The financial relations between the Nationalbank and the government

The privilegirte oesterreichische National-Bank was founded in 1816, but the central government has held a major share in the Austrian central bank only since 1955. However, the government has always participated significantly in the Nationalbank's profits via various channels. In this paper we analyze the financial relations between the Nationalbank and the Austrian (or Austro-Hungarian) government over the last 200 years. While today, the Austrian government's share in the effective profit distribution of the Oesterreichische Nationalbank (OeNB) is 100% (and thus much above 19th-century levels), the OeNB's holdings of Austrian government debt were relatively small from the mid-1950s until recently. The Eurosystem's Public Sector Purchase Programme is currently leading to a significant increase in holdings of Austrian government debt recorded at OeNB's balance sheet. It will likely go somewhat above the levels observed from the 1830s to the 1890s, when average inflation was around ½%.

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The currency reform of 1816 involved the transfer of the right to issue banknotes to a fully privately owned bank, the *privilegirte oesterreichische National-Bank*. The Nationalbank formally remained in (majority) private ownership until the Nationalbank Act was passed in 1955. It was fully nationalized only in 2010. However, in compensation for granting the Nationalbank the privilege to issue banknotes, the Austrian government typically had a say in the appointment of central bank managers and has always participated in the Nationalbank's profits.

In the following article, we will – based on Jobst and Kernbauer (2016) – discuss the development of the relations mentioned above between the Nationalbank and the government: Section 1 sketches the relationship between central banks and governments in general. Section 2 focuses on the relations between the Nationalbank and the Austrian (or Austro-Hungarian) government, in particular its financial relations. Section 3 briefly discusses the link between this relationship and the periods of very high inflation around the two World Wars. Section 4 concludes.

1 The relationship between central banks and governments in general

While formally independent, central banks in most western economies are now owned by the government. Even if central banks are privately owned, the way they function differs from that of other private sector entities as economic ownership may differ from formal ownership. The most important rights of the economic owners of a typical private corporation are the right to participate in profits and the right to exercise influence on the appointment of managers (typically via the non-executive and/or supervisory board).

Both the appointment of managers and profit participation may be regulated in special laws, like the current Nationalbank Act 1984 (Federal Law Gazette I No 50/1984) in Austria or

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Box 1

Examples of partly privately owned central banks in the euro area

National Bank of Belgium[1] (Nationale Bank van België / Banque nationale de Belgique)

The Belgian government owns 50% of shares in the National Bank of Belgium (NBB); the remaining 50% of shares are privately owned. The NBB is directed by the Governor, who presides over the Board of Directors and the Council of Regency[2]. The Governor and Directors are appointed by the Belgian King upon proposal by the Council of Regency.

The NBB's share capital amounts to EUR 10 million. The Belgian government holds 50% of the 400,000 shares; the remainder is listed on the Euronext Brussels stock exchange. The NBB's profit is distributed to the shareholders as a first dividend that amounts to 6% of the share capital and hence is independent of the NBB's profits, and a second dividend, which is distributed after the allocation to the reserve fund. The Council of Regency has set the second dividend at 50% of the net proceeds from the portfolio the NBB has held as a counterpart to its reserves (statutory portfolio) since 2009. The remainder is allocated to the government; it usually amounts to approximately 40% of the distributed profit. In 2015 around 81.5% of the NBB's overall disbursed profits were distributed to the state; if corporate income tax is taken into account, this share rises to 95%.

The NBB's profit is subject to corporate income taxation, except for the part that is, in the last step, allocated to the government. While being inherently volatile, net profits have exceeded the share capital by a factor of 50 to almost 100 over the past few years.

Banca d'Italia[3]

The Banca d'Italia is a public law institution (Banca d'Italia, 2016b), held by eligible, (mostly) private entities. It is managed by the Governing Board, which is chaired by the Governor. The Governor is appointed by the President of the Republic, upon resolution by the Council of Ministers and after hearing the opinion of Banca d'Italia's Board of Directors.

Banca d'Italia's share capital amounts to EUR 7,500 million with a unitary nominal value per share, established by law, of EUR 25,000. Shares may be held by Italian banks, (re-)insurance firms, eligible foundations, social security institutions and eligible pension funds. Hence, the Italian government only holds shares indirectly via social security institutions. However, the statute of the Banca d'Italia affirms that the Shareholders' Assembly has no power of intervention with respect to the performance of Banca d'Italia's institutional functions.

The Board of Directors distributes net profits up to a maximum of 6% of Banca d'Italia's share capital to shareholders, and up to 20% of net profits to ordinary and special reserves, respectively. The remainder is disbursed to the government. In 2015 approximately 86% of overall disbursed profits were distributed to the government; if corporate income tax is taken into account, this share rises to 90%. Banca d'Italia's profit is subject to corporate income taxation. Its yearly net profits amounted to up to two-thirds of share capital in the past few years, while showing a high degree of volatility.

[1] *See National Bank of Belgium (2016).*

[2] *The Council of Regency consists of the NBB's Board of Directors and ten members representing the Belgian socioeconomic world, who have to be elected by the General Meeting upon proposal by the social partners and the Ministry of Finance.*

[3] *Banca d'Italia (2016a).*

the Federal Reserve Act in the United States. While the Oesterreichische Nationalbank (OeNB) was fully nationalized in 2010, other central banks in the euro area are still partly privately owned.[2] Box 1 provides details on the (partly) privately owned Eurosystem central banks of Belgium and Italy, where the government participates disproportionally in central bank profits.

Historically, one major rationale for setting a central bank up as a "privately held institution" was that the participation of private shareholders in the appointment of managers should signal a limited influence of the government in the bank's decision-making process and thus demonstrate the intention to create an institution that would prevent the government from intervening in a way harmful to monetary stability. Furthermore, private shareholders also implied that private capital was raised for setting up such an institution. However, a central bank's ownership structure – in particular private ownership – is no longer an argument in the discussion of, or an indication for, central bank independence.

