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THE DISSOLUTION OF THE AUSTRO-HUNGARIAN EMPIRE: LESSONS FOR CURRENCY REFORM

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CONTENTS

TABLES

FIGURES

THE DISSOLUTION OF THE AUSTRO-HUNGARIAN EMPIRE: LESSONS FOR CURRENCY REFORM

The dissolution of the Austro-Hungarian Empire in 1918 is the key historical example of a currency-union breakup neither caused by civil war nor imposed by a colonial or occupying power. It is particularly instructive because the economic and political changes it generated closely parallel current developments in Central Europe and the former Soviet Union (FSU). The similarities in the two instances range from the establishment of new currencies and new central banks to the vastly different paths of fiscal policy and inflationary finance followed by the successor states in each case. The goal of this monograph is to examine the dynamics of the Austro-Hungarian breakup and to compare them with the ongoing monetary schisms in Central and Eastern Europe today.

Unlike the disintegration of the British and French colonial monetary zones after World War II, the Austro-Hungarian breakup displaced a mainly fiat currency, worth only a fraction of its initial real value. The efforts of individuals and central bankers to push the old imperial currency into the hands of others, the inflations that followed the births of the successor states, and the ultimate stabilizations of the new currencies are discussed in the following eight sections. Section 9 reviews recent experience in Central and Eastern Europe. Section 10 offers general conclusions.

1 The Postwar Situation

The Austro-Hungarian Empire emerged from the union of the Austrian Hapsburg Empire and the Hungarian Monarchy in the Compromise of 1867. This agreement created a monetary and customs union of two

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autonomous regions, each with its own administration and budget but with common commercial, defense, and foreign policies. The common expenses were paid out of net customs receipts and contributions from the two regional governments (their quotas).[1]

At the end of World War I, the minority nationalities in the empire received support from the Allies for their demands for independence. On October 15, 1918, Croatia and Slovenia separated from Austria-Hungary and declared independence. Bosnia-Herzegovina and Vojvodina declared themselves for union with Serbia, and, on December 1, 1918, the two groups joined in the Kingdom of Serbs, Croats, and Slovenes. On October 20, 1918, the Czech National Council proclaimed the independence of the Czech and Slovak state, comprising Bohemia, Moravia, Slovakia, and part of Galicia. The following day, the Austrians formed the Austrian Provisional National Assembly, and, on November 12, 1918, they proclaimed the German-Austrian Republic, comprising the balance of the Austrian half of the empire. Hungarian politicians formed their own independent assembly on October 25 and proclaimed the Hungarian Republic on November 16, having lost Transylvania and other territory to Romania. Other parts of the empire were claimed by

TABLE 1

TERRITORIAL REDISTRIBUTION FOLLOWING THE DISSOLUTION OF THE AUSTRO-HUNGARIAN EMPIRE

(*in square kilometers and thousands of persons*)

	Area		Population	
	1914	1921	1914	1921
Austria-Hungary	676,443	—	51,390	—
Austria	—	85,533	—	6,536
Hungary	—	92,607	—	7,600
Czechoslovakia	—	140,394	—	13,613
Romania	137,903	304,244	7,516	17,594
Serbia	87,300	—	4,548	—
Kingdom of Serbs, Croats, and Slovenes	—	248,987	—	12,017

SOURCE: Berend and Ranki, 1974, p. 173.

[1] Under the terms of the last prewar agreement, Austria paid 63.6 percent of the residual common expenditures. The terms of the agreement, including the tariff structure and the distribution of expenses between the two states, were to be renegotiated every ten years.

Italy and the new Polish state. The division of the former empire's population and territory is shown in Table 1.

The creation of the successor states reflected historical political geography more than it respected economic relationships. Czechoslovakia received the bulk of the most efficient heavy industrial plants, textile mills, sugar producing facilities, and coal mines. Hungary inherited most of the best farmland (although much was lost to Romania), and Austria received a considerable, although weakened, industrial base, as well as most of the administrative and financial infrastructure of the former empire. The new states shared a greatly devalued, hyperinflating currency, a collapsed trade and payment system, and large external debts.

Trade Disruption

Austria-Hungary had been a relatively closed empire, and it seemed natural that the successor states should quickly restore the prewar patterns of trade among themselves. There was, in fact, support for maintaining some kind of preferential commercial relationship among the successor states (Pasvolsky, 1928, p. 191), and the Portorose Conference of November 1921 investigated just such an arrangement. Yet, although the conference called for the elimination of trade barriers among the states occupying former Austro-Hungarian territory, the participants were prepared only to create a customs union, not to reestablish an economic union. In the end, ratification of the Portorose protocol was prevented by the dispute between Austria and Czechoslovakia over the Sudetenland and by German and Italian opposition to the creation of a customs union that would exclude them from valuable markets.

During the immediate postwar period, the Allies maintained their trade embargo against Austria and Hungary, which, as leaders of the Dual Monarchy, were blamed for starting the war. The situation in these two countries was poor. Vienna had suffered shortages of food and raw materials as early as 1916 when Hungary began restricting food deliveries to ensure its own self-sufficiency. In addition, transportation routes had become disrupted. After the dissolution of the empire, the successor states had nationalized those parts of the imperial rail infrastructure that lay within their borders. This led to a very uneven distribution of rolling stock, a problem the Czech authorities addressed by prohibiting rail cars from leaving Czechoslovakia and by confiscating any Austrian cars that entered. This effectively halted traffic between Austria and Czechoslovakia. Shortages of coal, moreover, even in Czechoslovakia, frequently prevented trains from moving at all (Marz, 1984, pp. 292-293; Walré de Bordes, 1924, p. 10).

To compete against the financial strength of Vienna and to protect their own industrial bases, Czechoslovakia, Hungary, Romania, and the Kingdom of Serbs, Croats, and Slovenes raised tariffs to between 150 and 200 percent of Austrian tariffs. The very high rates were apparently intended largely as a strategic measure to increase interstate bargaining power with regard to trade agreements (Pasvolsky, 1928, p. 181). In addition, Czechoslovakia and Hungary forbade all exports of food and fuel and proscribed imports of Austrian consumer goods. Even the Austrian provinces refused to send food to Vienna, for they had shortages of their own. Any trade that was permitted was further hampered by the rail disruptions and by the reluctance of all parties to accept crowns in payment. Most of the trade that did take place was barter arranged between Czechoslovakia, Hungary, and the Kingdom of Serbs, Croats, and Slovenes.

Central-Bank Dismemberment

The Austro-Hungarian Bank had been established in 1878, when the Austrian National Bank was transformed into a bank of issue for both Austria and Hungary. It was granted the exclusive right to issue banknotes but was required to maintain two centers of operation, in Vienna and Budapest. Its first charter covered the period from July 1, 1878, to December 31, 1887, and was renewed for an additional ten years. The bank was originally managed by one governor, appointed by the emperor on the joint recommendation of the Austrian and Hungarian finance ministers; two vice-governors, one from Austria and Hungary each; and twelve councilors, chosen by the general assembly of the shareholders, with a minimum of two from each country. Because Austrian banks were the dominant shareholders, most of the councilors were Austrian.

The founding statutes assigned 70 percent of total note issue to the Viennese branch and 30 percent to Budapest. The governments' shares in the bank's profits were similarly divided 70 to 30. In 1892, the bank was charged with moving to a gold standard on January 1, 1900, at the conversion rate of 1 kilogram of gold to 3,280 crowns. The bank immediately began building up gold reserves with which to stabilize the crown, and these reserves rose from a value of 108 million crowns in 1890 to a value of 920 million crowns in 1900 (Zuckerkandl, 1911, p. 117). Although the crown was never legally placed on a gold standard, the bank maintained convertibility in practice (Pasvolsky, 1928, p. 17; Rasin, 1923, p. 7). After two temporary extensions, the bank's charter was renewed in 1899 for a period not to extend beyond 1910. The governance of the bank was changed to require equal representation for Austria and Hungary on the council and to add Austrian and Hungarian deputy vice-governors. The distribution of profits was also adjusted to reflect Hungary's increasing economic strength. After two temporary extensions, the charter was renewed for a final time in 1911; it was due to expire at the end of 1919.

On August 4, 1914, the Austro-Hungarian government suspended the 40 percent gold-cover requirement for the crown, the obligation to publish central-bank statements every ten days, and the statutory prohibition against lending to the government. The war effort was financed almost entirely by sales of government war bonds, which were then purchased by the bank at a discount. The bonds usually sold at a price of 96 crowns and had a coupon interest rate of 5.5 percent. To ensure that the bonds were completely subscribed, the bank was authorized to provide advances against them in amounts of up to 75 percent of their face value at a discount rate of 5 percent. It continued to do so even in November 1918, when the bonds sold at only 60 percent of face value, and it maintained this policy long after the war was over.

The bank's operations made it easy for creditors of the government to become debtors to the bank. On one day, November 7, 1918, the bank's advances on war loans totaled 609 million crowns. Between October 26, 1918, and February 2, 1919, advances outstanding rose by 5,225 million crowns (Rasin, 1923, p. 19). The bank's willingness to make these advances was nurtured by the Austrian government's commitment to compensate the bank for any losses incurred on the loans. Because the policy was inflationary, Czechoslovakia prevented the bank from providing advances in Czechoslovakia after November 1918; it was unable, however, to convince the Austrians to end the policy. Marz (1984, pp. 325-326), argues that both parties were acting quite rationally. Austrians, and to a lesser extent Hungarians, held most of the war loans, whereas the Czechs held comparatively more cash. Thus, the bank's policy allowed Austrians and Hungarians partly to escape the inflation tax at the expense of Czechs and others who were holding bank notes.

From July 23, 1914, to October 26, 1918, the bank's gold reserves declined to 21 percent of their prewar level, and the stock of currency rose by 1,340 percent (Table 2). Despite this expansion in the monetary base, extensive capital controls prevented any significant depreciation of the crown. There was, however, substantial inflation. Marz (1984,

p. 207) reports official indices prepared in December 1921 that show that the cost of living rose by 1,226 percent between July 1914 and November 1918. This index underestimates the true inflationary impact, however, because it does not reflect black-market prices and the serious shortages of basic consumer items for most of the period.

The pressing problem facing the successor states was that, although they shared a common currency, they did not share equally in seigniorage

TABLE 2
ACCOUNTS OF THE AUSTRO-HUNGARIAN BANK,
JULY 23, 1914, AND OCTOBER 26, 1918
(*in millions of gold crowns*)

Items	1914	1918
Assets		
Reserves		
Gold	1,297.9	285.0
Silver	291.4	57.3
Discounted securities	767.8	2,812.9
Personal loans	186.5	4,094.6
Debts of the Austrian Government	60.0	19,694.0
Debts of the Hungarian Government	—	6,798.0
Securities	17.6	57.2
Mortgages	300.0	280.7
War loans	—	100.2
Treasury-bill claims		
on the Austrian Government	—	1,863.0
on the Hungarian Government	—	1,066.2
Other assets	115.3	1,198.1
Total assets	3,036.5	38,307.3
Liabilities		
Share capital	210.0	210.0
Reserve fund	32.2	42.2
Notes in circulation	2,129.8	30,679.7
Current accounts	291.3	2,849.0
Mortgage bonds in circulation	291.3	274.7
Treasury bills in circulation	—	2,929.2
Other liabilities	82.0	1,322.4
Total liabilities	3,036.5	38,307.3

SOURCE: Rasin, 1923, pp. 8-10.
NOTE: Numbers are rounded and may not add up to totals.

or in the need for inflationary finance. The Austrian government, faced with unprecedented unemployment, huge debt payments, a large civil service, a commitment to food subsidies, and a scarcity of foreign exchange and gold reserves, continued to maintain the wartime policy of monetizing government budget deficits. The Czechs and Hungarians objected strongly to this policy and to the discounting of government and commercial paper.

