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## The Swedish monetary system from a balance sheet perspective

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## **Working Paper No. 1035**

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### **The Swedish Monetary System from a Balance Sheet Perspective**

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and

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**ABSTRACT:** In this paper, we discuss the balance sheet mechanics of the Swedish government. We examine spending, government bond purchases, and tax payments. As long as the Swedish central bank, which is created through Swedish laws, supports the Swedish central government, it cannot run out of money. The Swedish government therefore plays a large role in the Swedish economy. It can and should target full employment and price stability, bringing to bear its fiscal power.

**JEL CODES:** E62, B52, E12

**KEYWORDS:** Riksbank, Swedish crowns, public finance, money creation

## 1. INTRODUCTION

The Swedish Regeringen is the most powerful institution in Sweden. Itself a creature of the *Sveriges grundlagar*, it can create new laws and change existing laws. It can create institutions that are very powerful and also influential. One of these institutions is the Swedish Riksbank, created by Riksbankslagen. The Swedish state has determined to create the Riksbank as the monopoly supplier of Swedish kronor. The Swedish parliament (*Riksdagen*) has ultimate authority over the finances of the state. This primarily means that the government budget must be approved by the Riksdag. The sitting Government submits a budget proposal—the budget bill—to the Riksdag during the fall, which is then voted upon. After approval, the government issues appropriation directions (*regleringsbrev*) to the government agencies where they explain how much money is available to them (Ekonomistyrningsverket 2017, 12–14; Government Offices of Sweden 2014, 7).

The agencies pay for wages, services, benefits, etc. Thus, the money flows “out of” the state through the different government agencies.<sup>1</sup> Riksgälden (2019b) explains the process: “[i]nstead of each agency having money to pay expenses and invest the income it receives, all government payments are offset against each other. The combined receipts of the agencies are used to finance the payments of all the agencies on the same day.” This means that Sweden uses a netting system. Riksgälden explains further: “[t]he core of central treasury management is based on offsetting surpluses or deficits of all authorities against each other and managing the total surplus or deficit centrally. If there is a surplus, the government debt is reduced that day and if there is a deficit, it is increased. The aim is to keep the cost of the public debt as low as possible in the long term.” An important part of the budgeting process is the Fiscal Policy Framework, where some principles are regulated by laws, while others are only based on practice (Government Offices of Sweden 2021).<sup>2</sup>

The basis for this understanding comes from examining the laws that determine how money is created. This therefore is an empirical exercise in describing reality. All are free to criticize these descriptions and explain why and how the monetary system works differently. We invite dialogue and encourage readers to send their questions. We have created the monetary

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<sup>1</sup> For example, the Swedish Police Authority, the Swedish Armed Forces and the National Board of Health and Welfare.

<sup>2</sup> The Swedish National Audit Office (Riksrevisionen) is the agency in charge of auditing the state finances (Ekonomistyrningsverket 2017, 16).

system; we should be able to understand it with certainty. This text will be regularly updated to reflect learning on behalf of the authors.

The government has a central account at the Riksbank. The National Debt Office—the financial manager of the central government<sup>3</sup>—uses that account for all payments to and from the government. It distributes grants to the government agencies. It does this each month or quarter, by placing it on the agencies' interest account (*räntekonto*) (Ekonomistyrningsverket 2017, 26). The agencies have top accounts (*toppkonton*) at the commercial banks that are contracted by the government (*ramavtalsbanker*), where the daily balance of *all* the agencies with accounts at that bank are shown. If the balance is negative, money is transferred from the central account to the top account. If the balance is positive, money is transferred from the top to the central account. This happens three times a day and, at the end of the day, the balance must be zero. If there is a surplus at the central account, Riksgälden pays off debt. If there is a deficit, it issues debt (Riksgälden 2005, 2019b). The government issues both short-term and long-term debts, the former are called *treasury bills* and the latter *government bonds* (Sveriges Riksbank, 2022). Let us look at these operations in small steps.

