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A single investor of the current account surplus? Benefits and risks of a monopoly supplier of money in Switzerland

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Studying the currency competition episode in Switzerland of the 19th century, I argue that modern economies need a single supplier of money to pursue stabilization policy. In small open economies with integrated capital markets, the uncertainty about the real exchange poses new risks to monetary policy which were only little discussed in the previous literature.

JEL codes: F41, E50, N13
Key words: monetary institutions, currency competition, exchange rate intervention, current account

Economics as a science has brought forward many arguments for why competition is beneficial. To mention just two, increased competition reduces market power and therefore the risk that a single actor may influence market outcomes to his own interests; and having many different suppliers enhances experimentation and innovation. Not surprisingly, competition in currency has been a long-standing question in monetary macroeconomics as well. This short article reviews the currency competition experience of Switzerland in Section 1, building on Chapter 3 of Baltensperger and Kugler (2017), and explores which lessons can be drawn for present monetary policy in Section 2.

1 Banknote competition in Switzerland

As Baltensperger and Kugler (2017) outline, currency and note competition in Switzerland can be divided into three phases. Before the modern confederation, between 1825 and 1850, free banknote competition prevailed. There was a free choice of currency and, in equilibrium, there was no dominant metal currency. However, the fact that there was no common market in Switzerland at that time contributed to an equilibrium with no leading currency. These conditions came closest to a free or "true" competition of money currencies in the sense of Hayek (1976), although Hayek was thinking more of competition between different forms of fiat currencies. In a second phase, between 1850-1881, there was free banknote competition with the Swiss franc the dominant currency. In 1850, Switzerland underwent a monetary reform and the Swiss franc established itself almost immediately as the standard denomination. Private and public (mostly cantonal) banks continued to issue their own banknotes. The banks could have issued banknotes in other currencies, but with the strong network effect the banknotes were issued in the dominant, "national" Swiss franc. Since this system

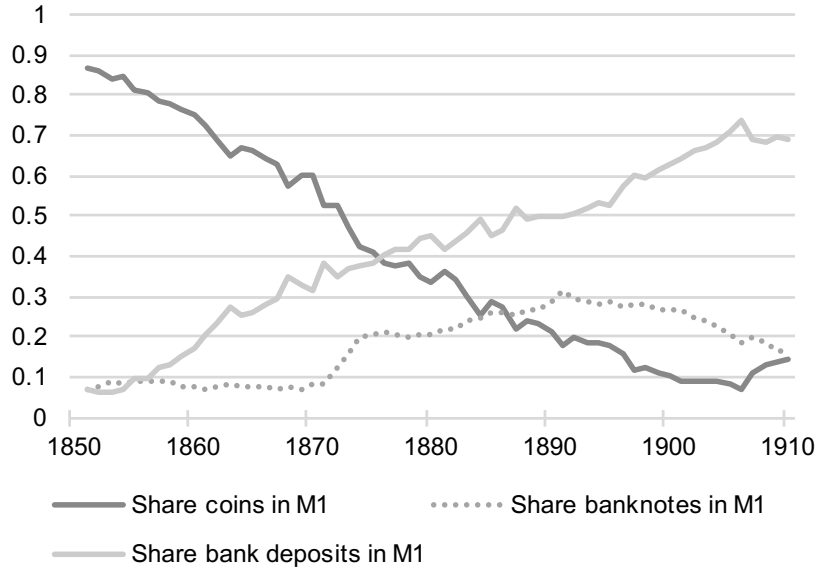
was complicated and not very transparent for market participants, the Federal Banknote Act was introduced in 1881. This opened a third phase, lasting until 1905. The Act aimed at harmonizing and imposing common quality standards on banknotes. While these standards improved efficiency of payments and also increase banknote usage, Baltensperger and Kugler argue that the regulations jeopardized the advantages of competition. Before the regulation, a bank could establish itself as a high-quality issuer, for example by following a conservative issuing policy. After the harmonization, monitoring entailed less benefits and market discipline deteriorated. The increased financial instability and problems of note over-issues led to its nationalization and the creation of the Swiss National Bank (SNB) in 1907.