Today, the extent and nature of central bank independence has to be assessed on the basis of the relevant legal provisions.[3] In the EU, the independence of the European Central Bank (ECB) and the national central banks (NCBs) is laid down in the Treaty establishing the European Union and in the Statute of the ESCB and of the ECB.[4]

2 The relations between the Nationalbank and the government

Signaling independence from the state as well as capital needs undoubtedly played a role in the foundation of the *privilegirte oesterreichische National-Bank* in 1816. In the years leading up to the establishment of the Nationalbank, lasting and ever worsening inflation, eventual state bankruptcy and the return of inflation just thereafter had destroyed faith in the currency (Jobst and Kernbauer, 2016, p. 32).

2.1 Formal ownership

On June 1, 1816, the Nationalbank was incorporated as a private stock corporation, with an autonomous management

[2] Also the Bank of England, founded in 1694, as well as the Banque de France and the De Nederlandsche Bank, which had both been founded only a couple of years before the privilegirte oesterreichische National-Bank, were set up as privately held joint stock corporations. These three institutions were nationalized after WW II. In contrast, the U.S. Federal Reserve and the Swiss National Bank have remained (partly) privately held institutions to this day.

[3] For a discussion of modern academic literature on central bank independence, e.g. Siklos (2007), Cukierman (2008) and Fischer (2015).

[4] Article 3 of the Treaty on European Union (TEU) lays down the EU's economic policy objectives, including "balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress." Economic and Monetary Union (EMU) is based on an independent stability-oriented monetary policy, whose primary objective is to maintain the price stability of the euro under Article 127(1) of the Treaty on the Functioning of the European Union (TFEU). Articles 127 through 133 TFEU and the Statute of the ESCB and the ECB call for personal, functional, financial and legal independence of the ECB and the NCBs. Article 130 TFEU states: "When exercising the powers and carrying out the tasks and duties conferred upon them by the Treaties and the Statute of the ESCB and of the ECB, neither the ECB, nor a national central bank, nor any member of their decision-making bodies shall seek or take instructions from Community institutions or bodies, offices or agencies, from any government of a Member State or from any other body." Article 7 of the Statute of the ESCB and the ECB echoes this statement. The ECB is free to set its policy instruments with the aim of achieving its primary objective of price stability as stipulated in the Treaty. To protect the functional independence of the ECB and the NCBs, Article 123 TFEU stipulates that the monetary financing of budget deficits is prohibited. Also Article 125 TFEU – the prohibition to bail out governments – is to be seen in the context of the functional independence of the ESCB. Hence, in the EU the principle of central bank independence has a quasi-constitutional basis (Bini Smaghi, 2007).

acting on behalf of its large number of shareholders (Jobst and Kernbauer, 2016, pp. 37, 252). While the regulations governing the Nationalbank were to change multiple times over the decades to follow (including the era of the *Oesterreichisch-ungarische Bank*, i.e. the Austro-Hungarian Bank), formal ownership was 100% private until after World War I (WW I).

In the interwar period, the OeNB was still a private corporation, but the Austrian government held a minority stake (Kernbauer, 1991, p. 75f, 420). In 1955, the Austrian government became a 50% shareholder and the remaining 50% of shares were allotted to selected Austrian financial institutions as well as to social partners like the chamber of commerce and the Austrian Trade Union Federation (Nationalbank Act 1955). The allocation of shares between the state and the private sector remained unchanged until 2006 (Jobst and Kernbauer, 2016, p. 252).

After the Austrian government had to step in to support the Austrian bank BAWAG P.S.K. in 2006, it was entitled to acquire the shares BAWAG P.S.K. held in the OeNB as well as those held by BAWAG P.S.K.'s majority owner, the Austrian Trade Union Federation. After the transfer of these shareholdings, the government held roughly 70% of shares in the OeNB (Jobst and Kernbauer, 2016, p. 253). In 2010, the government bought the remaining shares that were still privately held. This change in ownership was institutionalized by law in 2011 (Federal Law Gazette I No 50/2011), when the federal government (*Bund*) was defined as the only (possible) shareholder of the OeNB.

2.2 Influence on the appointment of managers and on Nationalbank policy

Throughout the times of the Habsburg empire, the Governor of the Nationalbank was appointed by the Emperor (Jobst and Kernbauer, 2016, p. 270). However, private shareholders always had a say in the appointment of the Governing Board (or General Council[5]), with the extent of their influence depending on the Nationalbank's applicable statute at the time (according to different versions of the statute, for instance, other Board members were appointed either directly by the shareholders or by the Emperor based on suggestions by the shareholders; Jobst and Kernbauer, 2016, pp. 37, 40, 42). As the Nationalbank's strategy was partly determined by its respective statutes, the government, which set the statutes, always had some influence on the Nationalbank's policy. The extent of government influence varied over time; it was expanded, for instance, in the charter of 1841 (Jobst and Kernbauer, 2016, p. 42) and reduced in the 1863 charter (Jobst and Kernbauer, 2016, p. 78).

In 1878, the Nationalbank was transformed into the Austro-Hungarian Bank. As the Austrian and Hungarian governments were rarely able to agree, the Nationalbank's independence grew, in fact, during the time of the Austro-Hungarian Empire (Jobst and Kernbauer, 2016, p. 113f). This was to change dramatically during WW I (and in its aftermath), when monetary financing was sizeable (section 2.3).

After WW I, the Oesterreichische Nationalbank (OeNB) was (re)founded in 1922 as a (private) stock company

[5] *The charter of 1878 (establishment of the Austro-Hungarian Bank) introduced a General Council, which had authority over the Austrian and the Hungarian directorate (Jobst and Kernbauer, 2016, p. 120).*

that became fully operational in 1923. According to its statutes, which had to respect the requirements of the League of Nations, it was fully independent from the government (Kernbauer, 1991, p. 57). Its President was appointed by the Federal President (upon proposal by the government), while the other thirteen members of the General Council were nominated by the OeNB's shareholders (Jobst and Kernbauer, 2016, p. 160, and Kernbauer, 1991, p. 76f). However, as foreign creditors would have preferred a foreign President, the OeNB was asked to install the position of a Foreign Advisor (Kernbauer, 1991, p. 77). This advisor had the rank of a co-president and his agreement was required for any measures related to central bank policy (Jobst and Kernbauer, 2016, p. 161).

