

Bordo, Michael D.

Article

Currency competition in Switzerland

Aussenwirtschaft

Provided in Cooperation with:

University of St.Gallen, School of Economics and Political Science, Swiss Institute for International Economics and Applied Economics Research

Suggested Citation: Bordo, Michael D. (2017) : Currency competition in Switzerland, Aussenwirtschaft, ISSN 0004-8216, Universität St.Gallen, Schweizerisches Institut für Aussenwirtschaft und Angewandte Wirtschaftsforschung (SIAW-HSG), St.Gallen, Vol. 68, Iss. 1, pp. 101-108

This Version is available at:

<https://hdl.handle.net/10419/231249>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

Currency competition in Switzerland

Michael D. Bordo

Rutgers University, NBER and the Hoover Institution, Stanford University

The recent interest by many central banks in digital currency and the role of the central bank in possibly providing them and regulating them as well as the concern over privately issued crypto currencies like bitcoin, has resonance to the monetary history of many advanced countries in the early nineteenth century when multiple competing banks issued notes based on specie coins of varying quality. The currency history of Switzerland in the nineteenth century illustrates the evolution from competing banks of issue to the creation of the Swiss National bank in 1907 with a monopoly of the currency. The public good benefits of as central bank issued currency convinced the early classical economists on the basic role of central banks. Today the upsurge of privately produced crypto currencies with variable nominal and real values makes a case for the creation by central banks of their own digital currencies.

JEL codes: E42, E5, N14

Key words: central banking, free banking, digital currencies, properties of money

There has been very recent interest from central banks in digital currencies and the role of the central bank in providing and regulating them (including Norges Bank, Riksbank, Bank of Canada, Bank of England, Swiss National Bank). Related to this issue is the rise of private digital (virtual) currencies based on the block chain technology, such as Bitcoin and Ethereum, and the policy issue of how to deal with them.

This harks back to a very old debate in monetary economics on the choice between central banking and free banking. This debate, which goes back to Adam Smith in the 18th century, Walter Bagehot in the 19th century and Vera Smith in 1936, was revived in the 1970s and 1980s. There were three issues in the debate: 1) Would a free banking system provide price stability? 2) Would a free banking system provide an efficient payments mechanism? 3) Would it provide financial stability? The classical answer to all of these questions was no.

The case for free banking was revived by the modern Austrian School with FRIEDERICH HAYEK's (1976) case for currency competition and historical and theoretical work on free banking by LAWRENCE WHITE (1984), GEORGE SELGIN (1988) and ROLAND VAUBEL (1984), among others. BENJAMIN KLEIN (1974) buttressed the Austrian case by arguing the classical proposition that leaving the provision of bank notes to perfectly competitive private firms would lead to an indeterminate price level, introducing the concept of brand names and imperfect competition into the market for bank notes. With brand names, banking firms would have an incentive not to over-issue notes and capture all of the seigniorage

revenue as under the Smithian case for regulating the issue of bank notes by a government authority.

Much of this later work examined the historical free banking experience of Scotland (1750 to 1844), the United States (1837 to 1861), Switzerland and elsewhere to argue the case against the classical view that the provision of fiduciary currency was a public good (or natural monopoly) which could only be entrusted to a government authority.

A later analysis by FRIEDMAN and SCHWARTZ (1986) supported the classical view that outside money (currency) had to be provided by a government authority to ensure a stable unit of account and a nominal anchor for the monetary system, while inside money could be provided by the private sector with limited regulation.

Within this context, BALTENSPERGER and KUGLER (2017) examine the Swiss experience with free banking (currency competition) in the eight decades before the establishment of the Swiss National Bank in 1907.

In this paper, I evaluate Baltensperger and Kugler's treatment of currency competition in 19th-century Switzerland and then discuss the issue from the perspective of the modern debate over whether digital currency should be provided by the private sector or the central bank. I conclude that digital currencies such as Bitcoin and Ethereum can provide efficient services as a medium of exchange as well as anonymity, but not as an effective unit of account or a store of value which, as the classical economists long argued, needs to be provided along with the nominal anchor by a central monetary authority.

1 The Swiss experience with currency competition

Switzerland had different forms of free competition in the provision of bank notes from 1821 to 1906. It went through three phases in an evolution towards the establishment of a government monopoly of the currency by the Swiss National Bank in 2007.

