMU and was also inspired by the ideas of the world coin movement (Trimborn, 1931). Following the International Monetary Conference in 1867, Sweden undertook a monetary reform to prepare for an eventual participation in an international monetary union and the adoption of the gold standard. Although all Scandinavian countries first considered taking part in the LMU, the reluctance of France to surrender the bimetallic standard finally deterred the Scandinavian countries from joining because they soon expected the devaluation of silver (Janssen, 1911). Scandinavia's close trading and commercial ties with northern Germany and the movement of the German empire towards the gold standard again were of great influence. Norway especially advocated the adoption of the German standard during various conferences on the question of bi-metallism or gold.³⁸

³⁶ Dubois (1950, p. 11) names Bulgaria, Serbia, Finland, Crete and a majority of South and Central American republics.

³⁷ This is somewhat surprising since Norway and Sweden also formed a political union from 1814 to 1905.

In the end, the German system was rejected because of its unlikelihood of becoming a world currency (Janssen, 1911). The common unit of account finally chosen was the crown, consisting of 100 *öre*, and defined in measure, weight, and fineness according to the Swedish *riksdaler*. Gold and subsidiary coins differed only in their minting stamp and coins minted in one country were legal tender in the others as well. In contrast to the LMU, in the SMU no limit for the coinage of small coins was set. The contracting parties found it inappropriate to fix the amount of coinage needed in circulation in advance. To avoid mutual exploitation, nevertheless, coins only had legal tender status up to a certain amount and redemption into full-valued coins was accepted upon request as well. This, of course, greatly enhanced the credibility of the union. No preparations were made for the treaty's dissolution, although the treaty term was subject to prolongation in 1884.

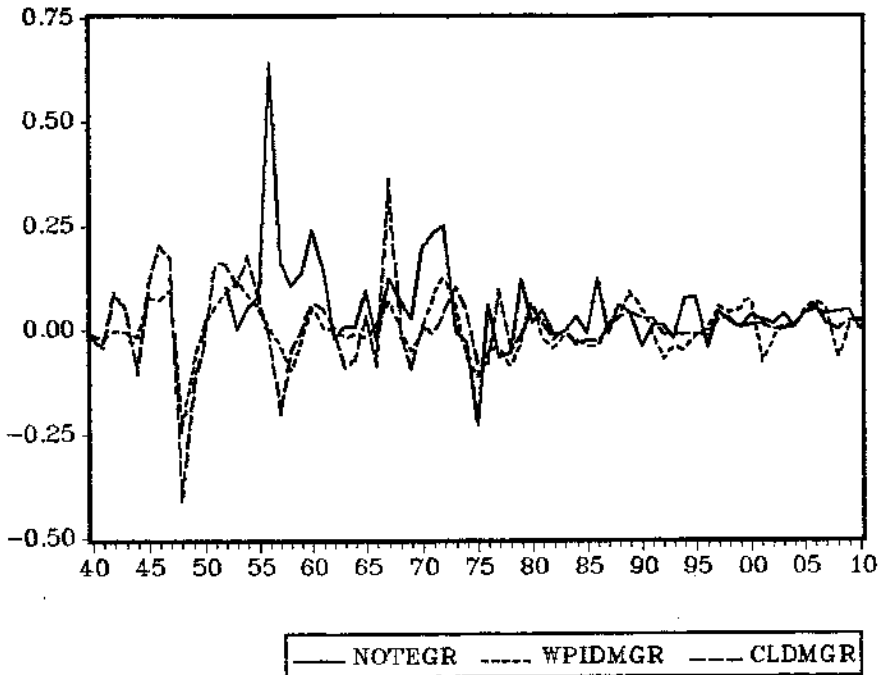
4.2. The Erosion of Free-Trade

As argued above, monetary integration was economically most influenced by underlying trade integration. This underlying free-trade movement, however, was subject to a dramatic change in the 1870s, when American, Indian, and Russian grain imports and America's growing industrial superiority (in e.g. fertilizers) had a deleterious effect on the European trade balance (Gourevitch, 1977; Pollard, 1981; McKeown, 1983; Irwin, 1993). This industrial advantage, in conjunction with reduced transportation costs, rendered central and western Europe uncompetitive and exerted considerable pressure on prices. 1873 marks a break, after which prices continued to drop for the next two decades, while output rose continuously and although new industries like steel and chemicals sprang up, the return on capital diminished. The widespread price decline is also a reason for the divergence between the increase in note issue and the drop in

³⁸ Before the SMU, the common silver standard was based on the Hamburg Mark.

wholesale and consumer price levels in Germany and France in Figures 2 and 3. This divergence between growth in banknote issue and prices can be seen most clearly in Figure 1 for Italy where the prices in the first half of the 1870s dropped dramatically.

