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The Quest for Stable Money

Central Banking in Austria, 1816–2016

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A first try at monetary autonomy—the Wiener Stadtbanco (1706–1816)

“The paper money scissors absolutely have to be taken out of the treasury’s hands ... History and experience have invariably shown that if the power to cut out paper money lies with the public administration, it is as if a child had been handed a knife: It is impossible to prevent the treasury from damaging the country.”

Count Zinzendorf in a petition
to the emperor submitted August 1, 1806¹²

On June 1, 1816, Emperor Francis I signed the decrees establishing the privileged *oesterreichische National-Bank*, almost exactly one year after the conclusion of the Congress of Vienna marking the end of a 20-odd-year period of wars in which Europe and Austria had been embroiled. Ultimately, the Austrian Empire emerged as one of the victorious powers, albeit with empty state coffers and a depreciated currency. The pressing tasks of the newly founded note-issuing bank thus consisted in supporting the state in restoring financial order and in reestablishing a sound currency.

The National-Bank was not the first bank Austria had created to shore up government finances. The first proposals to found banks based on Italian models were made in the first half of the 17th century, but they were never implemented.¹³ Not until some 80 years later were financial institutions established that should assist in securing long-term financing for the public budget: the *Banco del Giro*, founded in Vienna in 1703, and the *Wiener Stadtbanco*, the Vienna City Bank, established in 1706.

Public banks in the 1600s and 1700s—innovative payment services and public debt management

On foundation, the *Banco del Giro* and the *Wiener Stadtbanco* joined the ranks of some 25 public banks already established across Europe.¹⁴ These banks were operated by the treasury, by autonomous provincial or municipal entities, or by groups of people endowed with special rights and privileges by government.¹⁵ The first public banks were set up in the late Middle Ages in the western Mediterranean area; banks in the Netherlands and Germany followed in the 16th century. Public banks were generally founded for one of two reasons, one being the need for an institution that would provide a stable means of payment. This was the case in Amsterdam, Genoa or Hamburg, which had suffered from the simultaneous circulation of different types of coins of varying qualities before the advent of public banks, whereas in Venice, cashless payment transactions had come to a standstill after the private banks that had handled them became insolvent. A second reason to found a public bank lay in the hope

of facilitating the management and servicing of the public debt. To this end, national or municipal debt to individuals was—in simplified terms—converted into deposits with the public bank. These deposits were tradable through transfers and could be used as a means of payment for private transactions. Such arrangements providing for the transfer of debt into a form of money made holding public debt more attractive, so it became easier for the government to take out new debt. Ergo, these banks' common feature consisted in the creation of book money—deposit currency that had a more stable intrinsic value than coins or holdings with private banks and that was thus the preferred instrument for payments or could be traded more readily than other public debt instruments. Providing a stable means of payment and making government debt tradable are of course closely linked functions, as the *Stadtbanco* example will show below. At any rate, for all their differences, the public banks of the 15th to 18th century were the precursors of modern central banks, given their pivotal role of creating a liquid means of payment with a stable value.¹⁶

The banking models which evolved in the 15th and 16th centuries were further refined and adjusted over time. The mainspring of these developments were innovations that enhanced the quality of financial instruments—debt instruments and especially payment instruments. For such advances to catch on, their advantages had to accrue to issuers—the banks or the public administration—and to users of the instruments alike. Clearly, issuers had a vested interest in their instrument being used, which in the long run would happen only if people were willing to adopt it. Innovations could be technical, legal or institutional. Banknotes are an example of a technical innovation (pioneered by Sweden, France and England) that broadened the reach of money transfers because it freed businessmen from the need to hold an underlying bank account to make or receive payments. A legal innovation was the possibility of paying taxes without physically transferring coins, another winning feature of banknotes and bank deposits. Finally, an example of an institutional breakthrough was the removal of the bank of issue from the direct control of the state, preventing the government from covering its expenditure by putting too much money into circulation. The independence of the bank of issue protected monetary stability and increased the appeal of banknotes and ledger money alike.

A bankrupt sovereign in need of a public bank

The merits of public banks for a well-functioning economy and for a high credit standing of the state did not go unnoticed in Austria. Indeed, a number of blueprints were developed in the 17th century for banks that would facilitate payments and support trade.¹⁷ Yet the first public bank to be actually established in Austria in the early 18th century was clearly created for another key reason: out of the need to improve public debt management.