Alois Rasin, the Czech finance minister, tried to have an international commission created to control the bank and to prevent further issues of uncovered notes. He also argued against further discounts of war loans and against the extension of bank credit to governments (Rasin, 1923, pp. 16-17). Unsuccessful in his efforts, he pushed for successor-state commissioners at the bank. In late 1918, Czechoslovakia, Italy, the Kingdom of Serbs, Croats, and Slovenes, Poland, and Romania were given representation on the bank's board of governors. All notes, however, continued to be printed in Budapest and Vienna.

As inflation in the region soared in response to the monetary expansion, the governments of the successor states increasingly considered currency reform. Beginning in March 1919, the Kingdom of Serbs, Croats, and Slovenes, Czechoslovakia, Austria, Romania, and Hungary successively undertook currency reforms designed to create identifiable domestic currencies that would be controlled by their own institutions.[2]

2 Why Currency Pours Across Borders During Unilateral Currency Reforms

As successor states in a formerly unified currency zone sequentially introduce their own currencies, massive cross-border flows of the old currency typically follow. Arbitrage of two different sorts drives these flows.

First, the real value of the old currency may differ in two successor states. In a currency reform, the old currency is typically exchanged for the new currency at a preset conversion rate; goods prices are also converted into the new currency, but not necessarily at the same rate. If price controls for goods or assets differ across countries, or if prices respond more sluggishly in one country than in another to initial differences in conversion prices, currency will move across borders to take advantage of the resulting price differential.

[2] Austro-Hungarian currency also circulated in small amounts in parts of Italy and Poland, which exchanged the notes for domestic currency. Details of the Italian and Polish conversions are given in Appendix B.

A second source of arbitrage stems from the cause of the zone's disintegration. If each successor state is satisfied with its share of the seigniorage revenue and the inflation-tax distortions produced by the old central bank, it has no reason to leave the currency zone and establish a separate national currency. But one successor state may inherit few revenue sources and may have large demands for expenditure; it will therefore insist on an inflationary policy and on obtaining a large share of the corresponding seigniorage. Another successor state may readily generate a fiscal surplus, and it will therefore oppose inflation. This conflict in seigniorage requirements triggers the breakup of the currency zone. Furthermore, the first country's currency reform will establish an inflationary regime, whereas the second country's reform will produce a stable-valued currency. At the moment of the reform, expectations about inflation and nominal interest rates will jump upward in the country favoring inflation, because its central bank will have a small real money base on which to impose its inflation tax. In the country favoring stable prices, they should jump downward.

The fall in interest rates in the stable-price country will cause an upward jump in real money demand, which can be satisfied either by a downward jump in the price level or an upward jump in the post-reform volume of currency in circulation. Similarly, real money demand will jump downward in the inflationary country, requiring either an upward jump in the price level or a downward jump in the post-reform volume of currency. At the moment of the currency reform, the price levels in the two countries will be the same, and, barring sluggishness in price movements, the real exchange rate between the two countries will not change after the reform. Thus, real money demands at the time of reform can be satisfied simultaneously in both countries only by a shift of part of the pre-reform currency stock from the inflationary country to the stable-price country. This shift can be accommodated if both countries freely exchange the old currency into the two new currencies at preset conversion rates. For the country intent on stabilizing its price level, the influx of old currency precludes an opportunity to capture a one-time seigniorage revenue; rather, this revenue accrues to the residents of the inflationary country, who exported their holdings of the old currency.

The direction of the cross-border movement of pre-reform currency can also be influenced by policies governing the conversion of currency. For example, some of the old currency turned in for conversion in one successor state may be placed into blocked accounts paying low interest rates or converted at less favorable rates into the new currency. If the real value of the currency net of this tax is less than its real value after passing through the neighboring state's conversion scheme, the currency will be exported to the neighbor.

3 Initial Currency Reforms: Currency Separation

Kingdom of Serbs, Croats, and Slovenes

The new Kingdom of Serbs, Croats, and Slovenes comprised territories that either had been part of the Austro-Hungarian Empire or had been occupied by its army during the war. Consequently, large quantities of Austro-Hungarian crowns circulated along with Serbian dinars, Montenegran perpers, and Bulgarian leva. There were, in fact, far more crowns circulating at this time than there were Serbian dinars: half again as many crowns as dinars in Serbia, and twice as many in Croatia-Slovenia and Vojvodina (Lampe and Jackson, 1982, p. 378).

The Kingdom of Serbs, Croats, and Slovenes started the reform process on January 8, 1919, by calling in all Austro-Hungarian notes in its territory between January 8 and February 2 and overprinting them with an ink stamp of the national emblem. The import of Austro-Hungarian banknotes into the Serbian parts of the Dual Monarchy had been forbidden by decree on December 12, 1918; a decree on January 30, 1919, extended this ban to the rest of the kingdom. The stamping operation provided for the stamping of all but 25-, 200-, and 10,000-crown notes. Because the ink stamp was easily forged, however, this initial stamping was unsuccessful, and a second operation, undertaken between November 26 and December 15, 1919, affixed a physical stamp to notes bearing the ink mark. "The forgeries of [the ink] stamps became so numerous that the officials themselves could no longer detect whether the stamps were genuine or forged, so that the Government was compelled to accept large quantities of these falsified notes which were presented for the second stamping" (Steiner, 1921, translated in Walré de Bordes, 1924, p. 235).

When the stamps were attached to the notes in the second operation, the authorities imposed a levy; 20 percent of the currency submitted was converted into ten-year government bonds paying 4 percent interest a year. For amounts below 1,000 crowns, the 20 percent that was retained was to be returned no later than April 1, 1920. The exchange of stamped crowns for dinars was effected between February 16 and May 15, 1920, and May 17 and June 4, 1921, at a rate of 4 crowns per dinar—lowered to an effective rate of 5 to 1 by the 20 percent tax withholding in ten-year bonds. This was worse than the market rate in Vienna. The exchange rate had been changed three times: from 2.5 crowns per dinar to 3 crowns on June 17, 1919, to 3.5 crowns on November 11, and ultimately to 4 crowns on January 1, 1920 (Steiner, 1921, Vol. 2, p. 466; Pasvolsky, 1928, p. 475). The official rate stayed at 4 to 1 until at least February 1921.[3]

The new National Bank of the Kingdom of the Serbs, Croats, and Slovenes was established on January 26, 1920, and began operations on February 1, taking over the assets and liabilities of the Serbian National Bank, as well as those of the local branches of the Austro-Hungarian Bank. It was established as a joint-stock company independent of the government; it had the sole right to issue currency and was prohibited from lending to the government. Its stock issue was not taken up completely until a third offering in early 1922. Three-quarters of its shareholders were Serbian, and that proportion was reflected in the distribution of its loans. Fifty percent of net profits went to the government, 5 percent were used to build up foreign-currency reserves, and the remaining 45 percent were distributed among directors and shareholders (Lampe and Jackson, 1982, pp. 390-391). Most of the bank's gold and foreign-exchange reserves were provided by the government and were considered to be owned by the government rather than by the bank.

The bank was successful in maintaining a moderate rate of monetary expansion through 1925; the volume of currency in circulation rose by an average annual rate of 6.6 percent over the 1921-25 period (League of Nations, 1926c, pp. 176-177). This policy was assisted by the fact that the government budget returned to surplus in 1923 (Pasvolsky, 1928, pp. 484, 487). The dinar depreciated by 840 percent between 1919 and 1923 but appreciated by 37 percent during the ensuing two years and remained stable at about 56.6 dinars per dollar after the second half of 1925 (Pasvolsky, 1928, pp. 471, 480). The bank's gold reserves at the end of 1926 were low, however, amounting to a gold cover of only 17 percent, and the bank held 4.4 billion dinars in loans to the government.

Czechoslovakia

Czechoslovakia undertook its own stamping operation between March 3 and 9, 1919.[4] Although the authorities prepared the details of their

[3] The prewar conversion rate maintained by the empire had been a highly favorable 2 dinars per crown, which later rose to 4 dinars per crown.

[4] Different procedures were used in some border territories more than a year later. Unstamped notes were converted to Czech crowns at the rate of approximately 4 to 1,

reforms in secret parliamentary sessions, people were evidently not taken completely by surprise, and an article in an Austrian newspaper on February 15 predicted the upcoming stamping. The Czech Ministry of Finance, in fact, had announced on January 30, 1919, that a survey of currency and deposits would be taken in order to estimate the revenue that might be gained from a capital levy. An article in *The Economist* (February 1, 1919, p. 135) said that "it is assumed in Vienna that the crown will there [in Czechoslovakia] be replaced by [a new Czech currency called] the franc." The same article stated that "it is assumed that the crown will disappear in all the new states, including Hungary."

The currency separation was initiated on February 25. The borders were ordered closed and all postal communications abroad were suspended until March 9.[5] Heads of households in Czechoslovakia were ordered to surrender for stamping all crown notes other than the 1- and 2-crown denominations, and bank deposits were converted to the new Czech crowns at a one-to-one conversion rate. Fifty percent of the stamped notes were withheld by the Ministry of Finance in a forced loan that paid 1 percent interest. This forced loan was "irredeemable by the creditor but repayable on the part of the state at any time" (Rasin, 1923, pp. 25-26). It was considered as an advance toward the payment of the planned capital levy and the tax on incremental wealth (the difference between one's prewar and postwar assets) that were eventually introduced on April 8, 1920. Because sums under 300 crowns and those belonging to public and certain social institutions were exempt, the forced loan actually took in only about 30 percent of the stock of notes (Rasin, 1923, pp. 28-29).

The anticipation of a capital levy created a reverse run on banks in Czechoslovakia, as holders of banknotes tried to convert them into deposits and other assets expected to be exempt from levies accompanying the currency reform. *The Economist* (March 15, 1919, p. 437) reported that, in the week between the announcement and the beginning of stamping, the interest rate paid on checking accounts fell from

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sometimes after payment of a fee. The conversion rate reflected the current exchange rate between Czech and Austrian crowns. In New York in October 1920, 100 Austrian crowns traded for $0.355, and 100 Czech crowns cost $1.24, which implied a conversion rate between them of roughly 3.5 Austrian crowns per Czech crown.

[5] The border closing was intended to prevent people from transferring their notes abroad to avoid the tax. There are indications that this was largely ineffective and that substantial sums did in fact move into Austria (see discussion below).

3 percent to 0.5 percent, and on savings accounts, from 5 percent to 1.5 percent. There was a simultaneous boom in stock prices. In practice, however, current accounts and treasury bills were subject to the same 50 percent retention when they were redenominated in stamped crowns.

One- and 2-crown notes were not covered by the stamping order but remained legal tender, and a few million crowns in iron, nickel, and copper coins also continued to circulate. In response to the smuggling of the 1- and 2-crown notes, the government announced on September 23, 1919, that they would be exchanged subject to a 10 percent tax. The Czech authorities did not convert the old 10,000-crown notes or the 25- and 200-crown notes that had been printed after November 1918 on only one side of the sheet. None of these notes had ever been legal tender in Czechoslovakia.