Figure 2
Increase in Paper-Money Creation and Price Levels
in Germany, 1840-1910



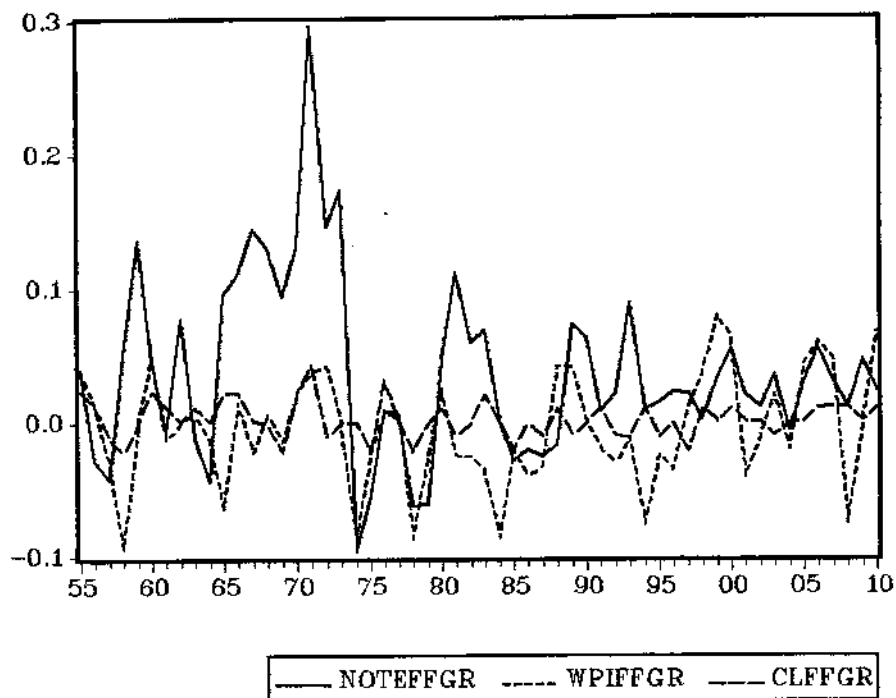
Notes:

Notegr: log of bank issue changes

Wpidmgr/cldmgr: log of wholesale and consumer price indices changes.

Source: Mitchell, 1975, pp. 674, 736.

Figure 3
Increase in Paper-Money Creation and Price Levels
in France, 1855-1910



Notes:

Noteffgr: log of Bank of France issue changes

Wpiffgr/clffgr: log of wholesale and consumer price indices changes.

Source: Mitchell, 1975, pp. 674, 736.

Increased competition from outside Europe caused breakdowns in domestic industries and raised the level of protection in the countries concerned (Gallerotti, 1985). The increased competition from outside Europe led to increased protection within Europe since, with declining industries, more potential partners were to be found to bolster protectionist efforts because of the industrial depression (Cassing *et al.*, 1985; Hillman, 1989). Thus the influence of

protectionist interest groups led to non-cooperative behaviour by the states, as their objectives changed. The internal political equilibrium changed when the implicit coalition between industry and politics, initially successful on the national level, broke down since traders considerably changed their attitude towards supra-national monetary unification. Thus an unholy alliance between industrialists and agriculturists (in Germany it was dubbed «the marriage of iron and rye» between Junkers and heavy industry) again drove the countries of Europe, with the notable exception of Britain and the Netherlands, towards protectionism (Rogowski, 1989).³⁹ States once again regarded trade as a zero-sum-game, reviving mercantilistic behaviour (Pollard, 1981, p. 59) as distributional struggles became more intense. Customs union and national unification, moreover, caused an industrial reorientation within a national framework. Although most of the former independent states were initially oriented towards different trading partners and were thus probably interested in forming currency areas not along political lines but rather along trade lines, the movement towards customs unions changed this as, with the reduction of customs borders, the now nationally integrated regions became more attractive as trading partners. Moreover, as stronger nations developed, becoming more efficient in using central power (taxation, manoeuvring armies etc.) and making centralized power the dominant source of power and patronage, the loyalties and expectations of citizens were directed towards the national centre.