Public finances in Austria around 1700

The driving force behind the foundation of the Banco del Giro in 1703 was the looming insolvency of the state following the death of the merchant and banker who had played a central role in public finance, Samuel Oppenheimer. The very fact that a single individual could be a linchpin is indicative of how public finances were organized during the reign of Leopold I: They were inextricably bound up with the identity of the reigning monarch. Revenues and expenditure as well as debt were connected to the monarch *ad personam*.¹⁸ Technically, the national budget was dependent on two revenue streams, which theoretically fed two expenditure streams. One stream of revenue was the income that arose from royal prerogatives, like monopolies, returns from mining rights and the rights to levy tariffs, customs and excise duties. This revenue—the *camerale* revenue, i.e., income administered by the court treasury (*Hofkammer*)—was mainly channeled into civil spending. The funds for the military budget resulted from tax income, called *contributionale*¹⁹ income, the collection of which had to be authorized by the diet in which the nobility, the clergy and the municipal administration were represented. Above all during wartime, the authorized expenditure was often less than needed, and the representatives of the estates wielded their power of assent to elicit concessions from their sovereign in other matters. Not surprisingly, the negotiations often proved arduous.²⁰ Time and again, the sovereign was forced to bankroll gaps in the military budget by drawing on the *camerale* budget or by borrowing, even more so as Austria was in a state of almost permanent warfare.

Just like all state revenue went to the sovereign *ad personam*, all debt incurred was his personal responsibility, not that of the state.²¹ Debt was generally collateralized by pledging earmarked revenue to which the sovereign was entitled, like customs or tolls. Binding debt *ad personam* to the sovereign subjected such transactions to high risk. The rule of law was not fully developed, and the sovereign's dealings with his creditors were autocratic and arbitrary. If the coffers were empty, creditors could face unilateral extensions of payment deadlines or see short-term claims rolled over into long-term debt. Creditors with less clout could be turned away; major creditors could be charged as criminals or jailed.²² Many of the government's business partners were, moreover, at a disadvantage in transactions with the erratic authorities because they were members of a religious minority. Jews were especially vulnerable: All Jews had been expelled from Vienna within recent memory, in 1670, and the few families that had been permitted to settle in Vienna since were subject to tough restrictions.²³ As timely payments by government depended on the negotiation skills of individual creditors, government promises of payment were virtually untradable. Thus it was that around 1700, only few creditors were willing or able to lend the sovereign money. For the government, the lack of attractiveness of its debt securities meant that it had to pay high interest of between 6% and 12% or temporarily even 20% on long-term debt; short-term and thus more pressing loans commanded even steeper rates.²⁴

To effectively wage war and to meet all other official expenses in this system, the sovereign depended on wealthy private-sector financiers for buying weapons, keeping the troops supplied, procuring goods and, of course, funding the related transactions. In Vienna, this money came from a group of warehousemen and court suppliers, who served as both brokers of goods and brokers of money.²⁵ Merchants were bankers and vice versa. The business model drew extensively on international family networks that facilitated trading and banking. Most of all, the networks also gave merchants and bankers access to their business partners' considerable financial resources for onward lending to the sovereign. These merchant families were by no means all Jewish; Protestants also played an important role.²⁶ In addition to providing their own capital, the court agents also negotiated loans from the nobility and high officials to the

sovereign. For these lenders, engaging the services of a court agent had benefits: The court agent was sufficiently indispensable to the emperor to enforce his claims—and thus indirectly those of his suppliers and creditors—against the emperor. But the mutual dependency of the sovereign and the financiers as well as the powerful role of individuals made this system highly vulnerable to disruptions.