The Czech authorities reported in February 1922, that 8.4 billion crowns had been stamped and that an additional 2.1 billion in deposits and treasury bills had been converted. At that time, 2.8 billion crowns were withheld, of which 2.1 billion were banknotes and the remainder were forced loans deducted from deposits. After March 9, only the stamped notes were legal tender.

On March 6, 1919, legislation was passed providing for a private bank of issue to be created at a later date. As an interim measure, a Banking Office in the Ministry of Finance was established by decree on May 15, 1919. The office was given the sole right to issue notes and was forbidden to provide credit to the government. In late November, it was also charged with controlling transactions in foreign bills and currencies. All of the Czech operations and staff of the Austro-Hungarian Bank were taken over by the Banking Office.

Legislation on April 10, 1919 ordered the replacement of the stamped notes by new Czech notes and made the Czech state the sole debtor to holders of the stamped banknotes and the sole Czech claimant on the assets of the Austro-Hungarian Bank. The new currency unit was called the Czech crown and was initially fixed at par with the old Austro-Hungarian crown for purposes of settling previous debts. The legislation also placed a limit, equal to the value of the notes stamped, on the total value of Czech crowns that could circulate without being covered by private commercial securities.

The banking office exchanged stamped notes for new Czech crowns between September 25, 1919, and July 31, 1920, and stamped notes ceased to be legal tender on August 31, 1920. The stamped notes were retained by the banking office as claims on the liquidation account of the Austro-Hungarian Bank. The initial issue of the Czech currency was therefore backed almost entirely by these notes. Subsequent issues of Czech notes, however, were introduced by discounting Czech commercial paper and by purchasing foreign exchange.

Austria

The sudden assertion of Czech monetary independence did not surprise the Austrians. On February 16, 1919, the Austrian government had forbidden the import of Austro-Hungarian banknotes and the transfer of crown deposits from outside Austria, and it had strictly controlled the sale of Austrian securities and stocks to nationals of the successor states to prevent an influx of notes from Czechoslovakia.

There are indications that these ordinances were widely evaded. Pasvolsky (1928, p. 40) reports that "one of the results of the stamping of currencies in Yugoslavia and Czechoslovakia was an influx of unstamped notes into Austria, which compelled the Austrian government to take a similar step several days after the process was completed in Czechoslovakia." The magnitude of this transfer is indicated by Walré de Bordes (1924, p. 42), who reports a Board of Trade document estimating that Czechoslovakia contained slightly over 31 percent of the Austro-Hungarian currency in circulation in March 1919. The 8.4 billion crowns converted by the Czechs, however, constituted only 22 percent of the currency supply. Thus, approximately 3.5 billion crowns held in Czechoslovakia in March were not stamped there. Rasin (1923, p. 32) produces a lower estimate by assuming that per capita note holdings were equal throughout the empire; he concludes that approximately 2 billion crowns held in Czechoslovakia (exclusive of Carpatho-Russia) were withheld from the stamping operation. His estimate of note holdings is probably too low, however, because Czechoslovakia was more industrialized and urbanized than other regions of the former monarchy. *The Economist* (March 15, 1919, p. 436) reported in March that 12 billion Austro-Hungarian crowns circulated in Czechoslovakia; in May, it reported a figure of approximately 8.2 billion notes stamped, which was welcomed as a "pleasant surprise" (May 3, 1919, p. 726).

On February 28, 1919, the Austrian government published details of its own stamping exercise, to be undertaken between March 12 and 24. On March 10, all securities held by banks were put under control, and 50 percent of bank deposits were blocked. This was done to provide as accurate a picture of wealth distribution as possible and to prevent transfers of assets to other jurisdictions. The Austrian government did not close the frontiers during the stamping operation, and banks remained open for much of the period. Large-denomination notes were stamped between March 12 and 29, 1919, and 1- and 2-crown notes were stamped between August 20 and September 15, 1920.[6] A total of 4.7 billion crowns were stamped, amounting to 12 percent of the total 37.6 billion Austro-Hungarian crowns in circulation as of February 28, 1919 (Zeuceanu, 1924, p. 246; Walré de Bordes, 1924, p. 42; Young, 1925, p. 12; but see also Marz, 1984, p. 328 [4.8 billion], and Schumpeter, 1925, p. 226 [5.9 billion]).

Many Austrians preferred to hold unstamped notes, either to avoid a feared capital levy or forced loan, or because they expected that unstamped notes would be more valuable as continuing legal tender in some of the other successor states. Moreover, because the stamps were apparently easily forged, the value of unstamped notes included an option on future conversion to whichever stamped currency was to prove most valuable.[7] Indeed, unstamped notes traded at a premium on the black market (Marz, 1984, p. 328).

The legal consequences of the stamping operation were outlined in legislation on March 25, 1919. Stamped crowns were proclaimed the sole means of payment, and all contractual obligations in crowns were transformed at par into stamped-crown obligations. Banknotes belonging to nationals of the other successor states were repayable in unstamped notes, and all other deposits were frozen until such time as a general debt settlement was reached with the successor states. Debts of the Austro-Hungarian administration and claims on Austrian residents by foreigners were paid in unstamped crowns. Checkable deposits belonging to Austrian residents were converted to stamped crowns; nonresidents were paid in unstamped notes.

No new bank of issue was created at the time of the stamping operation. On January 1, 1920, however, the Austro-Hungarian Bank created two separate departments, the Austrian Section and the Hungarian Section, to serve as temporary central banks for Austria and Hungary. Although the accounts of the two sections were maintained separately from the accounts of the Austro-Hungarian Bank in liquidation, Zeuceanu (1924, p. 12) reported that the liquidators found considerable

[6] Marz (1984, p. 329), reports that only banknotes belonging to Austrian nationals were stamped. Banknotes and deposits belonging to foreign nationals continued to be denominated in Austro-Hungarian crowns.

[7] The possibility of a capital levy had been publicly debated and was widely expected to be a fact. Joseph Schumpeter (1991), who became finance minister on March 15, 1919, had argued strongly for such a tax, but the levy was never imposed.

confusion in the books and concluded that the separation of accounts was purely "illusory." This was partly because the assets of the bank in liquidation were being used to cover issues of notes by the Austrian and Hungarian Sections.

The Austrian government also maintained fairly rigid foreign-exchange restrictions (Walré de Bordes, 1924, chap. 5, and League of Nations, 1922, p. 55). In April 1919, the government reorganized the Devisenzentrale (exchange-control office) and placed it under the control of the Ministry of Finance. The approval of this office was required for all purchases of foreign exchange, and exports, which had to be denominated in foreign exchange, were permitted only after an equivalent amount of foreign exchange was deposited with the Devisenzentrale. Imports of Austrian crowns were prohibited. The Devisenzentrale differentiated between two types of accounts in Viennese banks, the *ausland* and *inland* crown accounts. The former were accounts owned by foreigners, whose balances had been released from restrictions by the Devisenzentrale. The latter were owned by Austrian nationals. Crowns from *inland* accounts could be transferred only to residents of the successor states, and approval for transfers was rarely given. Because *ausland* crowns could be exchanged freely, they commanded a substantial premium over *inland* crowns. In Vienna in December 1921, for example, 1 pound sterling cost 22,000 *inland* crowns but only 11,000 *ausland* crowns.

Romania

The Kingdom of Romania was greatly enlarged at the end of the war with the additions of Transylvania and border territories from Hungary, part of Bukovina from Austria, and Bessarabia from Russia. Consequently, Russian rubles, Austro-Hungarian crowns, and Romanian lei circulated side by side, including 249 million lei issued by the Banque Générale during the German occupation. At the end of 1918, the money supply in Romania consisted of the Banque Générale notes, 2.5 billion lei in National Bank notes, 100 million lei in coin, and the equivalent of 7.5 billion lei in German marks, Russian rubles, and Austro-Hungarian crowns.[8]

A decree dated June 7, 1919, announced that, except for 1- and 2-crown notes, all notes issued prior to October 27, 1918, would be

[8] In December 1918, the government ordered the stamping of the lei notes issued by the Banque Générale, but this order was replaced in January 1919 by a decree accepting unstamped Banque Générale lei at par. A decree of May 25, 1919, provided for the exchange of these notes for National Bank notes.

stamped in Bukovina. These operations were soon extended throughout the former Austro-Hungarian territory in Romania, and a decree of July 3, 1919, provided for the stamping of post-October notes as well. The stamping operation took place between June 16 and August 28, 1919, and included a 1 or 2 percent tax to cover costs.

On August 12, 1920, the Ministry of Finance was empowered to exchange the crown notes for lei at the rate of 2 crowns per leu; the notes were exchanged between September 1 and 20, except for the 10,000-crown notes, which were exchanged in November. The conversion of ruble notes was also begun in September, at various rates of exchange depending on location and kind of ruble (Romanoff or Lwoff). The exchange of wartime-issue lei was also begun in August 1920 by the conversion of 1,000-lei notes and the suggestion that this currency be used to pay taxes. Forty percent of the notes submitted were retained as a forced loan repayable in three months; repayment was actually delayed, however, until the following year.

The December 31, 1922, statement of the National Bank showed that 8.7 billion crowns had been exchanged. Pasvolsky (1928, pp. 389-390) states that this was roughly twice as many as had been anticipated. He attributes at least part of the difference to the relatively favorable conversion rate between lei and crowns, which resulted in "large inflows of crowns" between the announcement of the conversion rate and the actual stamping process.

In its December 31, 1918, report, the National Bank of Romania put its metallic reserves at 494 million gold lei. In fact, 315 million of these consisted of gold bullion that had been shipped to Russia during the war and had been confiscated by the Soviet government. An additional 81 million were held in the Reichsbank and were subsequently returned. Thus, the available gold reserves provided only 1.5 percent cover (Pasvolsky, 1928, p. 391). Romania avoided the monetary instability of Hungary and Austria partly because its government ran budget surpluses from fiscal 1922-23 and so had no need for central-bank credit. On May 19, 1925, the National Bank and Ministry of Finance signed conventions that committed the bank to return to a gold standard with at least 33 percent cover within the next twenty years. Until that time, the maximum circulation of lei notes was set at the prevailing level of 21 billion.

Hungary

Hungary was the last of the successor states to stamp Austro-Hungarian crowns, and, as a result, received for stamping many notes withheld in the other states. The notes were stamped between March 18 and 27, 1920, according to procedures set out in a March 17 decree. At the time of stamping, 50 percent of the notes were to be retained as a forced loan paying 4 percent interest. Crown deposits made before March 8, 1920, were converted at par and appear to have been exempt from the levy, but a later decree, on December 18, 1920, froze 20 percent of all deposits belonging to residents. All Austro-Hungarian notes in circulation in Hungary, except 1- and 2-crown denominations, were stamped.

Pasvolsky (1928, p. 302) reported that 4 billion crowns were collected by this forced loan. This retention was later reversed by a decree of June 30, 1920, which required the return of the first 10,000 crowns retained from each individual, unless the amount originally retained exceeded 25,000 crowns. Further changes were made when a 20 percent tax on capital was introduced in the spring of 1921.

As the last to stamp the old notes, Hungary should have paid particular attention to the legality of the unstamped notes. With its borders open and unstamped small-denomination notes remaining legal tender, there arose the possibility of arbitrage driven by Gresham's Law. Because the Austrian crown had depreciated by more than the unstamped crowns in Hungary, people brought the still unstamped small-denomination crown notes to Hungary, bought dollars, and then returned to Austria, where the dollars could purchase a larger number of crowns. According to Kerschagl, "a month after the stamping, the importation of one and two crown notes into Hungary was prohibited by law, as these notes had gradually lost their purchasing power everywhere else, and were now pouring into Hungary" (quoted in Walré de Bordes, 1924, p. 236).