Assessing this pre-SNB era of bank note competition, it was successful in the sense that price stability was achieved. In particular, there was no over-issue of banknotes leading to excessive monetary expansion, at least before 1881. Using data from the Swiss Economic and Social History Database, we can compute that average inflation between 1850 and 1907 was only 0.7% per annum. However, similar to other metal currencies, there was no inflation stability. The standard deviation of inflation reached 8.5% in that period, which is very high even if we account for higher measurement errors of prices in that period.

What do we learn from this longer episode of banknote competition? There is a trade-off between price stability and the costs of a monetary system. On the one hand, there is a disciplinary effect of competition: a bank needs confidence when issuing notes, which serves as a disciplining device. On the other hand, competition with many banks implies a complicated and inefficient (due to its small scale) money and payment system. In 1880, there were 38 issuing banks in a country with around 3 million inhabitants at the time. Consequently, the share of banknotes never exceeded 25% in M1 (see Figure 1). However, as Baltensperger and Kugler outline, despite all these shortcomings of the monetary system, Switzerland industrialized early in the 19th century.

It is unclear, however, whether the Swiss episode demonstrates the success of banknote competition. At that time, banknotes were not only in competition with other banknotes but also with coins – in a metallic currency. The value of coins exceeded that of banknotes until the mid-1880s, as can be seen from Figure 1. In that sense, banknotes had more resemblance to commodity money (facilitating a transaction) than to "modern" fiat money. *A fortiori*, banknotes played no role at all until 1850 – when free competition prevailed. Therefore, the banknote competition example cannot be easily adopted to a modern currency standard.

Figure 1: Composition of M1 between 1850 and 1910



Source: Swiss Economic and Social History Database Figure 1 bears an additional interesting insight. The rise of deposits precedes that of banknotes. This points to the observation made above that the banks were successful in building up trust. Consumers and firms chose to deposit their money because of the classical motives: security, cost reductions of storage and, of course, interest.

2 Lessons for today's design of monetary policy

2.1 Currency competition

Banknote competition failed in its core ground. It did not help to resolve the problems associated with metallic standards. True, there was low inflation on average, but even when we take measurement errors into account, there was a very high variability in inflation. On the positive side, inflation variability was no worse than with comparable currencies based on coins. Most importantly, the banknote system remained inefficient and small. Hence, banknotes served only very incompletely their function as a medium of exchange. The advantage of competition simply was not realized. Although there were many note-issuing banks, it seems reasonable to assume that consumers could not take advantage of possible product differentiation of banknotes. Simply, there was no diverse

and broad supply and use of banknotes. Even when banknote competition was partly successful in achieving price stability, the episode shows clearly that a standardized currency is necessary for fiat money. In a modern economy, we need fiat money to maintain a stable inflationary regime and to stabilize business cycles.

2.2 Pitfalls of over-regulation

A second lesson concerns the pitfalls of regulation. As outlined above, financial instability and problems with over-issue after 1881 led to regulatory restrictions. These eliminated the advantages of competition, paving the way for a banknote monopoly. The Act of 1881 eliminated the possibilities for product differentiation and removed the incentives to gain reputation. This reveals a general lesson: if regulation is not well-designed, "competition" under heavy regulation can no longer exert its benefits. While the issuing of banknotes functioned very well in the case of the SNB, one should be cautious with regulatory side-effects in other applications. A recent example is bank lending regulations which force banks to follow similar policies in mortgage lending. Between 2015 and 2017, we observe price increases in segments where the regulations are less binding – real estate prices rose in the periphery and for rental homes.