In Western Europe the state emancipated itself progressively from the reigning monarch during the 17th and 18th centuries. This dissociation was the prerequisite for a modern market for government debt.²⁷ The Habsburg monarchy embarked on this process later than other countries: It did tap the existing Western European markets to issue bonds from the late 17th century onward, collateralizing the bonds with revenues from copper and mercury mining.²⁸ Domestically, though, the government broadly retained its funding habits. Yet by the beginning of the 18th century, the decision makers had realized that the framework of public finance governance, in particular public debt management, had to be improved on the pattern of foreign models. Oppenheimer's death in 1703 very dramatically exposed the system's weak spots.²⁹

Oppenheimer had been truly essential in keeping Austria's public finances afloat.³⁰ On his decease, scores of creditors turned to the government for satisfaction with the argument that Oppenheimer had merely brokered their business and that their claims on Oppenheimer ultimately represented claims on the state. As the state did not have the funds to service its debts with Oppenheimer, it imposed a moratorium, thus precipitating a general financial crisis. The need to mitigate the immediate impact of the bankruptcy and the foresight to address the basic problems of state debt management at the same time led to the creation of the Banco del Giro, a bank that was not only named after its Venetian namesake created in 1619 but also copied its business model: making claims on the state, notably those from the Oppenheimer bankruptcy, transferable in the form of bank accounts.³¹ The respective claims would thus no longer be assertable directly for payment in cash from the state, but instead be kept in circulation as book money. If accountholders found that book money was useful for facilitating payments, the state even stood the chance of attracting additional deposits from individuals in the medium term—provided the liabil-

ities of the Banco del Giro were credibly backed. That was to be achieved by assigning selected state revenues as collateral. And this is the very point at which the project failed: The provinces and the court treasury, the body in charge of administering the *camerale* budget and thus the precursor of the finance ministry, insisted that tax revenues were earmarked and could not be reallocated at a whim. Hence, the Banco del Giro did not obtain the funds it needed and was unable to fulfill the role it had been assigned. While it continued to exist as part of the Stadtbanco founded in 1706, it no longer played a role as an independent institution.³²

Benefiting from Vienna's credit score—the Wiener Stadtbanco

In the meantime, Count Gundaker Thomas von Starhemberg, head of the court treasury since 1703 and hostile to the Banco del Giro, was promoting banking projects of his own, which were crowned with success after the death of Leopold I and the accession to the throne of Joseph I in 1705. Like the masterminds of previous bank plans for Austria, Starhemberg was well aware of the achilles heel of any public bank in an absolut monarchy: The ability to build public trust hinged on independence from the state, and building trust was a prerequisite for getting citizens to make deposits and accept money issued by the bank in payment. To build trust in the independence of his initial banking project, Starhemberg intended to give a prominent role to the estates of the Austrian and Bohemian crown lands. His rationale was as follows: being representative bodies, the estates had the right to levy taxes and enjoyed autonomy from the emperor and were thus in a position to lend financial support to the bank.³³ The scenario that was actually implemented in 1705 accorded this role to the City of Vienna, which was an integral part of the Lower Austrian estates. Starhemberg thus copied a system that had worked well in France, where the king exploited the good credit score of the municipality of Paris to raise new debt more easily and at a lower cost.³⁴

The bank thus created started to operate in 1706 under the name of Wiener Stadtbanco.³⁵ Unlike the business model proposed earlier, which intended the bank to use its deposit base in support of trade and industry, the sole purpose of the Stadtbanco was to fill the state's war coffer. To this effect, the state trans-

ferred part of its debt to the municipality, which assumed responsibility for the payment of interest and capital on the debt and received earmarked tax revenues in return. To secure the public's trust, the bank was run by municipal government officials, and the municipality of Vienna also provided guarantees for the bank's liabilities. The *Stadtbanco's* independence from influence was meant to ensure that the bank accepted government debt only if it was appropriately covered by tax revenues.³⁶ Depositors were promised exemption from taxation and protection against seizure of property, especially during wartime. This was a material advantage particularly for foreign creditors. In return, the *Stadtbanco* had to cede any profits from its more efficient administration of the pledged taxes or from lower interest on debt to the state. In other words, like the *Banco del Giro*, the *Stadtbanco* was not a bank in the modern sense, but a special agency administering the public debt. It generated advantages for the state's creditors and thus made holding state debt more attractive, which in turn made it easier to finance the public debt at a lower interest rate.

In reality, the role of the Vienna municipality in administering the bank was far weaker than the public was led to believe, and it was curtailed more and more over time. As a case in point, the *Ministerial-Bancodeputation*—the supervisory body first installed to represent the finance ministry at the *Stadtbanco*—was given the right to intervene directly in operations as early as in 1706.³⁷ In 1716, the magistrate lost the right to appoint the bank's officials. In retaliation, the municipal authorities in 1717 announced that they would be liable for the *Stadtbanco's* debt only to the extent of the anticipated income on the revenue assigned to the bank.³⁸ Increasingly, the separation between the bank and the treasury existed only on paper.