As in Austria, a Hungarian Section of the Austro-Hungarian Bank had opened in January to serve as a temporary central bank for Hungary. A protocol of April 30, 1921, called for the withdrawal of the existing paper currency, mainly stamped Austro-Hungarian notes, and the introduction of a new national currency. The protocol also called for the creation of a State Note Institute under control of the Ministry of Finance to assume the affairs of the Hungarian Section of the Austro-Hungarian Bank and to act as a bank of issue. The institute began operations in August 1921 and promptly issued its own notes in exchange for the circulating stamped Austro-Hungarian notes. The State Note Institute also converted the Post Office Savings Bank notes (about 250 million crowns) and so-called White Notes (about 3.5 billion crowns) that had been issued by the short-lived Soviet government in 1919 and had remained as legal tender.

The assets of the State Note Institute were mostly Hungarian treasury bills and claims on the Austro-Hungarian Bank. Maximum note issue was limited by law to the total value of old notes exchanged for new ones, plus an amount not to exceed 2 billion crowns issued by discounting three-month treasury bills. The government could raise the 2-billion crown limit for agricultural finance or for payment of the capital tax, a provision it quickly used. The law also intended to make the institute independent of the government and to forbid it from issuing credit to the government. Advances to the government resumed in October 1921, however, and grew steadily until 1924.

4 Cross-Border Currency Flows

The Treaties of St. Germain and Trianon, signed on September 10, 1919, and June 4, 1920, respectively, approved the stamping of Austro-Hungarian banknotes in the territories of the former monarchy and ordered successor states that had not already done so to stamp the notes within their borders. Despite the best efforts of some of the authorities, and as a result of lax procedures by others, however, there were significant movements of crown notes between the successor states. The territorial distribution of the notes actually exchanged by the authorities consequently differed from estimates of their original holdings.

Unstamped notes moved across borders into those regions where they had greatest value. Thus, notes moved out of Czechoslovakia during the Czech stamping operation to avoid the 50 percent levy, and this flow precipitated the Austrian currency separation. Walré de Bordes (1924, pp. 40-41) described the situation:

> In some of the states, notably in Czechoslovakia, [stamping] was combined with a capital levy, which was collected by simply retaining a certain proportion of the notes presented for stamping. The desire to escape the levy was responsible—among other reasons—for the fact that many of the notes were not presented. Moreover, the Austro-Hungarian Bank of Vienna continued—with the sanction of the Austrian Government—to bring unstamped notes into circulation for the benefit of foreigners, even after the stamping had been completed in Austria; other States again delayed for a long time to call in the notes for stamping. As a result, considerable quantities of unstamped Austro-Hungarian notes remained in circulation in Central Europe, and were the objects of a brisk trade, especially in Vienna.

When the Austrian government initiated its own stamping procedure, many notes were again withheld, essentially because the unstamped notes were still legal tender both inside and outside Austria and because the Austrian authorities continued to stamp notes after the deadline passed. Thus, holders of unstamped notes enjoyed the option of retaining them and converting them into the currency of their choice whenever they desired. After the other successor states had stamped the notes in their territories, forgeries of the Austrian stamp appeared.

The flow of unstamped notes was encouraged by the apparent ease with which stamps could be forged, a problem so serious that, as noted, the Kingdom of Serbs, Croats, and Slovenes was forced to repeat the stamping process. Nötel (1986, p. 176) reports that, of the approximately 8 billion crowns exchanged in the Kingdom of Serbs, Croats, and Slovenes, "about one-eighth was thought to have come from smuggling and forgery." Walré de Bordes (1924, pp. 235-236) cites evidence of fraud from each of the successor states.

Although it is not possible to measure precisely these cross-border flows, it is possible to draw some approximations from various sources. In particular, Walré de Bordes (1924, p. 42) reports an estimated geographical distribution of banknotes in March 1919 prepared by the Austrian Board of Trade. These estimates show 31 percent of the notes circulating in Czechoslovakia, 21 percent in Austria, 18 percent in Hungary, 12 percent in the Kingdom of Serbs, Croats, and Slovenes, 5.2 percent in Transylvania, and the remainder circulating mostly in Italy and Poland. The number of crowns stamped in Czechoslovakia during that month, however, corresponded to only about 22 percent of the Austro-Hungarian currency in circulation, whereas the Austrian operation yielded perhaps 12 percent. If the remaining notes that were apparently circulating in Czechoslovakia and Austria but not stamped there (approximately 18 percent of the total stock) eventually made their way into other countries, approximately 6.5 billion crowns—an amount equal to the entire estimated circulation in Hungary—were transferred out of those two jurisdictions alone.

The ultimate destination of most of these notes appears to have been Romania and Hungary. In February 1922, the Hungarian authorities claimed to have collected 8.5 billion crowns as a result of their stamping operation to date, but the subsequent note exchange yielded 20.7 billion crowns in stamped notes (Zeuceanu, 1924, p. 246, and Young, 1925, p. 107), more than three times the estimate of Hungary's March 1919 share of crowns in circulation. Similarly, Romania exchanged 8.7 billion crowns in notes, more than four times its estimated 5 percent of the 1919 supply of Austro-Hungarian notes. Nötel (1986, p. 176) claims that about half of the crown notes exchanged in Romania originated outside the new borders of that country and bore forged stamps. Walré de Bordes (1924, p. 326) quotes Steiner (1921) as saying that the Romanian authorities did not attempt to discriminate against notes with forged stamps.

The traffic in unstamped notes is aptly described by the following excerpt regarding Austrian crowns from the *Oesterreichischer Volkswirt* on May 1, 1920 (quoted in Walré de Bordes, 1924, p. 236):

> Our only hope—however absurd it may sound—is that the Hungarian and Polish crowns will soon rise higher than the Austrian crown, and that the Hungarian and Polish stamps can be counterfeited just as easily as the Austrian stamp, so that it will become again more profitable to the forgers to counterfeit them (just as was formerly the case with the Yugoslavian and Czechoslovak stamps) and that we may no longer be the victims of their favor.

5 Liquidation of the Austro-Hungarian Bank and the Settlement of Austro-Hungarian Debt

The Treaties of St. Germain and Trianon also required the governments to turn over the old crown notes they collected to the liquidators of the Austro-Hungarian Bank.[9] According to the treaties, notes issued before October 27, 1918, represented claims against the net assets of the Austro-Hungarian Bank, particularly against its gold reserves (but excluding securities issued to back note issues). Notes issued after October 27 represented claims only against the debt of the new Austrian and Hungarian governments issued to cover these notes. The debt of the old Austro-Hungarian government issued to cover the earlier note issues was forgiven.

Foreign holders of Austro-Hungarian notes were given superior treatment. Notes issued prior to October 27, 1918, and held outside the territory of the former monarchy on June 15, 1919, were given senior claims on the net assets of the bank as well as on government debt held by the bank. The rest of the notes held by foreigners had the same rights as those held by residents of the successor states (and by residents of Italy and Poland). Third-party holders of banknotes had until March 30, 1922, to submit them. The foreign debts of the bank were assumed and paid off by the liquidators prior to making any payments to the successor states.

Liquidators were appointed in August 1920 by the Reparations Committee, and they assumed their functions the next month. The Treaty of St. Germain had provided for the liquidation to begin on

[9] Returning the notes to Austria for destruction was no easy matter. Poland's 2.7 billion crowns' worth of notes were packed into 2,917 cases and weighed 70,544 kilograms (Zeuceanu, 1924, p. 571).

September 11, 1919, but work could not start until a peace treaty with Hungary was signed. The committee decided on a further delay until the Treaty of St. Germain was ratified on July 19, 1920 (the Treaty of Trianon was not ratified until July 26, 1921). Because of conflicts over the rights and responsibilities of the liquidators, however, work did not actually get under way until April 1921.

In January 1921, the liquidators proposed that each successor state should assume the crown-denominated commercial assets and liabilities of the Austro-Hungarian bank branches within its territory, subject to an assumption that 30 percent (70 percent for Czechoslovakia) of the loans were unrecoverable. Agreement was reached in June, and 50 million gold crowns from the reserves held in Austria and Hungary were distributed among all the states containing territory of the former monarchy (gold-crown conversion rates are given in Table 3). The gold was distributed on the basis of 1910 populations and the number of pre-October 27, 1918, notes stamped. The property of the bank that had been expropriated by the successor states was valued at 80 percent of its notional December 31, 1919, gold-crown value, and that amount was deducted from the accounts of these states.

To speed up the process of liquidation, the successor states also decided to simplify the treatment of banknotes. Because it was impractical to determine whether each note was in circulation before or after October 26, 1918, the states agreed on a schedule, based on populations and the numbers of banknotes stamped, to distribute among themselves the estimated stock of crowns in circulation on that date (see Table 4). This procedure had the effect of reducing each country's claim on the assets of the Austro-Hungarian bank based on holdings of stamped notes. Austria and Hungary, in particular, were given credit for only half as many crowns as they claimed to have stamped. And Hungary, which was later found to have more than twice as many stamped notes as it had claimed, was credited with only about one-fifth of the stamped notes that it actually held.

On March 14, 1922, Austria and Hungary each agreed to pay 2.5 million gold crowns to the accounts of the other governments, in proportion to their holdings of old crowns. This was done in order to redeem securities deposited with the Austro-Hungarian Bank to back notes issued after October 27, 1918, or before that date but held outside the borders of the old empire. A second distribution of gold arranged at this time was made conditional on the states' ratification of the treaty signed after the Second Vienna Conference, which resolved the major issues involved in the liquidation.

TABLE 3

GOLD-CROWN CONVERSION RATES

		Austrian Crown	Hungarian Crown	Czech Crown	S.C.S. Dinar	Romanian Leu	Polish Mark	Italian Lire
1919	March	5.2	—	—	—	—	—	—
	June	6.0	—	—	—	—	—	—
	Sept.	13.9	—	—	—	—	—	—
	Dec.	31.4	—	—	—	—	—	—
1920	March	41.9	15.1	6.1	12.3	29.9	3.8	—
	June	29.4	31.5	8.6	4.3	8.6	32.2	3.4
	Sept.	51.7	51.9	14.0	5.7	9.7	46.9	4.6
	Dec.	134.0	100.6	17.5	6.8	15.6	112.0	5.8
1921	March	127.0	72.3	15.5	7.2	14.7	159.0	5.3
	June	143.0	49.5	14.5	7.0	12.9	247.0	4.1
	Sept.	496.0	101.0	17.4	10.4	20.7	756.0	4.8
	Dec.	1,117.0	136.0	16.4	13.3	25.6	654.0	4.6
1922	March	1,527.0	160.0	11.6	15.8	27.0	854.0	3.9
	June	3,837.0	186.0	10.5	14.7	30.7	853.0	3.8
	Sept.	15,111.0	494.0	6.2	16.0	30.4	1,618.0	4.7
	Dec.	14,207.0	472.0	6.5	16.4	33.0	3,530.0	4.0
1923	March	14,434.0	701.0	6.8	19.4	41.8	8,622.0	4.2
	June	14,346.0	1,447.0	6.8	17.6	39.1	15,830.0	4.4
	Sept.	14,346.0	3,684.0	6.8	18.5	43.6	57,894.0	4.6
	Dec.	14,346.0	3,897.0	6.9	17.8	39.3	11,013,139.0	4.7
1924	March	—	13,508.0	7.0	16.4	38.8	11,842,072.0	4.7
	June	—	18,421.0	6.9	17.1	47.0	0.0105[a]	4.7
	Sept.	—	15,587.0	6.8	15.0	38.1	0.0154[a]	4.6
	Dec.	—	15,587.0	6.7	13.5	39.9	0.0155[a]	4.7

SOURCES: Austria: Walré de Bordes, 1924, pp. 115-139 (average rate in last week of each month); all others: League of Nations, 1923, pp. 48-52, 1926c, pp. 5-10 (New York exchange rates multiplied by the dollar/gold-crown conversion rate).