Changing economic conditions in the 1870s and the successive wave of protectionism finally drove industry over to advocating the use of money as a protectionist device through the instrument of devaluation. The issue rights granted to former sovereign states and

³⁹ Gourevitch (1977) describes the German example, in which the Prussian Junkers were particularly influential, because of their dominant position in German army, judiciary and bureaucracy. They were able to form a coalition with industrial interests. The determining factor for their rapid success, however, was the assistance provided by the German chancellor Bismarck in forming the coalition. He did so to raise revenue for the *Reich* and to build conservative support for his government (Gerschenkron, 1943). See also Lambi (1963).

banks as a compensation for national integration rendered supra-national agreements even more difficult.⁴⁰

4.3. «After Hegemony» and External Shocks

In his classical work on collective action, Olson (1965) suggests two ways to overcome the free-rider problem in international co-operation. One solution is a small group of players, making surveillance possible and defection punishable, while the second solution is an asymmetric distribution of power among the participating actors. The so-called 'hegemon' can overcome the cooperation problem (Kindleberger, 1986), either by bearing the entire costs for the provision of the public good alone or by coercing the smaller states to bear their share of costs.⁴¹ While in early history 'hegemons' attained this by exercising sovereignty over their entire empire, the nineteenth century saw the development toward a balance of power, reducing the dominant role of a hegemony. Hegemonic decline thus made another formula necessary and as Keohane (1984) pointed out, hegemony might be helpful in the resurrection of a system, but is not enough for its survival. His notion «hegemonic cooperation» — i.e. that co-operation is required for systemic stability even in periods of hegemonic dominance, although the presence of a 'hegemon' may encourage co-operative behaviour — directly applies to international monetary relations as well.⁴²

But in the supra-national cases there was neither a constitutional

⁴⁰ This statement, however, has to be qualified in the case of the Austro-German Monetary Union which took place *before* German monetary unification and fifteen to twenty years before the change in trade policy. However, the monetary unions of the second half of the nineteenth century, particularly the Latin Monetary Union, were destined to fail from the outset, having been initiated in a time of already changing interests.

⁴¹ For an overview and criticism of hegemonic stability theory, see Snidal (1985) and Haggard and Simmons (1987).

⁴² In doing so, Eichengreen (1989, p. 287) concludes: "The international monetary system has always been 'after hegemony' in the sense that more than a dominant economic power was required to ensure the provision and maintenance of international monetary stability."

solution nor a dominant power to coerce participants to behave co-operatively. Nations instead preferred to retain political and monetary autonomy. Even the threat of «tit-for-tat», which usually solves 'Prisoners' Dilemmas' in a repeated game (Axelrod, 1984), could not convince the national players to fulfill their agreements. As we have explained, this is attributable to the occurrence of external shocks, mostly wars, which considerably influenced the time-discount rate of the players.⁴³ When, moreover, the dissolution of monetary unions became visible, as most supra-national monetary union treaties envisaged only a restricted term of duration which had to be prolonged, cooperation broke down.

The AGMU, as the most short-lived attempt of supra-national monetary integration, shows this clearly. Although the Vienna treaty was the only nineteenth-century monetary agreement that explicitly touched upon the question of paper currencies, it was unable to avoid non-cooperative behaviour. It ruled out legal tender status for paper money and even required Austria to reach full convertibility again by January 1859. Austria exerted great effort, reaching silver convertibility by September 1859. However, its involvement in the Italian war of independence forced it back to the paper standard. While again coming close to convertibility in 1866, the war against Prussia drove Austria out of the AGMU in 1867.

During the whole period of its existence, the AGMU was subject to continual violations of the treaty by Austria, who constantly over-issued paper money to finance its budget deficits. Due to the working of Gresham's law, coins were thus driven out of Austria to flow into Germany while German *thalers* were traded with an agio (Veit, 1969, p. 464). Nevertheless, the Austrian-minted *vereinsthaler* maintained legal status in Germany even beyond AGMU dissolution. The acceptance of the Austrian coins posed a severe problem for Germany when it switched to the gold standard in 1871, as silver

⁴³ Weingast and Marshall (1988) generalize by stating that when agents have private information, moral hazard problems exist and when not all contingencies can be specified in advance, "the long arm of the future" is not enough to ensure cooperation even in repeated games. Of course this reasoning applies here too.

bullion was transported to Austria and re-imported into Germany as coins (Veit, 1969, 466). When, in 1874, Austrian coins were forbidden in Germany, the coins made their way into Belgium.