Despite the close association between the *Wiener Stadtbanco* and the court treasury, the new institution nevertheless succeeded in gaining the trust of the public over time. At the outset, the bank was mainly engaged in setting up and managing interest payments on the claims on the predecessor bank, *Banco del Giro*, and in rolling them over into longer-term debt of the *Stadtbanco*. It also succeeded in increasing profits by managing the taxes and duties transferred to it more efficiently. From 1712, the bank received growing volumes of deposits that could be withdrawn anytime subject to a period of notice that was contin-

gent on the amount withdrawn. By 1724, some 90,000 investors had made deposits with the Stadtbanco, bringing the total volume to several million florins.³⁹ No small part of the Stadtbanco's success was due to the scarcity of interest-bearing, liquid investment alternatives in the early 18th century. The Stadtbanco was particularly attractive for small investors. The estates of deceased craftsmen, for instance, frequently contained deposits of 100 to 1,000 florins, sometimes also more.⁴⁰ The circle of government creditors expanded, marking another key step toward reducing the dependence of government on a single creditor.⁴¹ The great appeal to investors was reflected by the drop in the interest rate on government debt from between 9% and 20% at the start of the century to just 5% to 6% in the late 1720s. Consequently, all 6% government bonds were converted into 5% bonds in 1732 and into bonds carrying only 4% interest in 1766.⁴² At the same time, the Stadtbanco's high credibility made it possible to raise large volumes of funds for the state at short notice if required.⁴³ From the finance administration perspective, the Stadtbanco was thus a tremendous success.

The further biography of the Stadtbanco was conditional on the development of the fiscal deficit. The government tried to take advantage of the Stadtbanco's favorable financing conditions without going so far as to endanger the bank's credibility and the confidence in its liabilities. It is hardly surprising that differences of opinion often arose between the bank's management and government officials about defining the limits of government borrowing. Moreover, the different perceptions were compounded by political conflicts. Emperor Charles VI, for example, was less well disposed toward the bank than his predecessor, Joseph I, and attempted to establish a new bank that was directly answerable to the state. This institution, *Universal-Bankalität*, operated from 1715, but with little success. It had to be taken over by the Stadtbanco in 1721 to prevent its insolvency.⁴⁴ The Stadtbanco, though, proved to be an effective support in financing the numerous and, on occasion, long drawn-out wars against the Ottoman Empire and France. A comparison of the public debt at the beginning and at the end of Charles VI's reign illustrates the Stadtbanco's importance: The volume of direct government debt financing—money the state received directly from creditors—barely changed from 1711 to 1740 and came to

just under 50 million florins. Conversely, during the same period, the government debt held by the Stadtbanco rose from 12 million to nearly 55 million florins, meaning that all new government borrowing during Charles VI's thirty-year reign was handled by the Stadtbanco.⁴⁵

Municipal bank in name only: turning into a general government authority

Maria Theresa's accession to the throne in 1740 did not result in any immediate changes in the Stadtbanco's management. Providing cash advances to the state and issuing Stadtbanco debt certificates for government use as payment or collateral remained the bank's most important operations.⁴⁶ 1745 marked the death of Count Starhemberg, on whose initiative the bank had been founded in 1706 and who had decisively influenced the bank's policy as the president of the Bancodeputation since 1711. After the Austrian war of succession (1740–1748) had ended, Empress Maria Theresa introduced a number of reforms to transform Austria from a loose association of estates-based states to a uniform, centrally administered state. The reforms concerned the military, educational and legal systems and especially the administration of public finance. In the next decades, the power of the estates was gradually curtailed and at least the Bohemian and Austrian lands were combined into a centrally administered state.⁴⁷