NOTE: Conversion rates for the U.S. dollar are obtained by multiplying the above gold-crown rates by the gold parity of 4.935 crowns per dollar (e.g., for March 1919, 1 dollar = 25.7 Austrian paper crowns).

[a] Conversion rate for the Polish zloty.

Two special departments of the bank, separated from its central-banking operations, were also liquidated. These were the mortgage department, which issued loans for purchases of property and raised the necessary funds by issuing secured debt, and the deposits department. Each successor state purchased the loans that were backed by property

TABLE 4

DISTRIBUTION OF PRE-ARMISTICE CROWNS

(*in millions of gold crowns*)

	Total Crowns Claimed	Agreed Distribution
Austria	7,428	4,000
Hungary	8,500	4,000
Czechoslovakia	8,357	6,100
Kingdom of Serbs, Croats, and Slovenes	5,686	4,270
Romania	8,717	6,100
Italy	3,500	2,500
Poland	2,739	2,150
Total	44,927	29,120

SOURCE: Zeuceanu, 1924, pp. 260-261.

found in its territory, but the loans were discounted by 75 percent. The department's liabilities, its secured debt, were paid off in Austrian crowns out of the proceeds of the liquidation of the bank. The deposits department was essentially transferred wholesale to the Vienna Postal Savings Bank, except that the smaller deposits were withdrawn.

Shareholders' claims to the assets of the Austro-Hungarian bank, and their right to try to rescue the bank, were denied by the liquidators. The shareholders were given a residual share of the bank's net assets, as well as some of its Austrian property, including the printing press.

The business of liquidation was completed by the end of July 1924 (the results are summarized in Table 5). Of the bank's gold reserves, 17 percent, just over 41 million gold crowns, were withheld from distribution as a safeguard, leaving 201.7 million gold crowns for distribution. Of that amount, 173.5 million were transferred in the form of gold or convertible currencies, 25.4 million were transferred implicitly through seizures of Austro-Hungarian Bank property by the successor states, and the remaining 2.8 million represented the net value of other assets (for example, commercial loans) transferred during the liquidation.

The Treaties of St. Germain and Trianon also dictated how the debt of the former Austro-Hungarian administration would be treated. War loans were assumed by the governments of the successor states in which the certificates were found, a burden that fell most heavily on Austria and Hungary. Austria was also made responsible for certificates found outside the territory of the former empire. Prewar secured debt was

TABLE 5
RESULTS OF THE LIQUIDATION OF THE AUSTRO-HUNGARIAN BANK
(*in millions of gold crowns*)

	Total	Gold	Property	Other Assets
Austria	25.2	19.7	5.5	0.0
Hungary	25.2	19.7	5.5	0.0
Czechoslovakia	44.4	36.0	6.3	2.1
Kingdom of Serbs, Croats, and Slovenes	30.3	27.4	2.8	0.1
Romania	43.6	41.0	2.6	0.0
Italy	17.8	17.3	—	0.5
Poland	15.2	12.4	2.8	0.0
Total	201.7	173.5	25.4	2.8

SOURCE: Zeuceanu, 1924, pp. 454-456.
NOTE: Numbers are rounded and may not add up to totals.

converted into debt of the successor state in which the security (for example, salt mines, railways) was located. Prewar unsecured debt was divided among the successor states according to their proportional contribution to Austro-Hungarian state revenue from 1911 to 1913. Property of the Austrian and Hungarian governments that had been expropriated by the other successor states (other than hospitals, schools, and some property of historical interest) was treated as having been sold by the former governments at values determined by the Reparations Commission.

6 Hyperinflation

The preliminary currency reforms in 1919 and 1920 failed to halt the rapid increase in the supply of money in Austria and Hungary (see Figure 1), for the governments continued to finance large budget deficits by borrowing from the Austrian and Hungarian Sections of the Austro-Hungarian Bank. Inflation therefore increased dramatically, and the currencies depreciated rapidly (see Figure 2).

In Austria, loans to the government rose by 572 percent in 1921 and by an additional 1,586 percent in 1922.[10] The extension of credit to the government paralleled a large increase in loans to the private sector.

[10] Nearly all the statistics in this section are taken from the League of Nations (1926c) and are reported on a year-end basis, so that annual changes are calculated as the change

From 426 million crowns at the end of 1920, loans and discounts rose to 29.4 billion at the end of 1921 and to 781.8 billion at the end of 1922, annual increases of 6,795 and 2,561 percent. This growth in borrowing was a response to extremely low discount rates. On November 29, 1921, the discount rate was raised from 6 percent to 7 percent, and, on September 4, 1922, it was raised again to 9 percent, and credit rationing was introduced (Young, 1925, p. 12). The stock of currency increased by 468 percent from the end of 1920 to the end of 1921 and by 2,245 percent from the end of 1921 to the end of 1922. Monthly average retail prices in the meantime rose by 1,042 percent from January 1921 to January 1922 and by 1,748 percent from December 1921 to December 1922. By September 1922, the price index had risen by 2,033 percent over the December 1921 level, but prices declined sharply in the last quarter. The worst monthly increase occurred in August 1922, when the price index rose by 128.7 percent (Young, 1925, p. 293).

The situation in Hungary was just as dismal. Loans to the government rose by 28 percent from the end of 1920 to the end of July 1921, when the Hungarian Section was replaced by the State Note Institute. Loans to the government then rose by 834 percent in 1922 and by 2,156 percent in 1923. Commercial loans increased by 663 percent in 1922 and by 1,788 percent in 1923. This asset growth mirrored a 201 percent increase in notes in circulation in 1922 and a further 1,127 percent increase in 1923. The monetary expansion slowed somewhat in 1924, with a 385 percent increase in the stock of currency backed by a 251 percent increase in private credit and a 9,884 percent increase in advances to the government. The growth in credit was mirrored in inflation, which reached 2,270 percent in 1923. The worst month was July 1923, when the price index rose by 98 percent (Young, 1925, p. 322).

The Czech experience was almost exactly the opposite. The banking office was not permitted to lend to the government, so one of the two sources of inflation was eliminated. Commercial loans increased by 2,432 percent in 1920 but remained only a small fraction of total assets. In the ensuing years, total credit actually declined, by 2.6 percent in 1921, by 47 percent in 1922, and by 10 percent in 1923. Notes in circulation rose by 7 percent in 1921 but fell by 17 percent in 1922, by 5 percent in 1923, by 8 percent in 1924, and by 5 percent in 1925. The

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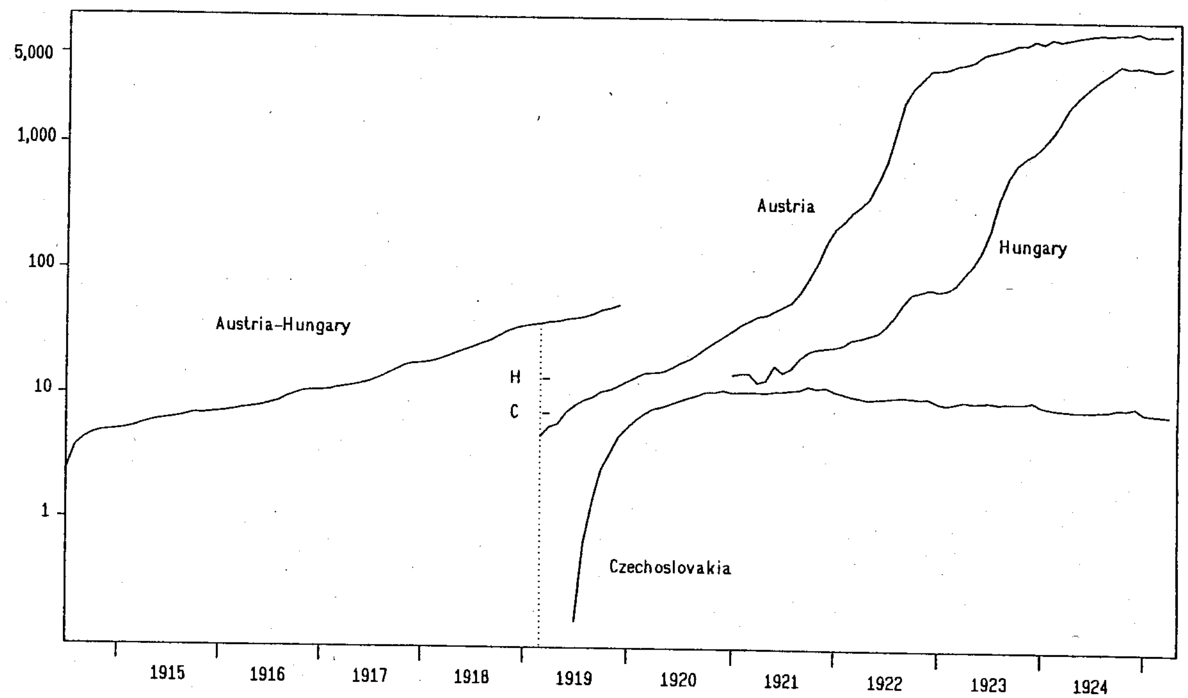
from December 31 of the previous year to December 31 of the given year. For Austria, the data to the end of 1922 are those of the Austrian Section of the Austro-Hungarian Bank. For Hungary, the data to July 1921 are those of the Hungarian Section.

FIGURE 1

CURRENCY SUPPLY IN AUSTRIA, CZECHOSLOVAKIA, AND HUNGARY, JULY 1914 TO APRIL 1925
(notes in circulation, in trillions of crowns)

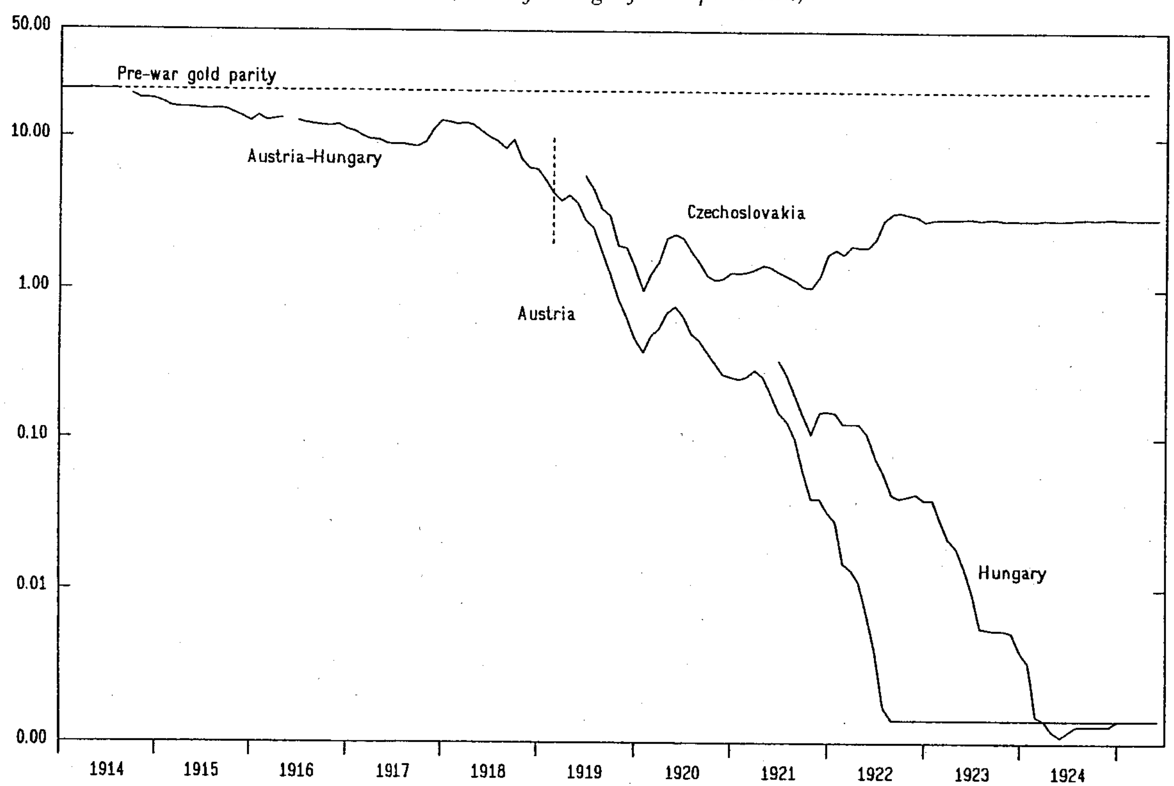


SOURCE: Young, 1925, pp. 292, 305, 306, 321.
NOTE: H and C show amounts stamped in Hungary and Czechoslovakia.