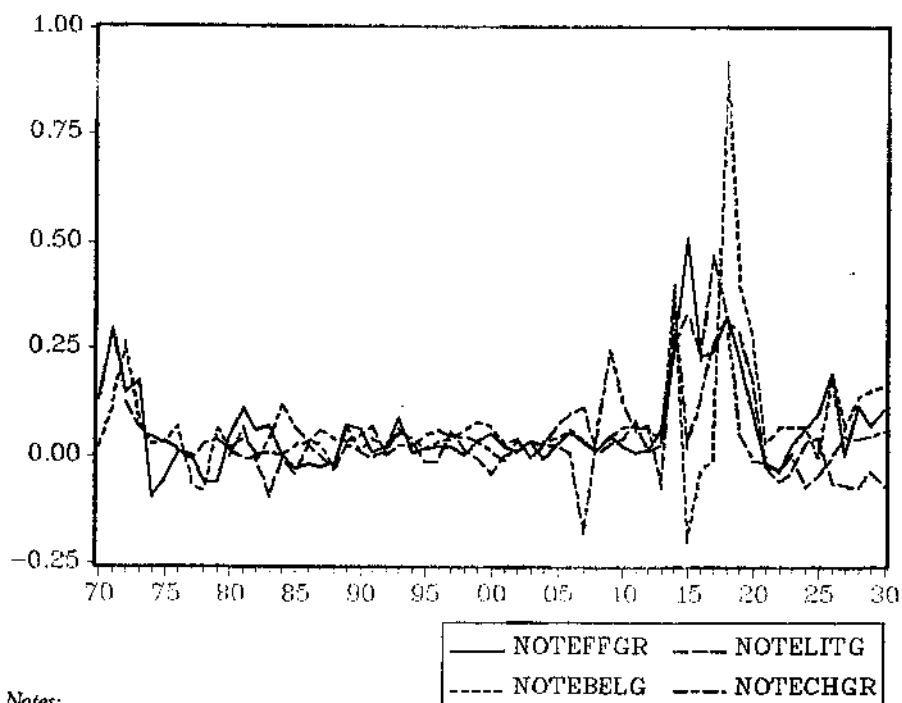
Conversely, the LMU treaty did not even try to address the problem of paper money. It even failed to regulate the relationship between gold and silver. Of course, since fineness, weight, and measure of gold and silver coins were defined, a ratio between the metals was factually determined (1:15.5), reflecting the then market values. But as the respective values of gold and silver frequently changed thereafter, the real exchange rate between silver and gold fluctuated. Already shortly after the formation of the LMU, gold and silver changed drastically their relative values, again to the benefit of gold. This was due to the adoption of the gold standard by major trading nations, the increasing role of subsidiary coins, the increase of silver production in America, and finally the growing commercial preference for gold even in those nations on a silver standard. The decline in the relative value of silver urged the member states of the LMU after 1872 to suspend free coinage to avoid the depletion of currency reserves because of the flood of silver from third countries due to the relative overpricing of silver at LMU mints.

Once again, the free minting and circulation of 5 franc and larger coins envisaged in the LMU treaty proved the workings of Gresham's law and provided opportunities for enriching one country at the cost of others. As the market value of silver at a fineness of .835 was below its nominal value in coins, countries had an incentive to buy silver and distribute it in minted form later (Veit, 1969, p. 707). The issue was extensively discussed during several conferences in 1874, 1875, 1876, 1878, 1879, 1885 and 1893 and measures were taken, restricting the amount each state was allowed to mint to 6 francs per capita with the aim of containing the massive over-issuance.⁴⁴ For seigniorage reasons which were particularly championed by Italy, a total stop of subsidiary coin minting was not enforceable (Flandreau, 1993a), although Switzerland and Belgium advocated the total prohibition of

⁴⁴ In 1908, however, the actual amount circulating was 16 francs per capita.

silver minting. France again proposed a per capita restriction. This restriction was partly successful and subsequently brought gold coins back into circulation (Willis, 1901). France, on the other hand, began redeeming paper money into silver coins to reduce its vast amount of silver reserves.

Fig. 4
Increase in Paper Money Creation in the Latin
Monetary Union, 1870-1930



Notes:

Noteffgr: see table 3

Notelitg: see table 1

Notebelg: log of National Bank issue changes

Notechgr: log of bank issue changes (Central Bank and others)

Source: Mitchell, 1975; 674, 736.

When Switzerland finally proposed the dissolution of the treaty, this gave rise to an important amendment to the treaty. The minting

of silver subsidiary coins was «temporarily» suspended in 1885 and never again taken up, i.e. the LMU moved to a «limping» gold standard. The parties also agreed that 5-franc coins should be reimbursed by the country that had issued them at the expiration of the treaty. This provision turned out to be a determining factor for the prolonged survival of the LMU. As this massive reimbursement would be too costly, most states were hesitant to leave the LMU despite its problems (Redish, 1993a; Theurl, 1992).⁴⁵

While the over-issuing of coins was to be checked by the provision of redemption, the issuing of paper money was not regulated at all, leading to different growth rates of note issuing as Figure 4 shows. The starting point was the Italian *corso forzoso* of 1866. As a result of the chronic budget deficit, accompanied by a large trade deficit, Italian authorities increased the circulation of paper money (see also Figure 1). Not surprisingly, the circulation soon reached a point at which a redemption in gold was no longer possible. Coins left Italy, entering the other member states where they maintained full value, while paper money depreciated. While the other LMU states were flooded by Italian coins, Italy itself experienced a shortage of coins and, to make matters worse, was forced to redeem them in gold when they were presented. Nevertheless, the other countries involuntarily provided Italy with forced credit for the amount of the Italian coins circulating in their regions.