Phase 1 from 1821 to 1850 was characterized by unfettered competition in the issue of bank notes. In this period, cantonal (and private) banks issued notes convertible into specie coins. Most of the coins came from neighboring countries. Banks would issue notes with different denominations. Currency competition would ensure that the notes would be backed by the highest-quality specie coins (in terms of delivering the most stable purchasing power of money).

It is important to note that early Swiss currency competition is not quite what HAYEK (1976) had in mind because, like the experience in most countries in the 19th century, the coins were convertible into specie at a fixed price, hence it was a fixed exchange rate regime. Hayek, on the other hand, was discussing a world of fiat money under floating exchange rates.

The evidence that the authors present for this period is that currency competition worked in the sense that consumers would choose the notes that offered the most stable purchasing power. This would avoid the over-issuing that the classical economists worried about. They also show that the system provided financial stability, with few bank failures and the absence of banking panics. However, the system was costly, reflecting high information costs, the holding by banks of non-interest-bearing specie reserves (which can be viewed as a tax), redemption and administration costs. This meant that there was very limited demand to use notes instead of coins, especially for local transactions and in agriculture (the largest sector in the economy). The payments system was therefore inefficient.

In the second phase, from 1851 to 1881, a new standardized Swiss franc was introduced with the same features of the French silver franc. This innovation eliminated the information problem of evaluating the quality of foreign coins backing note issue. This encouraged increased use of notes relative to coins, but there still was a problem of financial instability because note-issuing banks could fail for other reasons. A centralized Swiss Note Exchange was established in Zurich in 1876 with 24 members from across the country. It was similar to clearing houses that had been set up in the United Kingdom, United States and elsewhere. It was not regulated by the federal government until 1881. According to Nyborg,¹ in the 1880s conflict among the note exchange members (for example, note dueling) impeded its operation, which in turn led to inefficiency in the payments system. During this period, the cantons imposed reserve and capital requirements on the banks. WEBER (1992) argues that free banking led to both price stability and financial stability in this period, but the payment system was still inefficient because of the use of multiple currencies.²

In the third phase, from 1881 to 1906, the inefficiency of the payments system led to a major reform – the Federal Bank Notes Act of 1881 – which made note issuance more homogeneous. The Act imposed regulations standardizing note denominations and creating uniform reserve requirements on note issuing banks across the country. This achieved the intended effect of improving the efficiency

1 Private correspondence in 2017.

2 It is unclear to me whether there were counterfeit detectors, as in the US free banking period. These were magazines that identified fraudulent and broken bank notes. They also gave the discounts on bank notes which varied directly with the distance from the redeeming banks (GORTON, 1985).

of the payments system and increasing the acceptance of bank notes relative to coins.³ However, the authors argue that these regulations reduced the advantages of competition that had occurred in the preceding phases. The role of brand names became less important, and there was less monitoring and discipline by the marketplace. They argue that this led to the potential problem of note over-issue and greater financial instability. This in turn led to pressure for the nationalization of note issue and the eventual creation of the Swiss National Bank.

An important conclusion from their study is that the determinants of the emergence of the Swiss National Bank in 1907 differed from those in many countries that had established central banks in earlier centuries. The key determinants of the precedent central banks (for example, the Bank of England and the Riksbank) included the role as the government's financier and, later, as manager of the gold standard (BORDO and SIKLOS, 2017). In the Swiss case, much like the US Federal Reserve System founded in 1914, the determinants were the efficiency of the payments system, financial stability and the need for a lender of last resort.

In sum, the Swiss experience of currency completion and free banking was mixed. It promoted price stability (which in turn may have more to do with the fact that notes were fully convertible into specie) and financial stability, but the payments system was inefficient. In many respects, the Swiss experience was comparable to Scotland's experience with free banking in 1750 to 1844 (WHITE, 1984), although the Scottish system had special features that differed from the Swiss case. These included the facts that the Scottish system was dominated by several large banks which forced the other banks to redeem their notes in specie, and that shareholders had unlimited liability. It was superior to the US Free Banking System (1837 to 1861), which was based on small unit banks with lax regulation in many states and, hence, characterized by frequent bank failures and several panics. Nonetheless, other research has shown that the costs of free banking in the United States were much lower than was traditionally believed (ROCKOFF, 1975; 1986; 1991; ROLNICK and WEBER, 1983; 1984).