Against the backdrop of these reforms, the organization of the Stadtbanco was an anachronism with its co-management by the Vienna municipal authorities and its authority to levy various duties, depriving the sovereign of his direct claim to this revenue. In an era of absolutist centralization, policy makers clearly favored a purely state-operated credit institution. Accordingly, from 1749, the influence of the Vienna municipal authorities was limited to appointing the chief tax collector and cashier, whereas the bank was run exclusively by the civil servants seconded from the finance ministry. A Prussian diplomat in Vienna aptly described this change when remarking that the Bancodeputation, originally simply charged with supervising that the management appointed by the municipal authority complied with regulations, had “gradually taken full management control of the Stadtbanco, reducing the role of the municipal administration to that of lending its name.”⁴⁸ But the reforms launched

in 1749 by Count Friedrich Wilhelm Haugwitz, Maria Theresa's chief financial counselor, left the statutory organization of the *Stadtbanco* and of the *Bancodeputation* unchanged, at least on the surface.⁴⁹ Nobody wished to damage the bank's creditworthiness by moving it closer to government control. In the public eye, the president of the *Bancodeputation* now personified the guarantee that the bank would retain a certain degree of independence from the treasury and would thus secure its public standing and its success. This strategy continued to work for the time being when Count Rudolf Chotek was elected president of the *Bancodeputation* in 1749.⁵⁰

Yet the treasury's appetite was by no means sated. When a government reform was launched in 1761, Chancellor Wenzel Anton von Kaunitz criticized the lack of state control of the tax revenue earmarked for the *Stadtbanco*. Kaunitz did not have a high opinion of the *Stadtbanco*'s independence and designed a scheme for a state bank fully integrating the *Stadtbanco* as well as the *Bancodeputation* into the treasury.⁵¹ Another plan, masterminded by a counselor to Empress Maria Theresa, Count Karl von Zinzendorf, envisaged upgrading the *Stadtbanco* into a bank of issue, based on the model practiced in England.⁵² Zinzendorf proposed converting government debt into bond debt, his intention being that government funding needs would no longer be met by the *Stadtbanco* but directly by investors. However, both plans proved unfeasible. Zinzendorf at least succeeded in founding the Vienna Stock Exchange in 1771, a public, regulated market that made trading in government securities more transparent and thus more attractive to investors.⁵³ In a political environment with increased absolutist and centralization tendencies, the forces in favor of putting a single agency in charge of government revenue prevailed in the end. Further reforms incorporated the *Bancodeputation* into the court treasury in 1764/65. Nevertheless, the appearance of independence was kept up, and even Joseph II was aware that the autonomy of public debt management, for the very purpose of which the *Stadtbanco* had been launched in 1706, had to be preserved on paper so as not to compromise the attractiveness of the *Stadtbanco*'s bonds.⁵⁴ Ultimately, although its independence was increasingly curtailed, the *Stadtbanco* existed for more than 100 years, to be superseded only by the *Oesterreichische Nationalbank* in 1816.⁵⁵

Paper money and inflation

Next to the foundation of the *Stadtbanco*, the issue of paper money was the second great financial innovation in Austria in the 18th century. Paper money—an interest-free, readily transferable means of payment—was the end-point of a development begun in 1706 to devise more liquid and thus lower-interest forms of government debt. The introduction of paper money marked a significant structural break in Austria’s monetary history. Once again, the government’s pressing need for funds gave rise to this innovation. In 1762, Austria was in the throes of the final stage of the Seven Years’ War (1756–1763) and urgently required additional money that it was unlikely to obtain from either taxes or loans. The *Stadtbanco* was instructed to issue 12 million florins of paper money, called *Bancozettel*. The paper florins carried neither interest nor a compulsory conversion rate; nobody could be forced to accept them. But they came with the convenience of being legal tender at par for up to half of tax payments due. The new notes could be paid for only with coins and could be redeemed for coins at the *Stadtbanco* at any time.⁵⁶ As it was assumed that part of the notes would remain in circulation, the *Stadtbanco* could lend the government the cash equivalent. To make the paper florins attractive for use in payments, they were issued in fairly small denominations: Some 4.5 million of 12 million florins were notes with a face value of 5 florins. The issue was intended as a temporary measure to tide over the government until it could return to floating government bonds. Therefore, holders of at least 200 paper florins were entitled to exchange these for *Stadtbanco* obligations bearing 5% interest,⁵⁷ and the law called for the destruction of redeemed paper florins. 7.8 million paper florins were returned until 1766 and were burned in a high-profile operation just outside the city walls, “on the glacis left of Schotten-Thor.”⁵⁸