Until World War I this process repeated itself several times in Italy and Greece. Then, however, all countries involved in the war resorted to a *cours forcé*. All currencies depreciated against the Swiss franc, leading to massive speculation. Halting intercirculation on the other hand would have meant a formal dissolution of the LMU, which, in fact, came about with the re-nationalization of coins in 1926.⁴⁶

In contrast to the LMU, and like the AGMU, the SMU made the

⁴⁵ Another reason might have been the fear of losing access to the Paris capital market (Esslen, 1917, 131).

⁴⁶ See Dubois (1950) for a detailed account of the breakdown of the LMU.

intercirculation of banknotes possible as well. Although it was not stipulated in the treaty, banknotes, which had much more significance in Scandinavia than in the rest of Europe and thus greatly exceeded coins in circulation, were accepted by the states at par (Theurl, 1992). Table 5 shows the stability of relative shares of banknote-issuing among SMU countries.

In 1879, in one of the first modifications of the treaty, an upper limit for the issuing of subsidiary coins was introduced. In 1888, the most particular feature of SMU was introduced: viz. a clearing union with short-term (3 month) credits to balance current accounts was created. Moreover, in 1894 Sweden and Norway agreed on accepting each others notes at par. In 1901, the same agreement was introduced between Denmark and Norway.

Table 5: Structure of Banknote Issuance in the Scandinavian Monetary Union (in per cent)

Period of Time	Danish Kroner	Swedish Kroner	Norwegian Kroner
1870 - 1874	35	46	19
1875 - 1879	35	46	19
1880 - 1884	36	44	20
1885 - 1889	36	45	19
1890 - 1894	34	46	20
1895 - 1899	32	48	20
1900 - 1904	32	50	18
1905 - 1909	32	50	18
1910 - 1913	32	47	21

Source: Theurl, 1992, p. 233.

The stability of the respective currencies and their rates of exchange was certainly a key factor for the success of the SMU, as the stability of exchange rates made the continuing intercirculation of notes and the efficient clearing mechanism possible. One reason might be that there already partly existed centralized paper money authorities. There was a long tradition of central banks having banknote monopolies in Denmark and Norway, while in Sweden

competitive private issuing banks existed. Paper money was legal tender, although without convertibility.

Another reason for the underlying stability is to be found in the similar economic structures of the three Scandinavian countries. Most importantly, however, the Scandinavian countries were not exposed to a wave of external shocks like the central European countries. Thus they were not forced to resort to the monetary financing of their budgets. When this occurred with World War I, the SMU also collapsed. Moreover, none of the countries acted as a financial centre so that they were somewhat removed from the stresses and destabilizing capital flows that occurred in international finance. Another important feature for the success of the SMU is the fact that the SMU adopted a single gold standard from the beginning and that banknotes and coins could be redeemed without difficulty, as there were neither external shocks nor budget problems, avoiding any necessity of a *cours forcé*. In 1905, however, after the dissolution of the political union with Norway, Sweden cancelled the clearing union treaty because it felt the clearing mechanism was biased against itself, already indicating a reduced willingness of redistribution among nations. A new, more restrictive treaty was signed, envisaging a reduced amount of credit facilities.

Again, World War I brought an end to the SMU convention. After the suspension of the gold standard in 1914, money growth rates and price movements began to diverge. Norway and Denmark were able to expand their exports, orienting trade towards other trading partners, which also reduced their interest in SMU. The increased money supplies were gradually transferred to Sweden and finally, after initially maintaining their value because of stable expectations, this led to a depreciation of both currencies against the Swedish currency. (In 1920 the Danish currency was valued at 77.05 and the Norwegian at 80.75 against the Swedish currency [Bergman *et al.*, 1992]). Shielding itself against imported inflation, in 1916 Sweden placed an embargo on gold imports which, however, because of the SMU treaty, could not be extended to Norwegian and Danish coins as well. Sweden, thus, ultimately required both to also introduce an embargo, and in February

1916 an agreement was reached which prohibited Norwegian and Danish gold exports into Sweden. This agreement, however, broke down in autumn 1916 and only because of the Swedish threat to leave the SMU was it reintroduced in 1917.⁴⁷ Subsidiary coins, however, continued to be smuggled into Sweden and full-valued coins were hoarded in Norway and Denmark, illustrating once again the working of Gresham's law. Sweden, on the other hand, attempted to re-export these coins. Finally, fixed exchange rates had to be abandoned and with them the legal tender provisions as well.