3 During this period, demand deposits began to be accepted more and more relative to currency of any type.

2 The modern analogy: Digital currency

The old debate over free versus central banking has a modern analogy in the issue of central bank versus private digital currency. Some of the forces leading to the nationalization of the Swiss coinage and the creation of the Swiss National Bank are present today, reflecting new advances in technology. In the 18th and 19th centuries, the innovation of bank notes provided a social saving over the resource costs in the use of commodity coins similar to the use of digital currency today.

Digital currency is an asset stored in electronic form which can serve essentially the same function as physical currency, namely, facilitating payments transactions (BIS, 2015). At present, the only forms of digital currency in wide circulation are virtual currencies created by private individuals or entities. Bitcoin is the most prevalent example, with an outstanding value of about \$15 million in early 2017; Ethereum is another example. Both of these virtual currencies use a distributed ledger technology. Blockchain is the underlying permission ledger platform for Bitcoin, so named because it is a chain of blocks of encrypted information that informs a ledger (HODRICK, 2017).

These virtual currencies, which facilitate anonymous transactions, have a number of intrinsic limitations. First, the total supply of Bitcoin follows a predetermined path with a fixed limit; consequently, its value can vary markedly over time in response to fluctuations in demand or speculative motives, similar to the price of gold and other physical commodities. In other words, it does not provide an effective unit of account or store of value. Second, Bitcoin creation and verification involves “mining” activities that consume substantial electrical power. In some sense, these flaws resonate with arguments made centuries ago for why fiduciary currency involves a substantial social saving over commodity money and, moreover, that it is a natural monopoly to be run by a monetary authority. They also relate to suggestions by Irving Fisher, Marshall and others for plans to stabilize fluctuations in the real price of gold.

Like the nationalization of the Swiss currency by the SNB in 1907, a number of central banks – including the Norges Bank, Riksbank and Bank of Canada – are actively exploring the initiation of a sovereign digital currency that would serve as legal tender and could be used by anyone. In contrast to Bitcoin, the value of the central bank’s digital currency would be fixed in nominal terms. Moreover, the central bank’s digital currency could be implemented using an account-based system, thereby avoiding the resource-consuming “mining” operations involved in generating virtual currencies (BORDO and LEVIN, 2017). Allowing private individuals and firms to hold accounts directly at the central bank is by no means unprecedented. It was done by the Bank of England and the Riksbank in the past.

BORDO and LEVIN (2017) relate the design principle of a central bank digital currency (CBDC) to the traditional functions of money: medium of exchange, unit of account and store of value.

2.1 Medium of exchange

Any individual, form or organization may hold funds electronically in a digital currency account at the central bank. This digital currency will be legal tender for all payment practices – public and private. The central bank will process such payments by debiting and crediting the payee's account. Such payments can be practically instantaneous and costless, as well as completely secure. Moreover, the central bank will strictly protect the privacy of all such transactions. Facilitating universal access to a digital currency is parallel to a physical currency, which can be held by anyone and used in any financial transaction. Moreover, as mentioned above, there is precedence in individuals and firms having accounts at central banks. Establishing a digital currency will practically eliminate payment transactions costs for businesses and consumers. In effect, a digital currency is an example of where the public sector has a natural role in fostering competition and facilitating access to a practically free resource that has significant externalities. The theoretical rationale for this can be traced back to the classical economists who, as mentioned above, concluded that currency is a natural monopoly that should be regulated by government.

2.2 Unit of account

The CBDC would serve as a stable unit of account that facilitates the financial decisions of individuals and businesses. The monetary policy framework would ensure that the value of the CBDC remains stable over time in relation to a general index of consumer prices. This design would evoke the most appealing features of the classical gold standard while avoiding its disadvantages and pitfalls. It would incorporate some of the themes of neoclassical economists like Jevons, Marshall and Wicksell to stabilize the price level under the gold standard.

2.3 Store of value

The CBDC would provide a secure store of value for economic agents who wish to hold such funds at the central bank. Like FRIEDMAN (1960), BORDO and LEVIN (2017) posit that publically issued money should bear the same rate of return as other risk-free assets. Hence, the central bank could easily pay interest

on the CBDC. Doing so would release the constraint of the zero lower bound on the nominal interest rate, and the interest rate on CBDC could serve as the primary tool of monetary policy. Moreover, with a non-interest-bearing digital currency, there would no longer be any need to maintain an inflation buffer and, consequently, the price level target could be fixed and constant over time.