More generally, regulated competition risks to be associated with complexity instead of innovation. There are many suppliers and possibly annoying marketing activities – take, for example, the regulated competition for basic medical insurance amongst Swiss health insurance providers. Given the restricted competition, there is increased support for a monopoly supplier in the political equilibrium, with all its detrimental effects on product diversity and innovation.

2.3 Risks of a monopoly supplier

It is beyond question that the stabilization needs and the democratic processes of a modern economy need a stable inflationary regime. The aim of stabilization policy is to maximize welfare. Price stability minimizes the cost of inflation. A stable inflationary environment reduces demand volatility, in particular. In the simple benchmark model, this is accomplished by conducting a monetary policy which minimizes uncertainty through output (and therefore consumption) volatility. To achieve this stabilization in practice, fiat money is needed, which can only be generated by a single monopoly supplier of money because of the strong network effects.

In a small open economy, the evolution of the real exchange rate plays an important role in maintaining a stable inflationary environment. However, this puts the central bank in a more challenging position since the monopoly banknote supplier may create concentrations of risk in pursuing the currency policy. In a phase of significant movements in the exchange rate – as Switzerland has experienced since the financial crisis – the central bank needs to accommodate monetary policy to influence the exchange rate. In the case of Switzerland, the appreciation tendencies were so large that a single institution, the SNB, had to do so. Between September 2011 and January 2015, the SNB set a lower bound of 1.20 Swiss francs against the euro. Since appreciation tendencies persisted, the actual exchange rate stayed close to this value and the SNB had to accumulate high levels of foreign exchange reserves. Since the exchange rate was de facto pegged to this nominal value and inflation differentials were very small between Switzerland and the Eurozone, the SNB alone had to decide on the "true" real exchange rate. When the lower bound was lifted in January 2015, the reserves continued increasing to prevent the Swiss franc from overvaluing too strongly. As a result, the SNB invested de facto large parts of the Swiss current account surplus – at least in net terms. Obviously, the difficulty lies in the fact that a single institution has to decide on important real macroeconomic variables for a prolonged period of time. Standard economic theory postulates that such variables should be determined in markets. A single agent necessarily falls short of the heterogeneous set of market participants when it comes to aggregating the dispersed information in the market. While the SNB certainly does a good job, it is very difficult to determine the equilibrium level of the real exchange rate, and even more complicated to determine the risk appetite of foreign direct investment.

The high level of currency reserves makes the monetary policy itself more difficult. Foreign reserves of the SNB exceeded annual GDP in 2017. This creates an additional constraint on monetary policy. In following its aim of stabilizing the economy, the central bank must now take the potential gains or losses in the valuation of the currency reserves into account. While all central banks have currency reserves, their size relative to GDP was small enough in the past that this constraint did not matter quantitatively. In the Swiss case, a 10% rise in the nominal exchange rate would yield losses of more than 10% of annual output. Such a loss has real effects on the economy, because it reduces future dividends of the SNB to the government. The potential losses are so high that they are likely to exceed the possible cost of fluctuations. *Imrohoroglu* (2008) surveys the literature on the welfare costs of business cycles, starting with the seminal contribution by Lucas (2000). While Lucas found very small values, even the largest estimates of how much consumers would be willing to pay to eliminate the fluctuation risk do not exceed 5% of average consumption.

Hence, the benefits of stabilizations are likely to be smaller than its costs if the SNB has to buy several hundreds of billions in foreign currencies to prevent the Swiss franc from appreciating, if they could also buy the foreign currency at a price, say, 10% lower. The previous international economics literature used to argue that an appreciation should be prevented forever. However, and as we outlined in Föllmi and Schnell (2016), this is not credible if a central wants to keep its own currency and not adopt a foreign currency. To pursue a welfare-maximizing policy, it is advisable to reduce foreign reserves in times of average or good economic performance. This would relieve the central bank from having to solve a complex monetary policy optimization problem under constraints and allow it to focus on its core mandate – price stabilization to reduce output fluctuations.

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