Despite these returns, paper florins had remained in circulation for a notable period. Their appeal showed among other things in their premium of 1% to 2% on coins in the market: The public was obviously willing to pay extra for the ease of handling paper florins.⁵⁹ Their success story made paper money issues a keystone of government strategy for future wars.⁶⁰ While paper money issuing was still looked upon mainly as an extraordinary measure, issues on a

small scale even during peacetime were heralded as a way to economize on coin metal and to accustom the public to paper notes.⁶¹ When the bulk of the paper florins launched originally had been redeemed by 1770, a second 12 million paper florin tranche was issued in 1771. Again, the issuing volume was officially announced, but this time, there were two important changes compared to 1762: The notes could no longer be exchanged for interest-bearing bonds, but they could now be used to pay taxes to the full extent. In fact, half of all tax debts over 10 florins had to be settled in paper money. This forced the general public to use paper money, resulting in the spread of paper florins to peripheral areas previously unfamiliar with paper money. When more paper money was issued in 1785, geographical coverage was extended to Galicia, Hungary and Transylvania.⁶² The value of the paper money issued thus reached 20 million florins throughout the Habsburg monarchy.

Paper money finances the Napoleonic wars

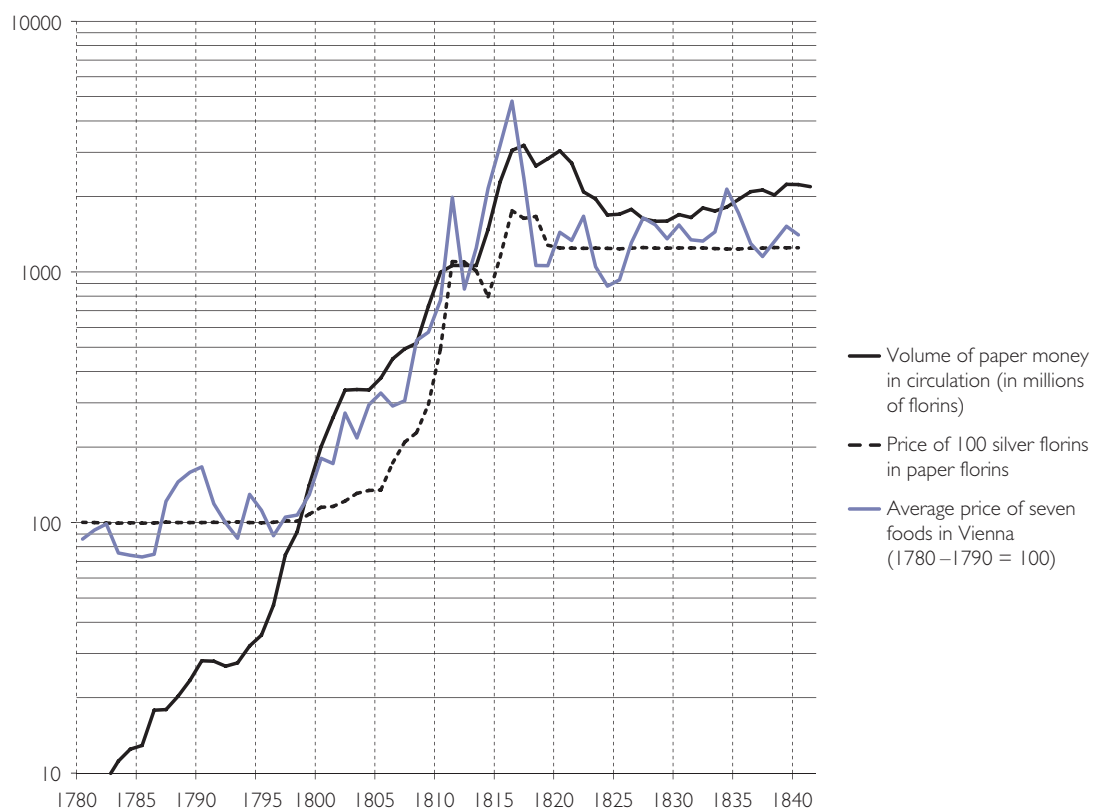
In 1792, a long series of wars between France and varying European coalitions began during the French Revolution and continued throughout Napoleon's reign. With some interruptions, the military conflict went on for more than 20 years, until 1815. Austria participated in nearly all wars in the coalitions against France, so until 1814, it was invariably among the losers. The wars and the reparation payments to the victors were expensive, and issuing new paper money was a quick fix to finance the required expenditure, driving a powerful rise in the volume of paper florins in circulation from 1797 onward (chart 2.1). As a result, the government increasingly had to resort to coercion to keep paper florins in circulation. *First*, new issues were no longer officially announced, as the public became apprehensive about the growing amounts of paper money and more and more frequently presented paper money for exchange into coins. *Second*, the government decreed in 1796 that paper money had to be accepted for government payments to individuals. In early April 1797, the government restricted paper florin redemptions for coins to 25 florins and extended compulsory acceptance to transactions between individuals. Once the unlimited convertibility of paper florins had ended and acceptance for private-sector transactions had been made mandatory, the last two hurdles to