BORDO and LEVIN (2017) discuss the conduct of monetary policy under a CBDC. It would be rule-based (like the Taylor Rule) and would target the price level rather than the inflation rate, as is done at present.

Thus, the introduction of a CBDC could in many ways generate the same benefits as creating a standardized national currency regulated by the central bank (as the SNB did from 1907 to provide stability in the purchasing power of the Swiss franc). The SNB was the most successful central bank in the 20th century in achieving this goal (BORDO, HELBLING and JAMES, 2007).

References

- BAGEHOT, WALTER (1873), *Lombard Street: A description of the money market*, Scribner, Armstrong & Company, New York.
- BALTENSPERGER, ERNST and PETER KUGLER (2017), *Swiss Monetary History since the Early 19th Century*, Studies in Macroeconomic History, Cambridge University Press, Cambridge, UK.
- BANK FOR INTERNATIONAL SETTLEMENTS (BIS) (2015), Digital Currencies, Committee on Payments and Market Infrastructures, November.
- BORDO, MICHAEL D., THOMAS HELBLING and HAROLD JAMES (2007), Swiss exchange rate policy in the 1930s. Was the delay in devaluation too high a price to pay for conservatism?", *Open Economies Review* 18 (1).
- BORDO, MICHAEL D. and ANDREW LEVIN (2017), Central Bank Digital Currency and the Future of Monetary Policy, NBER Working Paper No. 23711, Cambridge, MA.
- BORDO, MICHAEL D. and PIERRE L. SIKLOS (2017), Central Bank Credibility before and after the Crisis, *Open Economies Review* 28 (1), pp. 19-45.
- FRIEDMAN, MILTON (1960), *A Program for Monetary Stability*, Fordham University Press, New York.
- FRIEDMAN, MILTON and ANNA J. SCHWARTZ (1986), Has government any role in money?, *Journal of Monetary Economics* 17 (1), pp. 37-62.
- GORTON, GARY (1985), Banking theory and free banking history: a review essay, *Journal of Monetary Economics* 16 (2), pp.267-276.
- HAYEK, FRIEDRICH (1976), *Denationalization of Money*, Institute of Economic Affairs, London.

- HODRICK, LAURIE S. (2017), Monetary Policy and Payments: The Distributed Ledger Technology, doctoral dissertation, Stanford Law School.
- KLEIN, BENJAMIN (1974), The Competitive Supply of Money, *Journal of Money, Credit and Banking* 6 (4), pp. 423-453.
- ROCKOFF, HUGH (1975), *The Free-Banking Era: A Reconsideration*, Arno, New York.
- ROCKOFF, HUGH (1986), New Evidence on Free Banking in the United States, *American Economic Review* 76 (September), pp. 886-889.
- ROCKOFF, HUGH (1991), Lessons from the American Experience with Free Banking, in: CAPIE, FORREST and GEOFFREY WOOD (Editors), *Unregulated Banking: Chaos or Order?*, Macmillan, London.
- ROLNICK, ARTHUR J. and WARREN E. WEBER (1983), New Evidence on the Free Banking Era, *American Economic Review* 73 (5), pp. 1080-1091.
- ROLNICK, ARTHUR J. and WARREN E. WEBER (1984), The Causes of Free Bank Failures: A Detailed Examination, *Journal of Monetary Economics* 14 (3), pp. 267-91.
- SELGIN, GEORGE A. (1988), *The theory of free banking: Money supply under competitive note issue*, Rowman & Littlefield, Lanham, MD.
- SMITH, ADAM (1776), *The Wealth of Nations*.
- SMITH, VERA C. (1936), *The Rationale of Central Banking*, Liberty Fund, Indianapolis, IN.
- VAUBEL, ROLAND (1984), The Government's Money Monopoly: Externalities or Natural Monopoly?, *Kyklos* 37 (1), pp. 27-58.
- WEBER, ERNST J. (1992), Free banking in Switzerland after the Liberal Revolution in the 19th Century, in: DOWD, KEVIN (Editor), *The experience of free banking*, Routledge, London.
- WHITE, LAWRENCE H. (1984), *Free banking in Britain: Theory, experience, and debate, 1800-1845*, Cambridge University Press, Cambridge, UK