5. Conclusion

The paper pointed out that cooperation is necessary beyond the existence of a 'hegemon' to make monetary integration possible. But as nations are subjected to asymmetric shocks and thus changing objectives, their willingness to cooperate is clearly affected. Whether any rules could be binding enough then is doubtful. Hence a constitutional solution, making free-riding and time-inconsistent behaviour impossible, must be applied to monetary integration if it is to be successful.

For this reason, the successful attempts at monetary integration in the nineteenth century were characterized by a more or less rapid centralization of issuing rights. In Germany and Italy monetary sovereignty was immediately transferred to the central state upon unification of the respective nation, while in Switzerland only the minting rights were transferred. In Germany this process was accompanied by a complete currency reform, while in Switzerland and Italy it was restricted to a coinage reform in which the states maintained the rights to issue banknotes. But only with reductions of the monetary sovereignties of private banks was it possible to

⁴⁷ Although the embargo was effective this time, the Swedish *Reiksbank* itself later used every opportunity to buy gold coins after it had officially banned them (Bergman *et al.*, 1992) to augment its currency reserves.

overcome the diverging interests of former independent states and to finally nationalize the monetary system.

Supra-national unions, on the other hand, all followed a similar pattern of creation, adaptation and dissolution. All treaties have in common the fact that they started with a partial intercirculation already existent in border regions based on trading relations, so that monetary integration was partially already existent before monetary union. However, these unions only encompassed part of the monetary system, leaving space for national economic considerations. The absence of a constitutional regulation proved devastating to the system in the case of external shocks. In addition, the change in the monetary structure toward paper money meant a broadening of the operation range for every member, as a larger part of the circulating money became independent of common regulation, allowing mutual exploitation. In each case, fixed exchange rates were agreed upon, but were not subject to later realignments, causing thus the real and the official exchange rate to differ. On the other hand, treaties were not flexible enough to manage external shocks and made it thus even more attractive to break the rules, as violations of conventions were in no case subject to penalties. Adaptations made to the treaties were first designed to save the system, but later to avoid the unfavourable outcomes of dissolution. The entire process of supra-national monetary union hence went from supra-nationalization of money back to re-nationalization (Theurl, 1992, 241), as the major repercussions of external shocks and changing commercial interests shaped the behaviour of nations. Moreover, national unification's own problems, privileges, and side-payments were undermining the process of supra-national integration. While it was necessary to grant these favours, they clearly endangered supra-national unions.

The Maastricht process in the European Union shows again a combination of political and economic interests underlying monetary integration. European countries see monetary union as a commitment to political co-operation although, on the other hand, they surrender to domestic pressures when shocks occur. As this necessarily undermines the credibility of international arrangements, speculation

causes the collapse of fixed exchange rates, as the recent crisis and collapse of the EMS show. It becomes again clear that to make monetary integration and cooperation credible, a constitutional solution, i.e. a common central bank, is necessary. To avoid protectionist pressures and policies in case of negative shocks, this implies some kind of fiscal redistribution. Only when the political will for this is given will monetary integration be successful.

Political interests are especially visible in eastern Europe and the former Soviet Union where the states use the monetary order to demonstrate their political independence. Again, regardless of economic efficiency, monetary arrangements are shaped by political aims. Moreover, as in history, external shocks and recessions seem to make stability and cooperation impossible.

REFERENCES

- Arcand, Jean-Louis and Brezis Elise S. (1991) «Protectionism and Power: A Strategic Interpretation of a Mercantilist Theory», mimeo.
- Axelrod, Robert (1984) *The Evolution of Cooperation*, New York: Basic Books.
- Bartel, Robert J. (1974) «International Monetary Unions: The XIXth Century Experiences», *Journal of European Economic History* 3, pp. 689-704.
- Bergman, Michael, Stefan Gerlach and Jonung Lars (1993) «The Rise and Fall of the Scandinavian Currency Union 1873-1920», *European Economic Review* 37, pp. 507-517.
- Bernholz, Peter (1985) *The International Game of Power*, Berlin: Mouton.
- Bernholz, Peter (1989) «Currency Competition, Inflation, Gresham's law and Exchange Rates», *Journal of Institutional and Theoretical Economics* 145, pp. 465-488.
- Bloomfield, Arthur (1959) *Monetary Policy Under the International Gold Standard, 1880-1914*, New York: Federal Reserve Bank of New York.
- Borchardt, Knut (1985) «Die industrielle Revolution in Deutschland 1750-1914», in: C. Cipolla and K. Borchardt, eds: *Europäische Wirtschaftsgeschichte* Vol. 4, Stuttgart: Gustav Fischer, 135-202.
- Bordo, Michael D. and Kydland Finn E. (1990) «The Gold Standard as a Rule», NBER working paper 3367 (May).
- Casella, Alessandra (1992) «Participation in a Currency Union», *American Economic Review* 82, pp. 847-863.