Right after the annexation of Austria to the German Reich in March 1938, the OeNB was liquidated. The German Reichsbank replaced the OeNB as the new monetary authority. Henceforth, the OeNB's Governing Board had to act on behalf of the German Reichsbank (Jobst and Kernbauer, 2016 p. 189ff).[6] After the end of WW II, when Austria was occupied by the Allied Forces between 1945 and 1955, the reinstated OeNB had a provisional statutory framework based on its pre-1938 charter (Jobst and Kernbauer, 2016, p. 252), but all General Council members were appointed by the government.

The 1955 Nationalbank Act established the state as a 50% shareholder. Eight of the fourteen members of the General Council (including the President and the two Vice Presidents) were appointed by the Austrian government or the Federal President; the six remaining members were selected by the shareholders. Important monetary policy decisions (e.g. exchange rate policies) were typically made in conjunction with the Ministry of Finance (Jobst and Kernbauer, 2016, p. 226).

When the OeNB joined the Eurosystem in 1999, this framework changed fundamentally as monetary policy decisions have since been taken by the Governing Council of the ECB. The OeNB is represented on the Governing Council by its Governor (whose position has been strengthened, Jobst and Kernbauer, 2016, p. 250ff), who is appointed by the Federal President upon proposal by the government (based on a shortlist prepared by the General Council).

2.3 Government debt holdings were consistently high throughout the 19th century and peaked after the World Wars

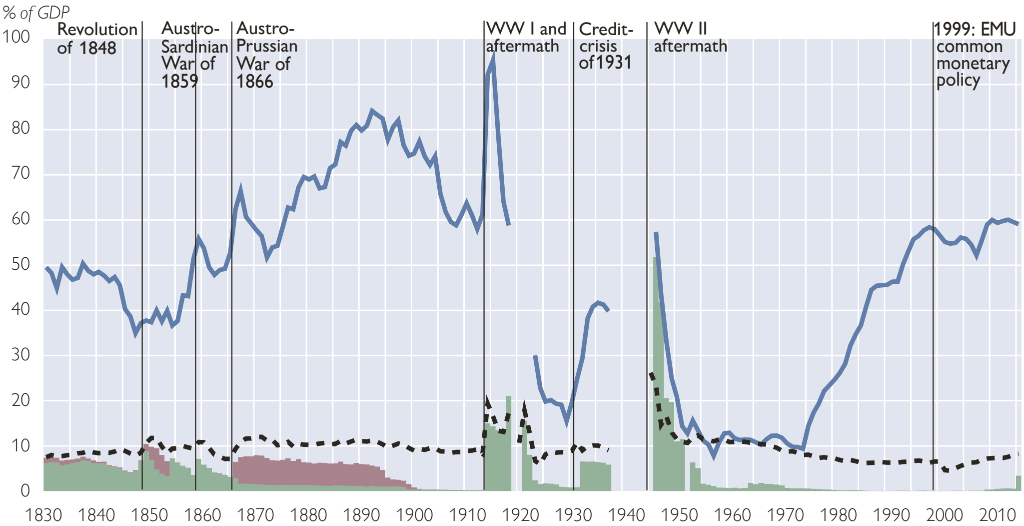
Participation of the government in the Nationalbank's profits[7] has not always been in the form of dividends and corporate income tax revenue. Until 1878 the government did not directly participate in the official profits of the Nationalbank at all. However, the government was effectively compensated for the privileges given to the *privilegirte oesterreichische National-Bank* via loans at concessionary rates. Furthermore, the government from time to time issued banknotes itself (so-called government paper money, see below). These were typically used as a legal tender in parallel to the Nationalbank's banknotes, and could be exchanged at

[6] *More than two dozen OeNB employees were immediately dismissed for political or "racial" reasons, others were forced to retire or demoted (Rathkolb and Venus, 2013).*

[7] *The bulk of the OeNB's profits have always been gained from seigniorage income. Insofar as the OeNB has undertaken commercial activities, earnings from these activities have contributed to profit generation.*

Chart 1

Domestic public debt held by the Nationalbank



Source: OeNB, ECB, BMF, Jobst and Scheiber (2014), Jobst and Kernbauer (2016).

the Nationalbank. These issuances of government paper money are economically similar to interest-free loans from the central bank to the government. Loans to the government were often (temporarily) expanded in times of high government financing needs, which were often caused by the participation in military conflicts. Chart 1 shows the development of the Nationalbank's effective holdings of domestic government debt (in relation to GDP) since 1830[8]. Chart A1 in the annex compares these effective debt holdings to the size of the Nationalbank's balance sheet total.

From 1816 to 1847, the average interest on these concessionary loans from the Nationalbank was about 2 to 3 percentage points lower than the market yield on government bonds. Furthermore, the Nationalbank also had to convert old government paper money that had been issued before the currency reform (which declined significantly in the early 1820s; see chart 3.4 in Jobst and Kernbauer, 2016).

During the revolution of 1848, direct loans by the Nationalbank to the state increased (Jobst and Kernbauer, 2016, p. 72) and the government again issued government paper money (Jobst and Kernbauer, 2016, p. 71). Upon decision of the government, this government paper money was redeemed by the Nationalbank in 1854, which increased the government debt explicitly held by Nationalbank (Jobst and Kernbauer, 2016, p. 74f and chart 4.2). Loans granted to the government went up again

[8] *Charts 1 and 4 only start in 1830 as GDP data were not available for the time before that. Moreover, the terms "central government debt" (charts 1 and 5) and "central government budget deficit" (chart 4) refer to administrative data, which are subject to changes in definitions and should be therefore treated with some caution.*

in 1859 in the course of the Austrian war against Piedmont-Sardinia (Jobst and Kernbauer, 2016, p. 76).

With the 1863 charter, the state committed to redeem most of its liabilities against the Nationalbank by the end of 1866, except for an unremunerated amount of fl. 80 million at the disposal of the state in exchange for the monopoly right to issue banknotes. While this target was reached in 1866, again government paper money was issued to finance the Austro-Prussian War (Jobst and Kernbauer, 2016, p. 80f).[9]

When explicit profit sharing was introduced in 1878, preferential lending to the government was no longer necessary to achieve a participation in profits. Now the state obtained a share of all profits in excess of a minimum return to shareholders (see section 2.4). Nevertheless, government paper money remained in circulation until the 1890s (Jobst and Kernbauer, 2016, p. 129), just before the currency switch from florins to crowns. So in the very early 20th century effective lending from the Nationalbank to the state was negligible.