FIGURE 2

DOLLAR EXCHANGE RATES FOR AUSTRIAN, CZECH, AND HUNGARIAN CROWNS, JANUARY 1914 TO JUNE 1925

(monthly average of cents per crown)



SOURCE: Young, 1925, pp. 294, 295, 307, 322.

total liabilities of the Banking Office declined each year from 1921 to 1925, except for a modest 7 percent increase in 1923.

The Czech authorities had initially intended to restore gold convertibility at the prewar parity. They therefore allowed a substantial appreciation of the crown between October 1921 and October 1922. This led to a considerable trade deficit, a capital outflow, and a sharp decline in prices. Nötel (1986, p. 202) reports that the wholesale price level fell by more than 40 percent and the cost of living by about 50 percent during this period. This deflationary episode contributed to an increase in reported unemployment from 63,000 in October 1921 to 318,000 in October 1922 and to 441,000 in October 1923. In late 1922, the authorities abandoned their attempt to restore the prewar exchange rate of 20.26 cents per crown.

The rate of inflation in Romania was higher than in Czechoslovakia but never reached the levels observed in Austria and Hungary. From 1913 to 1923, the cost of living index (Nötel, 1986, p. 178) shows a 2,300 percent increase for Romania, compared with 871 percent for Czechoslovakia and 502,200 percent for Hungary. The worst inflation rate in the region was that for Poland, where the cost of living index rose 119,656,600 percent. The Romanian leu depreciated by 3,839 percent from 1913 to 1923, and the Czech and Hungarian crowns depreciated by 587 percent and 389,515 percent, respectively.

7 The Second Stage of Currency Reform: Stabilization

Czechoslovakia

The Czech stabilization was actually accomplished in 1919, when the new Banking Office was established and forbidden to lend to the government. Legislation on April 14, 1920, calling for the replacement of the Banking Office by an independent central bank, was implemented by the Bank Act of April 23, 1925, which created the National Bank of Czechoslovakia. The National Bank opened on April 1, 1926, with an initial capital of $12 million, one-third of which was provided by the government, using the reserve holdings of the Banking Office and funds provided by the liquidation of the Austro-Hungarian Bank. Thus, most of these reserves were government securities. The state's share of the bank's profits and the revenue from taxes on the note issue were used to repay state debt held by the bank. The bank was independent of, and could not lend to, the government and was charged with maintaining a gold-exchange standard by fixing the exchange rate against the U.S.

dollar. The Czech bank held a combination of gold and convertible currencies and endeavored to fix the exchange rate against the U.S. dollar at the average level of the previous two years (between 2.96 and 3.03 cents per crown). To increase the bank's gold reserves, the government raised an internal loan of gold coins, bullion, or convertible currencies that produced the equivalent of $11.7 million. Gold convertibility was restored on January 1, 1929, and made legal on November 7.

Austria

The Austrian Section of the Austro-Hungarian Bank was established with no share capital and almost no cash reserves. The Austrian crowns it emitted were therefore backed only by the treasury certificates issued by the government to finance the budget deficits. Because these deficits persisted, the supply of money continued to expand, with a consequent depreciation and hyperinflation.

The stabilization of the Austrian crown was initiated by the Geneva Protocols of October 4, 1922, which outlined a program of reforms backed by the League of Nations.[11] A new, independent, Austrian National Bank was chartered and began operations on January 2, 1923. The bank assumed the assets and liabilities of the defunct Austrian Section of the Austro-Hungarian Bank and of the Devisenzentrale, which was also eliminated on December 31, 1922. It was endowed with share capital of 30 million gold crowns, which was subscribed internally in December 1922, and it was charged with restoring the gold standard.

The Austrian crown was stabilized relatively quickly once the government stopped borrowing from the Austrian Section and capital controls were reintroduced and credit rationing begun (on November 18, 1922). The stabilization was solidified by the statutes of the Austrian National Bank, passed on November 14, 1922, which prohibited the bank from lending to the government. The government was able to finance its budget deficits in 1923 and 1924 by borrowing abroad under the League of Nations program, but it moved quickly thereafter to a balanced budget. With the strengthening of the Austrian National Bank, confidence in the crown was restored, and large amounts of flight capital returned to Austria. The bank's reserves of foreign exchange and gold consequently grew much more quickly than its liabilities. Lacking sufficient gold reserves, the bank acquired U.S. dollars as its principal reserve asset and, from July 1923, pegged the crown to the dollar at the

[11] For details on the reconstruction of the Austrian economy, see League of Nations (1926a).

prevailing exchange rate of 1,000,000 crowns to 14 dollars. The prewar value of the crown had been 100 to 20.26.

The Geneva Protocols were accompanied by a more liberal economic policy, which freed trade and investment from most controls. It is interesting that the reform package began, not by balancing the government budget, but by forcing budgetary discipline on the government. In fact, although the government stopped borrowing from the bank in November 1922, it did not succeed in balancing the budget until 1924.

The last important development in the currency reform was the introduction of a new unit, the schilling, on March 1, 1925. The schilling was equal to 10,000 crowns, a unit of measurement that had become common by the end of the hyperinflation and which was established as the new legal unit of account. The schilling was convertible into gold at a rate corresponding to the current exchange rate of 70,935 crowns per dollar. The bank began issuing schilling notes and coins in April 1925, releasing them gradually by exchanging them on request for crown notes. Because the first issues of schilling coins contained relatively large amounts of silver, they were hoarded and quickly disappeared from circulation.

Hungary

The stabilization of the Hungarian crown was also accomplished through a reconstruction agreement on April 26, 1924, with the League of Nations, and it was financed by a 253 million gold-crown issue of foreign bonds.[12] The agreement replaced the State Note Institute with the National Bank of Hungary, which was modeled on the Austrian National Bank. The National Bank of Hungary opened for business on June 24, 1924, with an initial capital of 30 million gold crowns. The Hungarian crown was stabilized on July 31, 1924, at a value of 346,000 crowns per pound sterling. Thus, when Britain returned to the gold standard in 1925, Hungary also moved to a gold-exchange standard. As the pound appreciated during 1924, so, too, did the Hungarian crown, and, when the pound reached its prewar gold price, the Hungarian and Austrian crowns traded at par. Return to a true gold standard was foreseen when the government's debt to the bank was brought down sufficiently. The bank was not permitted to lend to the government unless the loan was backed by collateral of foreign assets having the same value. Forced to raise taxes and cut expenditures to finance spending, the government ran surpluses in fiscal 1924-25 and 1925-26.

[12] For details on the reconstruction program for Hungary, see League of Nations (1926b).

The final element of the currency reform was the introduction of a new currency, the pengö, on January 1, 1927, at a conversion rate of 12,500 crowns per pengö. The pengö became legal tender in July 1927.

8 League of Nations Control

The League of Nations was crucial in the reconstruction efforts of Austria and Hungary. Austria obtained approximately 650 million gold crowns in external financing in 1923, and Hungary received 253 million crowns in 1924. To obtain these funds, both governments had agreed to detailed financial programs supervised by the League of Nations. The principles behind the League programs were crafted at the Brussels Conference of 1920. Subsequent League programs were developed for Bulgaria (1926, 1928), Danzig (1925, 1927), Estonia (1927), and Greece (1928). The programs had five distinguishing characteristics: (1) They released the participating countries from reparations and other claims for the duration of the program, and (2) they required that external loans be secured by government revenues equal to two years' financing, (3) that an independent central bank be in place and that agreement be reached on detailed budgetary commitments, (4) that reconstruction laws be passed, giving the governments extraordinary powers, and (5) that the execution of the program be controlled by the League of Nations.

The objective of a country program was to stop inflation and a resulting depreciation of the currency by first creating an independent central bank with a monopoly on note issue and with tight restrictions on lending to the government and by then eliminating the budget deficits that were the underlying cause of the inflation. Because the fiscal reform necessarily took time, a reconstruction loan was provided to finance transitional budget deficits.

The programs were formalized in protocols signed in Geneva, on October 4, 1922, for Austria, and on March 14, 1924, for Hungary. The protocols achieved three objectives. The territorial integrity of Austria and Hungary was recognized, and both countries reaffirmed their commitment to abide by the terms of the peace treaties. The creditor governments agreed to provide loans, to release the secured revenues from reparations claims, and, in the case of Austria, to guarantee repayment of the loans. And Austria and Hungary agreed to enter into League-supervised programs of fiscal and institutional reform aimed at achieving budget surpluses and currency stabilization within two years. The Austrian reconstruction loans were issued in eleven countries, including Austria itself, and service was guaranteed by eight foreign governments: Czechoslovakia, France, and Great Britain (24.5 percent each), Italy (20.5 percent each), Belgium and Sweden (2 percent each), and Denmark and the Netherlands (1 percent each) (League of Nations, 1926a, pp. 39-42).

A crucial element in both the Austrian and Hungarian programs was the position of the commissioner-general, who was appointed by and reported to the Council of the League of Nations. In the Austrian program, a Committee of Control of the Guaranteeing Powers was established, to whom the commissioner-general also reported. This committee monitored progress under the program and ensured that the provisions of the protocols were being satisfied. In Hungary, the "committee of control" was composed of representatives of the creditor countries. Although the committees could monitor the programs, they could not interfere with or block policies in either Austria or Hungary; they could, however, complain to the Council of the League if they felt that the commissioner-general was delinquent.

The commissioner-general's task was to ensure that the government was implementing the agreed on measures, to ensure that the reconstruction loan was serviced, and to disburse the proceeds of that loan. The loans were secured by customs revenues, earnings from state monopolies, and other taxes that might be necessary. These revenues were transferred immediately into a blocked account controlled by the commissioner-general. The forecast amounts of these revenues greatly exceeded the service on the debt. In fiscal 1925-26, for example, the Hungarian revenues amounted to 258 million gold crowns, whereas the service of the League-sponsored loan was only 33 million gold crowns (League of Nations, 1926a, p. 171). For the most part, then, the commissioner-general simply received the revenues, extracted the sum necessary for debt service, set aside a reserve, and passed the remainder on to the government.