- Casella, Alessandra and Feinstein Jonathan (1989) «Management of a Common Currency», in M. De Cecco and A. Giovannini, eds: *A European Central Bank?*, Cambridge: Cambridge University Press, pp. 131-155.
- Cassing, James, McKeown Timothy and Ochs Jack (1986) «The Political Economy of the Tariff Cycle», *American Political Science Review* 80, pp. 843-862.
- Cohen, Benjamin J. (1993) «Beyond EMU: The Problem of Sustainability», *Economics & Politics* 5, pp. 187-203.
- De Cecco, Marcello (1992) «European Monetary and Financial Cooperation before the First World War», *Rivista di Storia Economica* 9, pp. 55-76.
- De Kock, Gabriel and Grilli Vittorio (1993) «Fiscal Policies and the Choice of Exchange Rate Regimes», *Economic Journal* 103, pp. 347-358.
- Dubois, Louis-Albert (1950) *La Fin de l'Union Monétaire Latine*, Arbois: Jules Guinchard.
- Esslen, Joseph Bergfried (1917) «Vergangenheit und Zukunft des Lateinischen Münzbundes», *Bank Archiv* 16, pp. 125-132 and 150-158.
- Eichengreen, Barry (1989) «Hegemonic Stability Theories of the International Monetary System», in: R. Cooper, B. Eichengreen, C. Henning, G. Holtharn and R. Putnam, eds: *Can Nations Agree?*, Washington: Brookings, pp. 255-298.
- Eichengreen, Barry (1992) *Golden Fetters: The Gold Standard and the Great Depression 1919-1939*, New York: Oxford University Press.
- Fischer, Wolfram (1960) «The German Zollverein», *Kyklos* 13, pp. 65-89.
- Fischer, Wolfram (1985) «Wirtschaft und Gesellschaft Europas 1850-1914», in: W. Fischer, ed: *Handbuch der Europäischen Wirtschafts- und Sozialgeschichte* Vol. 5, Stuttgart: Klett-Cotta, 1-207.
- Flandreau, Marc (1993a) «On the Inflationary Bias of Common Currencies: The Latin Union Puzzle», *European Economic Review* 37, pp. 501-506.
- Flandreau, Marc (1993b) «Trade, Finance and Currency Blocs in Nineteenth-Century Europe: Was the Latin Monetary Union a Franc-Zone?», University of California at Berkeley, mimeo.
- Fratianni, Michele and Spinelli Franco (1985) «Currency Competition, Fiscal Policy and the Money Supply Process in Italy from Unification to World War I», *Journal of European Economic History* 14, pp. 473-499.
- Friedman, Milton (1990) «Bimetallism Revisted», *Journal of Economic Perspectives* 4, pp. 85-104.
- Gallerotti, Giulio (1985) «Toward a Business-Cycle Model of Tariffs», *International Organization* 39, pp. 155-187.
- Gerschenkron, Alexander (1943) *Bread and Democracy in Germany*, Berkeley: University of California Press.
- Giavazzi, Francesco and Giovannini Alberto (1989) *Limiting Exchange Flexibility*, Cambridge: MIT-Press.
- Giovannini, Alberto (1993) «Bretton Woods and its Precursors: Rules Versus Discretion in the History of International Monetary Regimes», in M.