As chart 1 shows, this situation was to change dramatically during WW I, which led to very high budget deficits in the Austro-Hungarian Empire (chart 4). Nationalbank loans at concessionary rates (originally 1%, later ½%; Jobst and Kernbauer, 2016, p. 147) made up a relatively large share of the additionally created debt. After WW I, these loans stood at about 35 billion crowns. While – due to high inflation – this was less than one-quarter of estimated 1918 nominal GDP, it was more than 110% of the nominal prewar (i.e. 1913) GDP of the Habsburg monarchy (see also chart A2 in the annex). At the end of WW I, about one-third of overall government debt was held by the Nationalbank, most of the remainder consisted of long-term war bonds issued at yields of around 6% (Jobst and Kernbauer, 2016, p. 145f, and Popovics, 1925, p. 81f).[10]

Due to high budget deficits, the practice of financing the government continued after the breakdown of the Austro-Hungarian Empire. In November 1922 the public debt held by the OeNB amounted to 2,561 billion crowns (Jobst and Kernbauer, 2016, p. 154). Due to hyperinflation, this was less than 10% of Austrian GDP in 1922 (chart 1), but more than 300 times the GDP of the Austrian Republic's territory in 1913 (chart A2). This ratio to contemporaneous nominal GDP decreased in 1923/24, partly because of high inflation. From the introduction of the Austrian schilling (ATS) in 1925 until 1930, lending to the government was low when compared to GDP or total government debt.

During the *Creditanstalt* crisis, the OeNB directly injected capital into this troubled bank in 1931 (Jobst and Kernbauer, 2016, p. 177); it also provided extensive liquidity. In 1932, the government took over most of the OeNB's lending to *Creditanstalt* (Jobst and Kernbauer, 2016, p. 183). The resulting loan to the government was granted for a concessionary rate of 3%. Afterward, public debt in the OeNB's balance sheet remained roughly constant until 1938, when the OeNB was liquidated. The extensive monetary financing conducted by the German Reichsbank during World War II (WW II)

[9] *The Nationalbank granted advances to the government, which were repaid after the war (Jobst and Kernbauer, 2016, p. 81).*

[10] *These yields were similar to the Nationalbank's average pre-WW I policy rates (see chart 4).*

will not be discussed in this article; it is briefly sketched in Jobst and Kernbauer (2016, p. 191f).

After WW II, the liabilities of the OeNB were mostly balanced by claims of ATS 12.5 billion against the federal treasury, replacing claims against the German Reichsbank (Jobst and Kernbauer, 2016, p. 198). This accounting approach led to a peak in domestic public debt held by the OeNB, as illustrated in chart 1 (when compared to either overall public debt or nominal GDP). The 1947 currency reform (Jobst and Kernbauer, 2016, p. 201) significantly reduced currency in circulation and these claims against the government. Various other factors, especially transfers of gold restituted to the OeNB by the government, led to a further decline until the mid-1950s (Jobst and Kernbauer, 2016, p. 212f and table 9.2). The share of debt to GDP shown in chart 1 was also pushed downward by very high nominal GDP growth (real growth of above 10% and even higher inflation). Afterward, the ratio of government debt holdings in the OeNB's balance sheet to GDP was relatively small.[11]

Currently the Eurosystem's public sector purchase programme (PSPP) is leading to an increase of government debt holdings in the balance sheets of the ECB and the Eurosystem NCBs. As of 31 July 2016, the Eurosystem's cumulative net purchases of Austrian public debt securities stood at EUR 24.6 billion (ECB, 2016). However, the ultimate goal of the Eurosystem's expanded asset purchase programme (APP)[12] is to fulfill the price stability mandate enshrined in the Treaty. To achieve the objectives of the ESCB and to carry out its tasks, the ECB and the NCBs – according to Article 18 of the Statute of the ESCB and the ECB – have at their disposal credit operations and open market operations, i.e. buying and selling (government) bonds. The APP was deemed necessary to confront downside risks to inflation and inflation expectations and to achieve price stability as policy rates were already constrained by the zero lower bound and the inflation outlook was deteriorating, the PSPP respects the prohibition on monetary financing as government bonds are not bought in the primary market, which is explicitly forbidden under Article 123 TFEU.[13]

2.4 The government's share in the Nationalbank's overall profit distribution

Chart 2 shows the government's share in "effective distributions" of the Nationalbank's profits since 1820. Effective distributions consist not only of profits officially distributed to the state (from ordinary dividends and special profit-sharing agreements) and to private shareholders (such profits are referred to as "explicit profits" below), but also of the government's interest savings as well as of corporate income taxes paid by the Nationalbank. Interest savings for the government arise (1) via loans at concessionary rates and (2) via the issuance of government paper

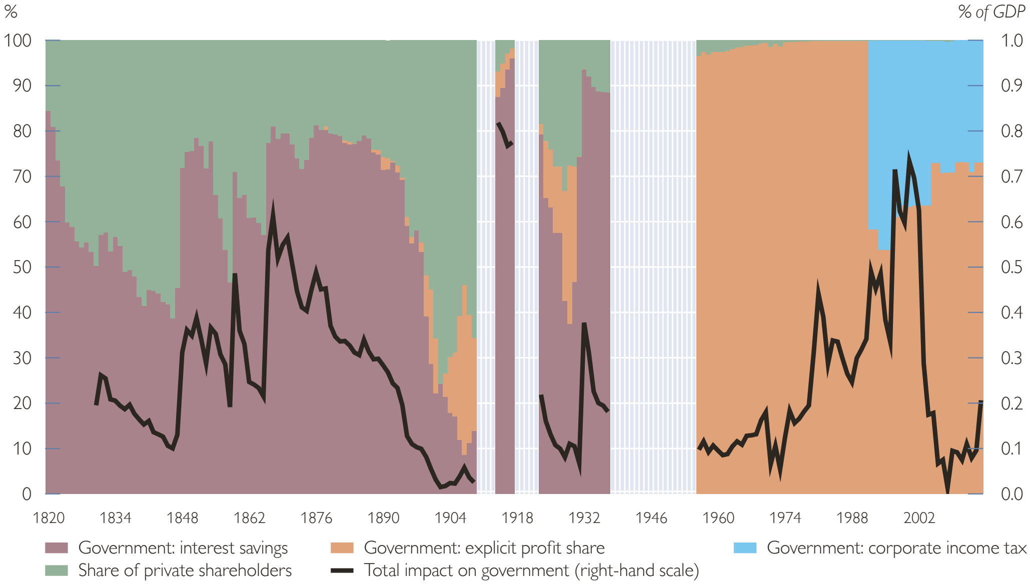
[11] *Note that until 1998 chart 1 does not include government bonds held by the OeNB in its investment portfolio (and purchased in secondary markets at market prices).*