## 2. SWEDISH MONETARY OPERATIONS

First, the Swedish government distributes grants to the government agencies. The Riksgälden debits its account at the Riksbank and credits the account of *ramavtalsbanker* at the Riksbank. The *ramavtalsbanker*—it is either Danske Bank, Nordea, or Swedbank—then adds the same deposit amount to the account of the Swedish Police Authority (SPA). All of this is pure money creation—the accounts have been credited using a computer and the software of the payment system, which in Sweden is named RIX. What was done by the stroke of a pen a century ago, now is done with the help of the computer. So money defined as deposits at the central bank or at a bank is nothing but a digital entry. The operation we have described allows the SPA to spend money, money that has been appropriated in the Swedish government's budget. The origin of money is therefore legal. The following balance sheets describe the situation. Note that public deficit or public debt has not yet changed. The Swedish state has not spent a single krona, so government spending has not increased. It has

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<sup>3</sup> Riksgälden is tasked with the objective to “minimise the costs of central government financial management without taking excessive risks” (Riksgälden n.d.).

created deposits for the SPA which has more wealth, while having debited the Treasury Single Account operated by Riksgäldskontoret, which has increased debt. Public debt, however, is measured as the difference between all government spending and all tax revenues throughout time. This is why it has not yet changed.

Riksbank	
	<i>Treasury Single Account</i> -100 kr
	<i>reserves</i> +100 kr

Riksgäldskontoret	
<i>Treasury Single Account</i> -100 kr	<i>wealth</i> -100 kr

ramavtalsbanker	
<i>reserves</i> +100 kr	<i>deposits: SPA</i> +100 kr

Swedish Police Authority	
<i>deposits: ramavtalsbanker</i> +100 kr	<i>wealth</i> +100 kr

affärsbank	

household	

Here is an example of the balance sheets when the SPA spends. It pays a policewoman 100 kr. Only changes in the balance sheets are shown:

Riksbank	

Riksgälden	

ramavtalsbanker	
<i>debt to affärsbank</i> -100 kr	<i>deposits: SPA</i> -100 kr

Swedish Police Authority	
<i>deposits</i> -100 kr.	<i>wealth</i> -100 kr

affärsbank	
<i>debt owed from ramavtalsbanker</i> +100 kr	<i>deposits</i> +100 kr

household	
<i>deposits</i> +100 kr.	<i>wealth</i> +100 kr

The SPA uses its deposits to make the payment. At the same time, the affärsbank marks up the account of the policewoman. What she has earned in income and saving (defined as income not spent) has its balancing entry in the decrease of net wealth of the SPA. The public deficit is defined as government spending minus tax revenues, so a public deficit of 100 kr now exists. It is reflected in the increase in household saving by 100 kr. If the policewoman spends her money, someone else would have the 100 kr. Money is meant to circulate in the economy, and saving moves with the incomes created when that happens. Therefore, the government's red ink is our black ink (Kelton 2020). Taken as a sector, all households

combined can only save (income higher than expenditure) if one of the other two sectors increases its debt. Either the government runs a deficit (government expenditure > tax revenues), or the rest of the world does (Swedish exports > Swedish imports).

We are not done yet, though. Let us look at the balance sheets at this point in time, showing the accumulated stocks (and not the changes or flows):

Riksbank		Riksgäldskontoret	
	<i>Treasury Single Account</i> -100 kr	<i>Treasury Single Account</i> -100 kr	<i>wealth</i> -100 kr
	<i>reserves</i> +100 kr		
ramavtalsbanker		Swedish Police Authority	
<i>reserves</i> +100 kr	<i>deposits: SPA</i> 0 kr	<i>deposits: ramavtalsbanker</i> 0 kr	
<i>debt to affärsbank</i> -100 kr			
affärsbank		household	
<i>debt owed from ramavtalsbanker</i> +100 kr	<i>deposits</i> +100 kr	<i>deposits</i> +100 kr	<i>wealth</i> +100 kr

The first open issue is that the two banks have debt among themselves. In order to clear that debt, there are two possible solutions. The first and simple option is to wait until a bank transfer of the same size goes the other way, as a client of affärsbank pays money to a client of ramavtalsbanker. Payments can be netted out, so that the two banks keep a score between them regarding who owes what to whom. To settle the debt, the debtor has to transfer reserves to the creditor. Here is what the balance sheets look like after that has happened:

Riksbank		Riksgäldskontoret	
	<i>Treasury Single Account</i> -100 kr.	<i>Treasury Single Account</i> -100 kr.	<i>wealth</i> -100 kr.
	<i>reserves</i> +100 kr.		
ramavtalsbanker		Swedish Police Authority	
	<i>deposits: SPA</i> 0 kr.	<i>deposits: ramavtalsbanker</i> 0 kr.	

affärsbank	
<i>reserves</i> +100 kr.	deposits +100 kr.

household	
deposits +100 kr.	<i>wealth</i> +100 kr.