an unfettered issue of further paper money had been removed. The path to inflation had been cleared.

From now on, not only did the circulation of paper money swell rapidly, but the remaining metal currency also began to disappear from circulation. At the stock exchange, the premium of paper money over silver reversed into a rising premium of silver over paper money (chart 2.1). The dwindling volume of silver coins in circulation made payment transactions more cumbersome. People hoarded not just the largest coins, like the 1-florin coin, but also the smaller coins—they, too, were made fully of silver. The silver content of the florin had been standardized in the coin reform of 1753 that defined 20 florins to equate 1 Cologne fine mark, which contained about 234 grams of silver. Agreements with Bavaria and most imperial estates made this “Convention standard” the general coinage standard in Germany, too. Austrian coins were thus also referred to as “Convention standard florins,” as expressed by the abbreviation “CM” for Conventionsmünze used after the abbreviation “fl” for florin. The Convention standard was also applied to smaller coins down to the 3-kreutzer coin, 20 of which contained the same amount of silver as a florin coin (in the predecimal system, 1 florin equaled 60 kreutzer).⁶³ People therefore hoarded low- and high-denomination coins alike. This represented a problem for payments: Large amounts could be settled with paper money, but there was no paper substitute for small amounts, as the lowest paper money face value was 5 florins. Low and mid-value coins were already in short supply during the winter of 1794/95. The government responded by issuing smaller coins with a markedly lower silver content. In the next few years, a debasement race between silver coins and paper money ensued, where the declining value of paper money made it attractive to hoard even the newer coins with a lower silver content. Whereas the silver content of the 1-florin coin remained intact in mint runs after 1796, the silver content of the 6-kreutzer and 12-kreutzer coins was diluted to less than half. After 1799, all pretense was dropped and coins were minted only in copper; after 1807, even the 30-kreutzer coin ($\frac{1}{2}$ florin) was struck in copper.⁶⁴ In this fashion, no less than 150 million florins worth of silver coins and 10 million florins worth of copper coins were put into circulation—only to disappear again in no time.⁶⁵ In 1799, the first paper money with face values of

1 florin and 2 florins was issued.⁶⁶ In June 1800, about 190 million paper florins were in circulation, and by the time Austria had been defeated in the War of the Second Coalition at the end of 1801, the circulation had ballooned to nearly 320 million florins.⁶⁷

Chart 2.1: Paper money in circulation, silver price of paper money at the Vienna Stock Exchange and food prices in Vienna (logarithmic scale)⁶⁸



In the period displayed, currency reforms were implemented in 1811 and again in 1816. Data comparability over time was ensured by converting all nominal values into paper florins as used before 1811.⁶⁹ From the beginning of wars against France in 1792 until 1816, the volume of paper money in circulation grew a hundredfold in Austria. During these years, brief peacetime periods in which the circulation volume was stable from 1803 to 1805 and 1810 to 1813 alternated with phases in which the money volume surged, in particular from 1809 to 1810 and 1813 to 1816. Until 1796, the rising amount of notes in circulation had no effect on the price of paper money in silver or the general price level. Even after silver traded at a premium over paper money, the devaluation of paper money at the stock exchange trailed money supply growth for a long time. In 1806, paper money inflation finally accelerated. In 1818, the price of silver and the general price level stabilized at about 12 times the pre-war level.

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