[12] *The Eurosystems expanded asset purchase programme consists of the asset-backed securities purchase programme (ABSPP), the third covered bond purchase programme (CBPP3), the PSPP and the corporate sector purchase programme (CSPP).*

[13] *Moreover, the Eurosystem does not carry out transactions in the secondary market in any way which could be perceived as equivalent to acting on the primary market (Mersch, 2015).*

Chart 2

Shares in effective distributed Nationalbank profits



Source: OeNB, Jobst and Kernbauer (2016).

money, which the Nationalbank has to retire; the latter is economically equal to a zero interest rate loan. Effective distributions do not include, however, transfers to certain risk provisions, profits retained by the Nationalbank (for the buildup of reserves) or distributions to nonshareholders such as donations or funds for the promotion of research (e.g. the National Foundation for Research, Technology and Development or the OeNB Anniversary Fund).[14]

In line with the intention behind the foundation of the Nationalbank, its first years were marked by a strong decline of government paper money and only a moderate rise in government lending at preferential interest rates. As the government did not participate at all in explicit profits until 1878, this reduction in liabilities led to a significant increase in the private share in disbursed effective profits over the decades to follow. In 1846, when state liabilities reached their temporary low, the share of effective profit disbursed to the private sector reached a temporary peak of more than 60%. Due to the significant increase in government liabilities with the Nationalbank in the aftermath of the 1848 and 1849 revolutions, the private sector's share in the Nationalbank's effective distributed profits decreased considerably afterward.

While retiring government paper money was successful, the overall receivables from the treasury in the Nationalbank's books peaked in 1854. Moreover, the average interest rate on Nationalbank receivables decreased to less than 1% (from more than 2% during the preceding decade), while market interest rates kept rising, hence

[14] *Note that the total amount of "effective distributed Nationalbank profits" paid out to the government shown in chart 2 also includes payments by the Nationalbank to the government which are recorded as equity withdrawals (and not as revenue) in the national accounts. Furthermore, chart 2 refers to the years in which the Nationalbank's profits were generated (e.g. the values for 2015 correspond to dividends and corporate income tax paid by the OeNB based on the OeNB's 2015 results, which were paid out to the government only in 2016).*

Table 1

Legal provisions for the distribution of the Nationalbank's effective profits

Charter	1817, 1841, 1863	1878	1887	1899	1910	1922	1930	1932	1955	1981	1999
Reserves (% of profits)[1]						15%			10%		
State (% of remaining profits)									1/3		90%
Shareholders[4] (% of nominal capital)	varying provisions, no share for the state	5%[2]	5%	4%		8%		6%	up to 6%	up to 10%	
Reserves (% of remaining profits)[1]		10%									
Shareholders[4] and state (% of nominal capital)		5% to 7%: shareholders 1, state 0		4% to 6%: shareholders 1/2, state 1/2	6%–7%: shareholders 1/3, state 2/3	8% to 10%: shareholders 1/3, state 2/3	10% to 12%: shareholders 1/5, state 4/5	6% to 7%: shareholders 1/2, state 1/2 7% to 8%: shareholders 1/3, state 2/3 8% to 10%: shareholders 1/4, state 3/4 10% to 12%: shareholders 1/6, state 5/6			
Treatment of remaining profits[4]		>7%: shareholders 1/2, state 1/2		>6%: shareholders 1/3, state 2/3	>7%: shareholders 1/4, state 3/4	>10%: shareholders 1/4, state 3/4	>12%: shareholders 1/7, state 6/7		1/2 to state, 1/2 discretion[3]		Discretion[3]
Memo: Nationalbank shares held by central government	0%					Varying minority stake[5]			50%		50% until 2006, ~70% from 2006, 100% from 2010
Source for profit distribution	Jobst and Kernbauer (2016)	Pressburger (1969–1976)				Amendments to laws and charters concerning the Nationalbank (1922, 1930, 1932, 1935)			Nationalbank Act 1955 and 1984, respectively (including amendments)		

Source: OeNB.

[1] *Including pension reserves; percentages mostly refer to maximum amounts (i.e. the reserve allocation was smaller in some years).*
[2] *In case of low profits distributed out of the the reserve fund.*
[3] *Remainder up to decision of General Council (typically allocated to reserves).*
[4] *The distribution rules in place until 1955 are to be read as follows (example for 1899): First, shareholders receive dividends up to 4% of nominal capital. Then, up to 10% of the remaining profits are allocated to reserves. The remaining profits are shared equally between shareholders and the state up to the point when overall dividends to shareholders make up 6% of nominal capital. One-third of the remaining amount goes to shareholders, the rest goes to the state. The process stops early in case profits are too small.*
[5] *Kernbauer (1991, p. 75f, 420) mentions the central government's share in the Nationalbank in 1923 and 1938. It was below 15% in both cases.*

curbing the private sector profit share considerably. The 1859 state financing needs for the war against Piedmont-Sardinia as well as the issuance of government paper money after the Austro-Prussian War of 1866 led to further spikes in the state's share of disbursed effective profits. Later, the share of private shareholders in disbursed effective profits varied due to cyclical developments.

The 1878 establishment of the Austro-Hungarian Bank was accompanied by a profit-sharing mechanism, allotting a large part of profits in excess of a minimum return to shareholders to the state (after allocation to reserves). These rules were then changed with every new charter (table 1).

While the charter of 1878 was effective, shareholders were partly protected from profit fluctuations via a reserve fund, while the government did not receive an explicit profit share every year. This protection scheme was abolished with the next charter. The state's share in explicit Nationalbank profits was raised steadily in the next two charters. However, its share in effective distributed profits decreased over time to less than 50% as government paper money was retired and explicit lending to the government was reduced to a constant amount of fl. 30 million (60 million crowns).