- Bordo and B. Eichengreen, eds: *A Retrospective on the Bretton Woods System*, Chicago: Chicago University Press, pp. 109-147.
- Goodhart, Charles (1988) *The Evolution of Central Banks*, Cambridge: MIT-Press.
- Gourevitch, Peter Alexis (1977) «International Trade, Domestic Coalitions, and Liberty: The Crisis of 1873-1896», *Journal of Interdisciplinary History* 8, pp. 281-313.
- Haggard, Stephan and Beth A. Simmons (1987) «Theories of International Regimes», *International Organization* 41, pp. 491-517.
- Hamada, Koichi (1977) «On the Political Economy of Monetary Integration: A Public Economics Approach», in R. Z. Aliber, ed: *The Political Economy of Monetary Reform*, London: Macmillan, pp. 13-31.
- Helfferrich, Karl (1894) *Die Folgen des Deutsch-Österreichischen Münz-Vereins von 1857*, Straßburg.
- Helfferrich, Karl (1895) «Die geschichtliche Entwicklung der Münzsysteme», *Jahrbücher für Nationalökonomie und Statistik* 9, pp. 801-828.
- Helfferrich, Karl (1923) *Das Geld*, Leipzig.
- Hillman, Arye L. (1989) *The Political Economy of Protection*, Chur: Harwood.
- Holtfrerich, Carl-Ludwig (1989) «The Monetary Unification Process in Nineteenth-Century Germany: Relevance and Lessons for Europe Today», in: M. De Cecco and A. Giovannini, eds: *A European Central Bank?*, Cambridge: Cambridge University Press, pp. 216-242.
- Janssen, Albert E. (1911) *Les Conventions Monétaires*, Paris: Alcan&Lisbonne.
- Keohane, Robert O. (1984) *After Hegemony--Cooperation and Discord in the World Political Economy*, New Jersey: Princeton University Press.
- Kindleberger, Charles P. (1975) «The Rise of Free Trade in Western Europe», *Journal of Economic History* 35, pp. 20-55.
- Kindleberger, Charles P. (1986) «International Public Goods Without Government», *American Economic Review* 76, pp. 1-13.
- Kindleberger, Charles P. (1992) «Free Minting», in H. Giersch, ed: *Money, Trade and Competition*, Essays in Memory of Egon Sohmen, Berlin: Springer, pp. 11-22.
- Krämer, Hans R. (1971) «Experiences with Historical Monetary Unions», in H. Giersch, ed: *Integration durch Währungsunion?*, Tübingen: Mohr, 106-118.
- Kronman, Anthony T. (1985) «Contract Law and the State of Nature», *Journal of Law, Economics and Organization* 1, pp. 5-32.
- Lambi, Ivo Nicolai (1963) *Free Trade and Protection in Germany 1868-1879*, Wiesbaden: Steiner.
- McKeown, Timothy (1983) «Hegemonic Stability Theories and the Nineteenth-Century Tariff Levels in Europe», *International Organization* 37, pp. 73-91.
- Mitchell, Brian R. (1975) *European Historical Statistics 1750-1970*, London: Macmillan.
- Olson, Mancur (1965) *The Logic of Collective Action*, Cambridge: Harvard University Press.

- Pollard, Sidney (1981) *The Integration of the European Economy since 1815*, London: Allen & Unwin.
- Redish, Angela (1993a) «The Latin Monetary Union and the Emergence of the International Gold Standard», in M. Bordo and F. Capié, eds: *Monetary Regimes in Transition*, Cambridge: Cambridge University Press, pp. 68-85.
- Redish, Angela (1993b) «Anchors Away: The Transition from Commodity Money to Fiat Money in Western Economies», *Canadian Journal of Economics* 26, pp. 777-795.
- Rogowski, Ronald (1989) *Commerce and Coalition*, Princeton: Princeton University Press.
- Rolnick Arthur J. and Warren E. Weber (1986) «Gresham's Law or Gresham's Fallacy?», *Journal of Political Economy* 94, pp. 185-199.
- Sanucci, Valeria (1989) «The Establishment of a Central Bank: Italy in the nineteenth Century, in: M. De Cecco and A. Giovannini, eds: *A European Central Bank?*, Cambridge: Cambridge University Press, pp. 244-290.
- Schonhardt-Bailey, Cheryl (1991) «Specific Factors, Capital Markets, Portfolio Diversification, and Free Trade», *World Politics* 43, pp. 545-569.
- Snidal, Duncan (1985) «The Limits to Hegemonic Stability Theory», *International Organization* 39, pp. 579-614.
- Tavlas, George S. (1993) «The 'New' Theory of Optimum Currency Areas», *The World Economy* 16, pp. 663-685.
- Theurl, Theresia (1992) *Eine gemeinsame Wahrung fur Europa-12 Lehren aus der Geschichte*, Innsbruck: osterreichischer Studienverlag.
- Trimborn, Wilhelm (1931) *Der Weltwahrungsgedanke*, Jena: G. Fischer.
- Vaubel, Roland (1978) *Strategies for Currency Unification. The Economics of Currency Competition and the Case for a European Parallel Currency*, Tubingen: Mohr (Siebeck).
- Veit, Otto (1969) *Grundri der Wahrungspolitik*, Frankfurt/M.: Knapp, 3rd ed.
- Viner, Jacob (1950) *The Customs Union Issue*, New York: Carnegie Endowment for International Peace.
- Weber, Ernst-Juerg (1988) «Currency Competition in Switzerland 1826-1850», *Kyklos* 41, pp. 459-478.
- Weingast, Barry R. and Marshall J. William (1988) «The Industrial Organization of Congress or, Why Legislatures, Like Firms, are not Organized as Markets», *Journal of Political Economy* 96, pp. 132-163.
- Willis, Henry Parker (1901) *A History of the Latin Monetary Union*, Chicago: Chicago University Press (reprint New York: Greenwood Press, 1968).