If the government implemented the required reforms and adopted budgets without excessive deficits, the commissioner-general would intervene little in the government's affairs. Nevertheless, he was given the right to require increases in certain taxes and reductions in certain expenditures and to appropriate revenue if the budgetary situation deviated from the program or if the secured revenues were insufficient to service the debt.[13] His influence over fiscal policy was maintained

[13] "The Commissioner-General will not, so long as the progress of the reform scheme is up to or in advance of the programme drawn up . . . object to particular items of expense or require modifications of the taxation system except on the ground that the

by his ability to delay disbursement of the external loans if the conditions of the agreement were not met. Disbursements were, in fact, halted before the end of the program in both Austria and Hungary, not for poor fiscal performance, however, but for better-than-expected performance. In Hungary, no disbursements were made for financing after June 30, 1924, but dispensation was given to use 100 million gold crowns for capital expenditures. Thus, when the commissioner-general was removed, 70 million gold crowns had been used to finance budget deficits, 100 million had been allocated to capital expenditure, and 80 million remained unallocated.

The commissioners-general in both countries were removed on June 30, 1926. The possibility remained, however, that new commissioners-general could be nominated at any time before the loans matured (twenty years in each case) if the Council of the League deemed it necessary. In any event, a form of control remained with the bondholders' representatives, the trustees, who succeeded the commissioners-general in the task of monitoring developments and disbursing the loans.

A second element of control existed in the person of an adviser to each country's central bank. Although nominated by the commissioners-general, the advisers were appointed by Austria and Hungary, and they reported to the governors of the central banks. Their duty was to oversee the development of policy in the central banks, and they had the right to veto any policy or decision that they felt contravened the statutes of the banks. They did not report to the Council of the League, however, and their importance appears to have derived from the experience and credibility they brought to the central banks.

9 Recent Experience with Currency Reform in Central and Eastern Europe

Recent events in Central and Eastern Europe have paralleled those of the immediate post-World War I period. The dissolution of the Soviet Union, the Socialist Federal Republic of Yugoslavia and the Czech and

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particular expense or feature in the taxation system is such as in his opinion to compromise the later progress of the scheme; but if the progress of reform is at any time behind what is prescribed for the six-monthly periods . . . he may . . . object to any item of expense and may also, or alternatively, require the Hungarian Government to increase the yield of existing taxation or to impose new taxes." (Protocol 2, Article 4 of the Hungarian Accord). The modified control agreed on by the Austrian government and the League of Nations in September 1924 contains similar wording.

Slovak Federal Republic have all produced economic pressures similar to those faced by the successor states of the Austro-Hungarian Empire. Traditional trade patterns have been disrupted, large government budget deficits in many of the new countries have contributed to very high rates of inflation, and the inherited economic system based on the centralized organization of production and distribution has been discredited. The authorities have been faced with the need to implement significant structural change while simultaneously stabilizing their economies.

As before, the choice of a currency regime is one of the key decisions that has had to be made. Unfortunately, the authorities in some of these countries seem not to have learned from the Austro-Hungarian example. The dissolution of the Austro-Hungarian Empire demonstrated that, when members of a currency union do not evenly share in the seigniorage earned by the monetary authority or do not have the same objectives for monetary policy, they may choose to break out of the union. Moreover, unless carefully planned and executed, this act of currency separation can provide individuals with incentives to move currency about, exacerbating monetary instability in the breakaway member or in the surviving currency union. Finally, to be successful, a currency reform must be accompanied by a credible commitment to monetary stability.

Dissolution of the Ruble Area

In the Soviet Union, monetary control was exercised by the State Bank of the U.S.S.R., the Gosbank. In 1991, following the breakup of the Soviet Union into fifteen independent states, the Gosbank was replaced by fifteen central banks. Although the Central Bank of Russia retained sole control over the printing of ruble banknotes, the central banks of the other FSU states could set interest-rate and credit policies independently. Despite significant attempts in 1991 and 1992, and later at Minsk in January 1993, the members of the ruble area could not reach agreement on monetary coordination. The absence of coordination in credit policy created a free-rider problem, in which the individual states could expand credit as needed and the inflationary consequences would be shared by all of the members of the currency union.

Through 1991 and early 1992, the constituents of the FSU were encouraged by multilateral agencies and industrial-country governments to remain within the ruble area. This advice partly reflected a broader goal of preventing a disorderly breakup of the FSU, but it had an economic logic of its own. The successor states were considered unprepared for currency separation, for they had only the rudiments of central-banking institutions and inexperienced staff. More important, it was believed that monetary policy in the independent states would be excessively expansionary if freed from the more conservative Russian policy. By mid-1992, recognizing the lack of progress in achieving monetary coordination and the failure of some of the FSU central banks to develop the necessary capabilities, the multilateral agencies advised the FSU states to choose quickly between agreeing on a workable monetary union with the Russian Federation or introducing their own currencies.

In an attempt to limit the expansion of credit within the currency union, the Central Bank of Russia tightened credit to the other central banks early in 1992, cut back on deliveries of ruble banknotes, and put controls on the use of the interstate payment system, which limited the convertibility of rubles between FSU states.[14] The convertibility of banknotes was similarly disrupted in 1993 by the introduction of new banknotes in Russia. These moves soon resulted in an increased demand for cash rubles for payment purposes, a demand that could not be met in some states by existing cash supplies. The emergence of serious cash shortages led some of these states to introduce parallel currencies or coupons with which to supplement the available ruble notes (Table 6).

The reversion in Russia to a policy of rapid credit expansion in the second half of 1992 caused most of the other FSU states to draw up plans for currency separation. Estonia became the first to leave the ruble area when, in June 1992, it introduced the kroon, which soon became the sole legal currency. Latvia and Lithuania followed suit later in 1992, Ukraine made its coupons sole legal tender in November 1992, and the Kyrgyz Republic introduced its own currency, the som, in May 1993.

On July 23, 1993, the Central Bank of Russia announced that all banknotes issued before 1993 would cease to be legal tender in Russia after August 7. Individual Russian citizens were permitted to convert 35,000 rubles in old bills into new currency; amounts exceeding that were to be deposited into accounts that would be blocked for six months (by which time inflation would have significantly eroded their real value). The rules for exchanging notes were later relaxed, increasing the total amount of cash that could be converted to 100,000 rubles, extending the conversion period to the end of August, and allowing unlimited exchanges of 1992-issue 10,000-ruble notes. This measure allowed the central bank to earn seigniorage by replacing the invalidated notes with new ones without increasing overall credit.

One of the main objectives of the demonetization was to halt the inflow of rubles into Russia from the other FSU states. Because notes

[14] For a complete discussion of the evolution of the cross-border payment system in the FSU and the background to the introduction of national currencies, see IMF, 1994.

TABLE 6

CURRENCY SEPARATION IN THE FORMER SOVIET UNION AND CENTRAL EUROPE AT THE END OF FEBRUARY 1994

Country	Currency Situation
	Former Soviet Union
Armenia	Dram introduced as sole legal tender on November 22, 1993
Azerbaijan	Manat introduced on August 15, 1992; made sole legal tender on January 1, 1994
Belarus	Coupon (rubel) introduced on May 25, 1992, as a parallel currency; monetary union with the Russian Federation agreed to in January 1994
Estonia	Kroon introduced on June 20, 1992
Georgia	Coupons introduced on April 5, 1993; made sole legal tender on August 2, 1993; a new currency, the lari, may be introduced
Kazakhstan	Tenge introduced as sole legal tender on November 15, 1993
Kyrgyz Republic	Som introduced as sole legal tender on May 10, 1993
Latvia	Latvian ruble (rublis) introduced on May 7, 1992; made sole legal tender on July 20, 1992; lats introduced on June 28, 1993; made sole legal tender in October 1993
Lithuania	Talonas introduced on May 1, 1992; made sole legal tender on October 1, 1992; replaced by the litas on June 15, 1993
Moldova	Coupons introduced in June 1992 circulated as parallel currency with rubles; leu introduced on November 29, 1993, as sole legal tender
Tajikistan	Russian ruble retained; monetary union with the Russian Federation being negotiated
Turkmenistan	Manat introduced as sole legal tender on November 1, 1993
Ukraine	Coupons (karbovanets) introduced in November 1991; their role expanded in January 1992; made sole legal tender in November 1992; hryvnia banknotes printed but not introduced
Uzbekistan	Sum coupon introduced on November 16, 1993; made sole legal tender on January 1, 1994; new national currency to be introduced in 1994

TABLE 6 (*continued*)

Country	Currency Situation
	Central Europe
Croatia	Croatian dinar introduced in January 1992
Czech Republic	Czech koruna introduced in February 1993
Former Yugoslavia (Serbia, Montenegro)	New dinar introduced in January 1992; another new dinar introduced in January 1994
Macedonia	Macedonian dinar introduced in April 1992
Slovak Republic	Slovak koruna introduced in February 1993
Slovenia	Tolar introduced in October 1991

SOURCES: IMF, 1993, 1994.

printed in 1993 had not been delivered outside of Russia by the central bank, most of the currency in the non-Russian FSU states was in the form of old ruble notes. The currency recall therefore effectively separated the Russian cash ruble—the new, 1993 ruble—from the old cash rubles used in the other states of the ruble zone and made the old notes inconvertible after the end of August 1993. The measure can thus be interpreted as an attempt to force these FSU states, none of which was forewarned, out of the ruble area. In this respect, the recall was partly successful. Azerbaijan and Georgia, which had already issued parallel currencies, immediately announced plans to leave the ruble area, as did Moldova and Turkmenistan. On September 7, the six remaining members of the ruble area, Armenia, Belarus, Kazakhstan, Russia, Tajikistan, and Uzbekistan, declared their intention of entering into a monetary union. This agreement soon fell apart, however, when some of them decided that the conditions of entry set by the Russian Federation—including the requirement to transfer foreign currency and gold reserves to Russia as partial collateral for credit from the Central Bank of Russia (to be provided in the form of 1993-issue ruble notes)—were too costly. Armenia, Kazakhstan, and Uzbekistan introduced their own currencies in November. Belarus and Tajikistan are each negotiating entry into a monetary union with the Russian Federation.

This recent history of the breakup of the ruble area demonstrates that a currency union cannot be maintained for long if its members do not share monetary policy goals. The experience also shows, once again, that mishandled attempts at currency separation can produce strong incentives to move currency about. The most telling example of this is provided by the Ukrainian coupon, which the authorities introduced on a general basis in January 1992 in response to serious cash-ruble shortages and fears of "an influx of rubles from 'across the border'" (Filippov, 1992). At the time the coupon was introduced, government officials indicated their intention to eliminate the ruble altogether, and the market value of the coupon quickly appreciated against the ruble. Very soon thereafter, however, this perception of relative value was reversed as a result of the extremely inflationary policy of Ukraine, and the coupon quickly depreciated against the ruble. Similar large-scale cross-border flows of "old" rubles have been reported in the Central Asian states of the FSU. For example, the introduction of the som in the Kyrgyz Republic in May 1993 reportedly led to the dumping of rubles into Kazakhstan, Tajikistan, and Uzbekistan. The concern on the part of these neighboring governments was so great that they initially closed their borders with the Kyrgyz Republic and refused to recognize the som.