During WW I, exponentially increasing concessionary lending to the government drove up the public sector's share in effective disbursed Nationalbank profits to well above 90% for the first time.

After WW I, the OeNB was (re) founded in 1922 as a (private) stock company. For the first time, the state officially held varying minority stakes in the central bank (Kernbauer, 1991). To make the initial public offering attractive, the dividend that was solely disbursed to shareholders was set to 8% (Jobst and Kernbauer, 2016, p. 252), while it had been no more than 4% or 5% since 1878 (table 1). The amount in excess of the attribution to reserves and of this minimum dividend was shared between the state and the shareholders. Thanks to stable state liabilities (which were subject to concessionary interest rates), the private sector's share in effective distributed profits fluctuated around 25% until 1931. As in 1932 the government took over most of the OeNB's lending to *Creditanstalt* at preferential interest rates, its liabilities with the OeNB skyrocketed, increasing its effective share in distributed profits to roughly 90%.

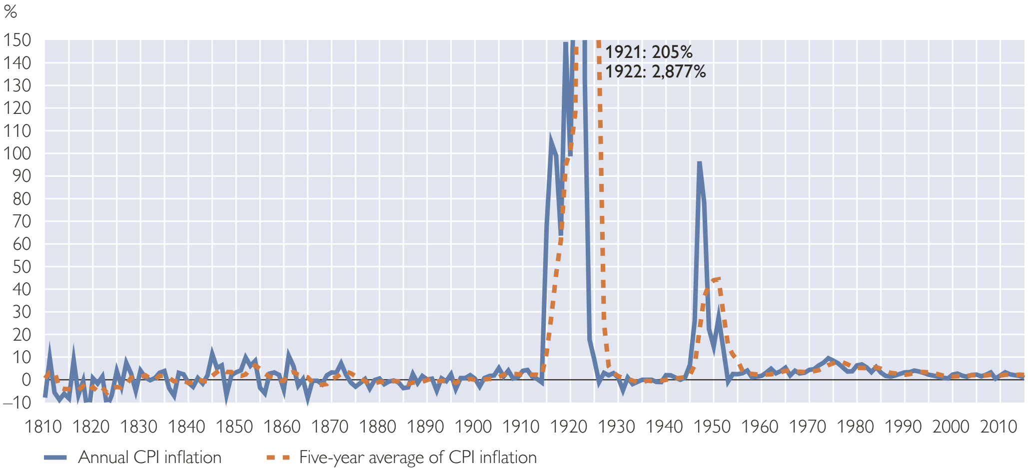
The Nationalbank Act of 1955 changed profit distribution substantially. After allocation to pension and reserve funds, the government was entitled to receive one-third of remaining profits. Only after that could the General Council allocate up to 6% (10% as of 1981) of the nominal share value (which initially stood at ATS 150 million) to shareholders. Of the remainder, one-half was allocated to the state and the remainder was allocated according to the General Council's decision. The OeNB's overall profits increased substantially over time, while the nominal share capital remained constant until 1999, when it was increased marginally to EUR 12 million (roughly ATS 160 million). Therefore, the private sector's share in overall effective distributed profits was already below 5% in 1955, and from the 1970s on it was roughly zero, even though lending to the government was at low levels during this time span.[15] There have been two major reforms that increased the share of the OeNB's profits which is distributed (and not retained), and they both solely benefited the government: in 1992, the OeNB was made subject to corporate income taxation (currently, the corporate income tax rate is 25%); and in 1999, the share of (after-tax) profits distributed to the government was raised to 90% (all of which goes to the government). Since the full nationalization of the OeNB in 2010, the government's share in the OeNB's effective distributions has always been at exactly 100%, as there are no longer any private shareholders.

The black line in chart 2 shows that overall effective profits distributed to the government were never above 1% of GDP (and only very rarely above

[15] *We assume that the OeNB charged market interest rates on public debt on its balance sheet from 1955 onward.*

Chart 3

CPI inflation in Austria



Source: OeNB, Statistics Austria, Jobst and Kernbauer (2016).

½% of GDP) in the years for which data are available.[16] However, these figures do not include the government's gains from the devaluation of public debt via high inflation (which is discussed in the next section).

3 The contribution of monetary and fiscal policy to periods of very high inflation

Chart 3 shows that since 1830 there have been only two episodes where the five-year averages of CPI inflation were above 10%, namely the period from WW I to the mid-1920s and the aftermath of WW II.[17] Both these periods were characterized by very expansive budgetary policies (as war expenditure was mostly deficit financed) and loose monetary policies, including the monetary financing of the government(s). These were also the two periods when OeNB holdings of government debt were highest in relation to nominal GDP (chart 1). However, the underlying reasons for these large amounts differed.

Chart 4 shows that – due to the inability and unwillingness of the Austrian and Hungarian governments to significantly raise taxes (Jobst and Kernbauer, 2016, p. 145) – budget deficits skyrocketed during WW I while they had been almost zero in the preceding decades. Furthermore, monetary policy rates stood at prewar levels in spite of increasing inflationary pressures, and short-term market interest rates were actually well below the lombard rate as the monetary financing of the war had generated excess liquidity.[18]

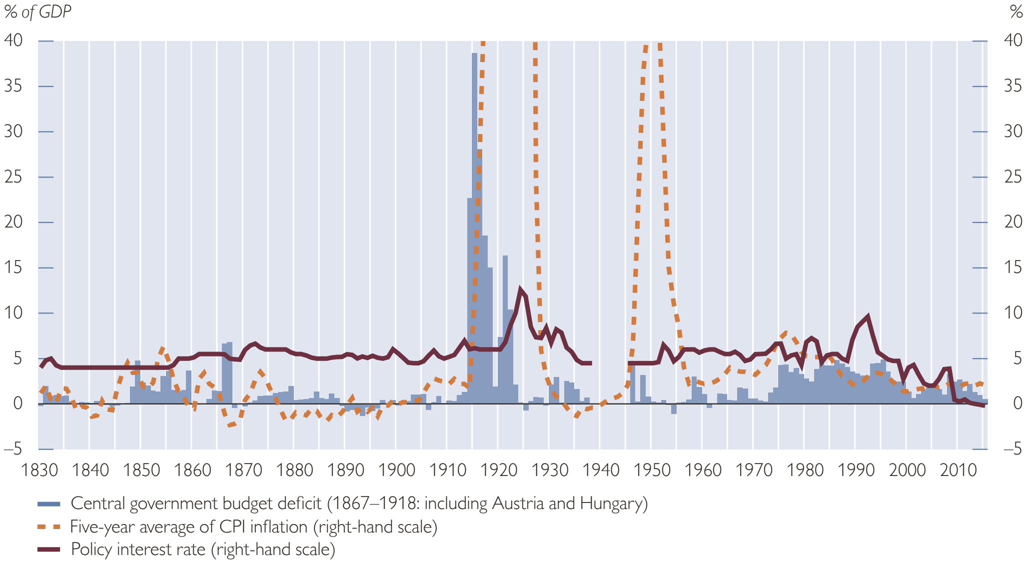
[16] *Explicit profit distributions and corporate income taxes are based on operating profits. For the calculation of these operating profits, transfers to risk provisions (e.g. for foreign exchange, interest rate, credit and gold price risks) are already taken into account. As transfers to risk provisions – to be determined by the Governing Council – reduce operating profits, the total volume of "effective distributions" and thus the amount of profits distributed to the government as a percentage of GDP is reduced. Transfers to risk provisions recently have been relatively high compared to the pre-crisis years, amounting to as much as 0.2% of GDP in 2012. However, the percentage share of "effective distributions" to the state and private beneficiaries is, if at all, only marginally affected by these risk provisions (if the profit distribution mechanism is not linear with respect to the distributable amount).*

[17] *There were only two more episodes when this average was above 5%, namely the early 1850s (followed by more than a decade of very low inflation) and the late 1970s and early 1980s (first and second oil shock).*

[18] *At the end of WW I, the share of discount and lending transactions in the central bank's balance sheet had almost vanished (Jobst and Kernbauer, 2016, p. 147ff and chart 6.1)*

Chart 4

Budget deficits, monetary policy rates and inflation



Source: OeNB, BMF, Jobst and Scheiber (2014), Jobst and Kernbauer (2016).

Therefore, real interest rates were very far below zero until the mid-1920s. As the increase in government lending was mostly financed by issuing banknotes, circulation of paper money increased substantially, too. Budget deficits in the newly established First Austrian Republic remained very high after the end of WW I and monetary financing continued until the reestablishment of the OeNB in late 1922. Over this period, OeNB support to the government did not only come in the form of profit distributions in a broad sense (as defined in section 2.4), but especially via a massive devaluation of the existing debt stock.

Charts 1 and 4 do not show data for the period of WW II (except for inflation), when Austria was part of the German Reich. German fiscal policy was very expansive in that period and supported by the German Reichsbank (Jobst and Kernbauer, 2016, p. 191f). While CPI inflation was kept very low during WW II via a price freeze, the amount of banknotes circulating in Austria increased at least twelvefold from 1937 to 1945 (Jobst and Kernbauer, 2016, p. 193). This banknote overhang led to very high inflation in the direct aftermath of WW II.

The OeNB's high claims on the Austrian government in the mid-1940s replaced claims on the German Reichsbank and were therefore at least indirectly related to the monetary financing of WW II. However, in contrast to the early 1920s, budget deficits were fairly modest in the late 1940s, and the OeNB's high claims on the government should not be interpreted as a sign of monetary financing of the Austrian government.

These two episodes stand in stark contrast to the current situation, where – should the PSPP's pace be maintained – the Nationalbank's holdings of Austrian government debt should be around one-tenth of GDP in early 2017. However, fiscal policy has been broadly neutral in both, Austria and the euro area around 2015 and is above all focused on safeguarding long-term sustainability underpinned by the European Fiscal Framework while it was highly expansive during the World Wars. Furthermore, the war periods also involved strong supply restrictions in the production of civilian goods and services, putting strong upward pressure on inflation and pushing real interest rates down. Due to low capacity utilization, relatively high unemployment and (too) low inflation expectations, inflation in the euro area has recently been significantly below the target (defined as HICP inflation of below, but close to 2% over the medium term), to which the Eurosystem responded with the PSPP and other non-standard policy measures.

Central bank holdings of domestic government debt are not necessarily the major driver of inflation in peace times. Chart 1 shows that from the 1830s to the 1890s government debt holdings were far above the levels seen from the mid-1950s to 2014. Nevertheless, average inflation during the former period was at around ½%, while it was above 3% in the latter (chart 3). Furthermore, high (low) holdings of government debt do not inevitably indicate strong (weak) central bank independence (like during and after WW I).

4 Conclusions

The Austrian government had not held a significant part of Nationalbank shares until after WW II, and it has been the OeNB's sole shareholder only since 2010. However, it has always influenced the appointment of Nationalbank managers and – until the adoption of the euro – had a say in the OeNB's business and policy operations. Moreover, due to special rules applicable to profit distributions and concessionary loans from the central bank, the government has always participated significantly (and disproportionately) in the central bank's profits.

Even while the Nationalbank was fully privately owned, the share of private shareholders in "effective distributions" of profits generally remained below 60%. Since the full nationalization of the OeNB in 2010, the government's share in the OeNB's effective distributions has always been exactly 100%, and it had been close to 100% even in the preceding decades. Nevertheless, the share of overall effective profits distributed to the government was never above 1% of GDP (and only very rarely above ½% of GDP). These figures, however, do not include the government's gains from the devaluation of public debt via high inflation.

The Nationalbank's lending to the government was consistently high until the late 19th century. It peaked during WW I and in its aftermath as well as directly after WW II. Since the mid-1950s, the OeNB's holdings of Austrian government debt have been relatively small.

Currently the Eurosystem's public sector purchase programme (PSPP) will lead to an increase of the holdings of Austrian public debt recorded on the OeNBsbalance sheet. However, the expanded asset purchase programme (APP) – and therefore also the PSPP – aim at fulfilling the price stability mandate enshrined in the Treaty and were deemed necessary as policy rates were constrained by the effective lower bound and because the inflation outlook had been deteriorating.