The final lesson of the Austro-Hungarian reforms, that successful currency reform requires the implementation of a credible stabilization policy, is also supported by the recent Eastern European experience. In Estonia, monetary discipline was imposed by establishing a currency board in which the kroon was pegged to the deutschmark. Latvia and Lithuania opted for floating rates backed by gold reserves repatriated from abroad and by promises of slower credit expansion.[15] The currencies of all three countries have had strong support from the industrial countries, particularly in Scandinavia. In Ukraine, however, credit expansion continued unabated after the introduction of the coupons, and it even exceeded that in Russia. At the end of 1992, monthly inflation rates in Estonia and Latvia were below 4 percent, whereas the rates for Russia and Ukraine were 25 and 30 percent, respectively (United Nations, 1993, pp. 102, 171). The currencies of the three Baltic states, particularly the currency of Estonia, have all appreciated strongly against the ruble since their introduction, whereas the Ukrainian coupon has depreciated significantly.

Czech-Slovak Currency Separation

Another recent episode of currency reform took place in February 1993, when the Czech Republic and the Slovak Republic together abandoned

[15] On April 1, 1994, the Lithuanian litas was pegged to the U.S. dollar.

the old Czechoslovak crown. This episode is of particular interest because it involves the successor state that most successfully separated from the Austro-Hungarian currency union in 1919.

The creation of separate republican currencies had been an objective of the Slovak independence movement from the start. The demand for a Slovak bank of issue was part of Vladimir Meciar's platform during the June 1992 elections and had been articulated well before then. Mr. Meciar also had announced, at least as early as August 1992, that the Slovak government would continue to use subsidies and credit guarantees to support heavy industries. Vaclav Klaus, by contrast, had stated his intention to rein in government spending in the Czech Republic. Thus, by late 1992, it was generally believed that an independent Slovak Republic would create its own currency, that it was in many ways less prepared for the transformation to a market economy than was the Czech Republic, and that it would favor a slower pace of adjustment and more expansionary fiscal and monetary policies. Expectations of a significant depreciation of the new Slovak currency were consequently widespread, and there was significant capital flight from the Slovak Republic to the Czech Republic in the form of deposits in Czech banks and purchases of real and financial assets in the Czech Republic by Slovak residents.

In an attempt to halt this capital flight and to give the individual republics time to print their new currencies, the authorities of the Czech and Slovak Republics announced in October 1992 their intention to enter into a currency union on January 1, 1993, for a period of at least six months. The temporary nature of the agreement, however, did little to allay fears of imminent devaluation in the Slovak Republic and, partly in response to rapidly declining foreign-exchange reserves in the Czech Republic, the Czech and Slovak authorities announced in late January that the Czechoslovak crown notes would be recalled and replaced with stamped notes between February 4 and 10. Individuals over the age of fifteen were allowed to convert 4,000 koruny in cash, and amounts in excess of this limit were converted to deposits. Cross-border transfers of crowns and crown-denominated securities were suspended, and cash withdrawals from banks and payments by enterprises were restricted until the conversion was completed.

Here again, the process of currency separation resulted in incentives similar to those emerging in 1919. Although the expectation of currency separation was widespread, the timing and details of the conversion process were not specified. Consequently, rather than taking the initiative in a combined surprise conversion that would have allowed each government to convert only those notes ordinarily held by its residents, speculative flows of notes into the Czech Republic appear to have forced the issue, probably resulting in the conversion of a larger number of notes in the Czech Republic than would otherwise have been the case.

10 Conclusions

Currency reforms by successor states depend crucially on two sequential actions: (1) currency separation, in which a domestically controlled and issued currency is created, and (2) implementation of policies consistent with monetary stability. The stamping operations undertaken by the successor states of the Austro-Hungarian Empire accomplished the first of these. Stamping Austro-Hungarian banknotes with a national stamp and making only stamped notes legal tender immediately created a national currency, the stock of which was determined by the rules governing the stamping operation and the ease with which the stamps could be forged. The real demand for the new currency dictated whether notes would be smuggled in and affixed with a forged stamp, or smuggled out and stamped elsewhere. By setting a disadvantageous rate of exchange against the domestic currency or by being one of the first to stamp the notes, a successor state could easily push notes onto the other states of the former union.

The fundamental aspect of a currency reform is not the exchange of new banknotes for old, however, or even the creation of a new national monetary authority; it is, rather, the effective exercise of control over the supply of notes after the reform. Thus, in Czechoslovakia, the Banking Office was forbidden to lend to the government, an injunction that immediately stabilized the Czech crown, because the public recognized that the impetus behind the monetary expansion had been eliminated. Stabilization was achieved for the Austrian and Hungarian crowns only after the League of Nations reconstruction agreements accomplished the same separation of central-bank operation from government deficits.

The breakup of the Austro-Hungarian Empire suggests five lessons for currency reform elsewhere. First, currency separation can be accomplished relatively quickly. The Serb-Croat-Slovene authorities, for example, started their initial stamping operation within six weeks of the creation of their state, and the postwar Czech government initiated its program less than four months after deciding on separation. If the Austrian operation is assumed to have been entirely defensive, it may be seen as having taken only one or two months to plan and carry out. This first step involves little more than marking with a stamp the banknotes already circulating within the breakaway state. It will necessarily be followed by an exchange of stamped notes for new national currency, but it buys time for the authorities to plan the second stage carefully.

Second, the exchange of old notes for new provides an opportunity for the authorities to eliminate any "monetary overhang" by imposing a tax on notes exchanged. Czechoslovakia, Hungary, and the Kingdom of Serbs, Croats, and Slovenes imposed such a tax.

Third, if currency reforms are not conducted simultaneously throughout the former currency union and at consistent conversion rates, differential conversion rates may create incentives for individuals to spend or exchange their old notes in the region where they are most valuable. The imposition of a tax, or a difference between expected rates of inflation, will create another incentive to move notes across borders; old notes will flow into those countries with the most favorable tax-inclusive real conversion rate. These inflows might be sterilized by reducing the supply of new notes from the central bank, although that would involve a significant loss in seigniorage if the inflow is substantial. If not sterilized, however, the inflows will exacerbate inflationary pressures.

Fourth, states that are late in breaking away from a currency union may have more than their share of the old notes dumped on them. Breakaway reforms elsewhere may cause people to sell their old notes for goods and assets in those states where the notes are still legal tender. The last state to convert the old notes will then have to absorb both the notes originally circulating in its territories and many of the notes previously circulating elsewhere. A liquidation of old central-bank assets prorated by the amount of currency collected will only partly compensate for the lost goods.

Finally, currency reform will succeed in creating a stable medium of exchange only if it is accompanied by sound fiscal and monetary policies. It is not necessary for fiscal restraint to precede currency reform if the new monetary authorities are constrained effectively in their ability to extend credit to the state. In each of the successor states of the Austro-Hungarian Empire, fiscal equilibrium was attained as a consequence of the currency reform, rather than as a precondition for it.

Appendix A: Chronology of Events

1918	
October 15:	South Slav National Council declares independent Croatia, Slovenia
October 20:	Czech National Council declares independence
October 21:	Austrian Provisional National Assembly declares independence
October 25:	Hungarian Parliament declares independence
December 1:	Kingdom of Serbs, Croats, and Slovenes (KSCS) founded
1919	
January 8-February 2:	KSCS stamps notes
March 3-9:	Czechoslovakia stamps notes
March 12-29:	Austria stamps notes
May 15:	Czech Banking Office established
June 16-August 28:	Romania stamps notes
September 1-20:	Notes exchanged in Romania
September 10:	Peace Treaty of St. Germain signed (ratified July 19, 1920)
September 25 -July 31, 1920:	Notes exchanged in Czechoslovakia
November 26 -December 15:	KSCS repeats note marking
1920	
January 1 and 2:	Austrian and Hungarian Sections open
February 1:	National Bank of the KSCS opens
February 16-May 15:	Notes exchanged in KSCS
March 18-27:	Hungary stamps notes
June 4:	Peace Treaty of Trianon signed (ratified July 26, 1921)
August 3:	Liquidators of the Austro-Hungarian Bank appointed
1921	
April 30:	Note exchange begins in Hungary
May 17-June 4:	Second note exchange in KSCS
August 1:	State Note Institute of Hungary begins operations
1922	
March 14:	Agreement reached on Austro-Hungarian Bank liquidation plan
October 4:	Geneva Protocols signed by Austria and League of Nations
1923	
January 2:	Austrian National Bank of Austria opens

1924	
March 14:	Geneva Protocols signed by Hungary and League of Nations
June 24:	National Bank of Hungary opens
July 31:	Liquidation of Austro-Hungarian Bank completed
1925	
March 1:	Austrian schilling introduced
1926	
April 1:	National Bank of Czechoslovakia opens
June 30:	Commissioners-General leave Austria and Hungary
1927	
January 1:	Hungarian pengö introduced

Appendix B: Crown Conversions in Poland and Italy

Poland

At the end of World War I, about 2 billion rubles, 2 billion German marks, and 4 to 5 billion Austro-Hungarian crowns circulated in Poland. The Polish mark became legal tender on January 15, 1920, and circulated beside these currencies at an exchange rate of 70 Polish marks to 100 crowns. Until conversion of the crowns, however, the Polish mark was not widely used for large payments.

The first conversion of crowns occurred between April 19 and April 26, 1920, when 100-crown and 1,000-crown notes were exchanged without previously having been stamped. The conversion of smaller-denomination notes was announced by a Finance Ministry decree of June 7, 1920. In February 1922, the Polish authorities reported to the liquidators of the Austro-Hungarian Bank that they had exchanged 2.7 billion crowns in the former province of Galicia (League of Nations, 1922, pp. 68-69; Zeuceanu, 1924, p. 242).

Italy

Italy inherited only a small amount of territory from the Austro-Hungarian Empire. In Venezia Giulia and Venezia Tridentina, the rate of conversion was fixed by decree on April 5, 1919, at 0.4 lira per crown. This was subsequently raised on November 27 to 0.6 lira per crown. For amounts in excess of 5,000 lire, currency holders were given treasury bonds. The original exchange of notes, without prior stamping, was made between April 10 and 19, 1919.

In Dalmatia, the exchange of notes could not proceed until the borders were established definitively by the Treaty of Rapallo on November 12, 1920. A decree on May 1, 1921, ordered an inventory of notes then in hand in order to prevent further inflows of unstamped notes. A decree on June 10, 1921, provided for the exchange of the first 3,000 crowns in full and, beyond that, up to a maximum of 10 percent of income (estimated at 20 times the 1920 tax paid). The conversion rate was 0.6 lira per crown for the first fifth of the total exchanged, 0.4 lira per crown for the second fifth, 0.2 lira for the third fifth, and 0.1 lira for the remainder, for an average conversion rate of 0.28. Austro-Hungarian notes ceased to be legal tender after June 19, 1921. In February 1922, the authorities reported to the liquidators of the Austro-Hungarian Bank that they had collected 2,500 million crowns (League of Nations, 1922, p. 65; Zeuceanu, 1924, p. 247).

Walré de Bordes (1924, p. 42) notes that, in March 1918, fewer than 5 percent (roughly 1,876 million) of the Austro-Hungarian crowns then in circulation were in Poland, and 1.25 percent (470 million) were in Italy. The value of notes eventually stamped in these countries appears to have exceeded these amounts, indicating that crown notes were imported. Poland certainly appears to have been a popular destination for unstamped notes. Walré de Bordes (1924, p. 236) quotes Kerschagl, who remarked that "both Poland and Hungary remained for a long time the hope of those who for one reason or another wished to put off the stamping of their notes to the last possible moment."

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