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Annex

Table A1

Background information on the variables presented in this paper

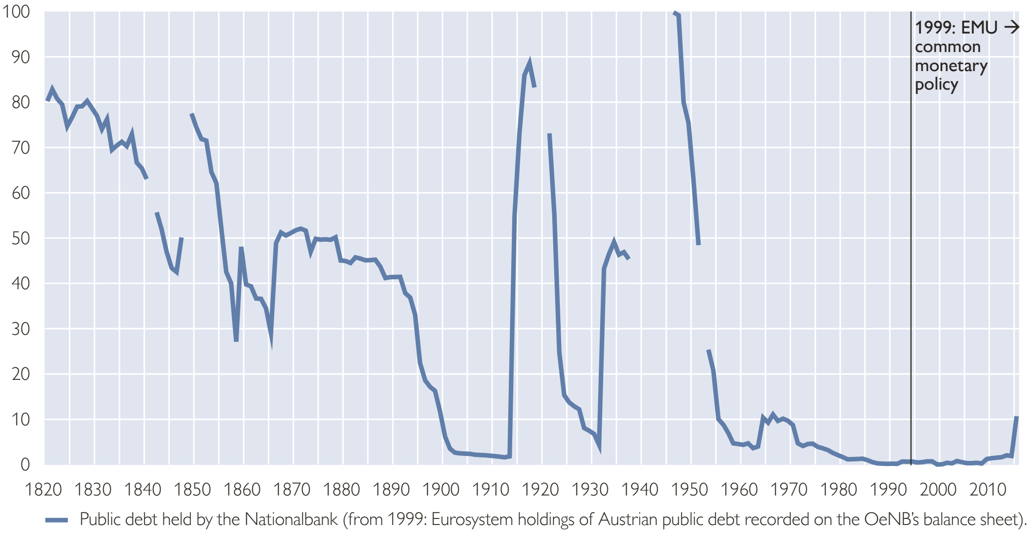
Variable	Territory	Comment	Interpolated years	Missing years	Source
Nominal GDP	Austrian Empire / Austro-Hungarian Empire until 1918; Republic of Austria from 1919	Missing years for nominal GDP have been interpolated using real GDP growth and (rescaled) CPI inflation. Data for the period before 1870 were retrieved by assuming identical nominal growth in the overall empire and in the current territory of the Republic of Austria.	1830–1869, 1914–1818		OeNB (2016)
Banknotes in circulation	Data refer to banknotes recorded as liabilities of the Nationalbank (plus banknotes issued by the Austrian government, if applicable). Since 1999, this figure has corresponded to the OeNB's share in euro banknotes in circulation. The figure for 1919 was not used as it is distorted due to the then ongoing transition from Empire to Republic.			1919	Annual statements of the Nationalbank
Public debt held by Nationalbank	Austrian Empire / Austro-Hungarian Empire until 1918; Republic of Austria from 1919 (i.e. excludes public debt instruments of foreign countries)	Until 1998, this figure excludes government bonds held in the investment portfolio. From 1999, this figure may include small amounts of general government debt which is not part of (core) central government debt.		1919–1920, 1938–1945, 1952	Annual statements of the National-bank, ECB
Balance sheet size of Nationalbank	Where necessary, the size of the Nationalbank's balance sheet has been adjusted for the amount of government paper money that was convertible at the Nationalbank.			1841, 1848, 1938–1944, 1952	Annual statements of the Nationalbank
Policy interest rate	1830–1998: Nationalbank's lombard rate. 1999–2008: Eurosystem main refinancing rate. 2009–2015: Deposit facility rate.				OeNB, ECB
Distributed profits	For computation, see section 2.3.			1910–1913, 1918–1922, 1938–1955	See table 1
Long-term yield on government debt	Austrian Empire / Austro-Hungarian Empire until 1918; Republic of Austria from 1919	Data available for all years used in our calculations of profit distribution (i.e. years in which the Nationalbank granted loans to the government at concessionary rates) except for the period from 1915 to 1937, for which we used the lombard rate instead.			OeNB
Central government budget deficit	Austrian Empire / Austro-Hungarian Empire until 1918; Republic of Austria from 1919. Data for the period from 1867 to 1918 include data for the central government of the Empire as a whole and for the state governments of Austria and Hungary.	Annual deficits for the period from 1914 to 1922 were computed assuming that in given accounting periods the nominal deficit was identical each month. Data are from administrative accounts and do not follow the national accounts definitions.	1914–1922	1860–1862, 1919–1920, 1938–1945	Brandt (1978), Tafeln zur Statistik der Österreichischen Monarchie, OeNB (2016), Federal Ministry of Finance
Central government debt		Public debt includes banknotes issued by the goverment and explicit debt to the OeNB. Missing years for public debt from 1914 to 1918 were interpolated using budget deficits as proxies for the change in debt. Data are from administrative accounts and do not follow the national accounts definitions.	1914–1918, 1913–1927 1931, 1934–1937	1919–1922, 1938–1945	
Inflation	Republic of Austria	CPI			OeNB (2016)

Source: OeNB.

Chart A1

Domestic public debt held by the Nationalbank

% of balance sheet total adjusted for government paper money

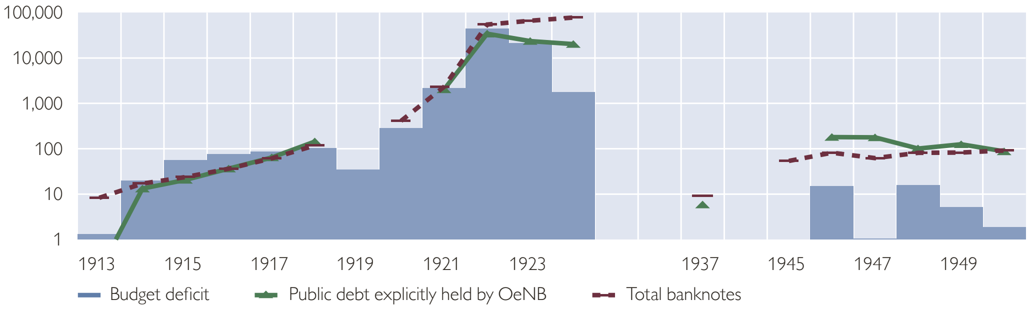


Source: OeNB, Jobst and Kernbauer (2016).

Chart A2

Trends in important economic variables during and after WW I and WW II

% of prewar GDP (1913 and 1937)



Source: OeNB, BMF, Jobst and Scheiber (2014), Jobst and Kernbauer (2016).