Ramavtalsbanker has used its reserves to pay off its debt to affärsbank. Nothing else has changed. The reserves are now owned by affärsbank, as recorded by the Riksbank.

The second issue is that the Treasury Single Account is negative. According to the regulations of the Swedish monetary system, this will trigger a notice sent from the Riksbank to Riksgäldskontoret that the balance is negative. Riksgäldskontoret then issues and sells a government bond on the primary market. There are only six dealers that can buy government bonds directly from Riksgäldskontoret:<sup>4</sup> Barclays, Danske Markets, Handelsbanken Markets, Nordea Markets, SEB, and Swedbank.

So, all three ramavtalsbanker have divisions dealing in the primary markets. Let us assume that the affärsbank in our example is one of the six banks from that list. It can then use the reserves it gained through the spending of the government to purchase the government bond sold by Riksgäldskontoret:

Riksbank	
	<i>Treasury Single Account</i> 0 kr
	<i>reserves</i> 0 kr

Riksgäldskontoret	
<i>Treasury Single Account</i> 0 kr	<i>Government bond</i> +100 kr
	<i>wealth</i> -100 kr

ramavtalsbanker	
	deposits: SPA 0 kr

Swedish Police Authority	
<i>deposits: ramavtalsbanker</i> 0 kr	

affärsbank	
<i>Government bond</i> +100 kr	deposits +100 kr
<i>reserves</i> 0 kr	

household	
deposits +100 kr	<i>wealth</i> +100 kr

To complete the picture, we look at a tax payment made by the Swedish policewoman. Individual tax payments are made to the Swedish Tax Agency Skatteverkets' account 5050-

<sup>4</sup> Source: <https://www.riksdagen.se/en/our-operations/central-government-borrowing/issuance/primary-dealers/>.



1055. The taxpayer gives up her 100 kr in deposits. Her bank, in order to make the payment to the government, asks the Riksbank to transfer its reserves to Skatteverkets' account.

Riksbank	
	5050-1055 +100 kr.
	reserves -100 kr.

Skatteverkets	
5050-1055 +100 kr.	wealth +100 kr.

ramavtalsbanker	
	deposits: SPA 0 kr.

Swedish Police Authority	
deposits: ramavtalsbanker 0 kr.	

affärsbank	
reserves -100 kr.	deposits -100 kr.

household	
deposits -100 kr.	wealth -100 kr.

The balance in account 5050-1055 of Skatteverkets is not money. After all, money is what can be used to make payments to the government. It is essentially an IOU from the government that we, the people of Sweden, use to reduce our tax liabilities. That is the only promise that comes with modern money. So, the money we give back to the state when we pay taxes loses its function as money as the IOU has returned to the issuer. As Riksgälden wrote: “[i]f there is a surplus, the government debt is reduced that day.” This means that, at the end of the day, the balance in account 5050-1055 is transferred to the Treasury Single Account. This is shown below.

Riksbank	
	Treasury Single Account +100 kr.
	5050-1055 -100 kr.

Riksgäldskontoret	
Treasury Single Account +100 kr.	



Skatteverkets	
5050-1055 -100 kr.	

The next step is that the Riksgäldskontoret swaps its balance at the Riksbank for the government bond, which it buys from the bank. In this way, the monetary system ensures that the amount of outstanding debt instruments issued by the Swedish state equals the difference between government spending and tax revenues. This is the official definition of public debt used by all countries worldwide.

Riksbank	
	<i>Treasury Single Account</i> -100 kr.
	<i>reserves</i> +100 kr.
affärsbank	
<i>Government bond</i> -100 kr.	
<i>reserves</i> +100 kr.	

Riksgäldskontoret	
<i>Treasury Single Account</i> -100 kr.	<i>Government bond</i> -100 kr.
household	

It might look like the affärsbank has more reserves than it had before all these transactions were made, but this is only due to the fact that it has used the reserves it originally received through government spending twice: once to buy a government bond and once to pay taxes. The affärsbank could have borrowed reserves against collateral (the government bond) from the Riksbank to finance the tax payment. Then, the sale of the government bond would enable the affärsbank to repay the loan to the Riksbank.

We have looked at government spending, tax payments, and bond sales as well as repurchases. It should be clear from this that the Riksbank is the monopoly issuer of currency. Its currency is the Swedish krona, of which it cannot run out. The Swedish government can spend with the support of institutions that ensure two things:

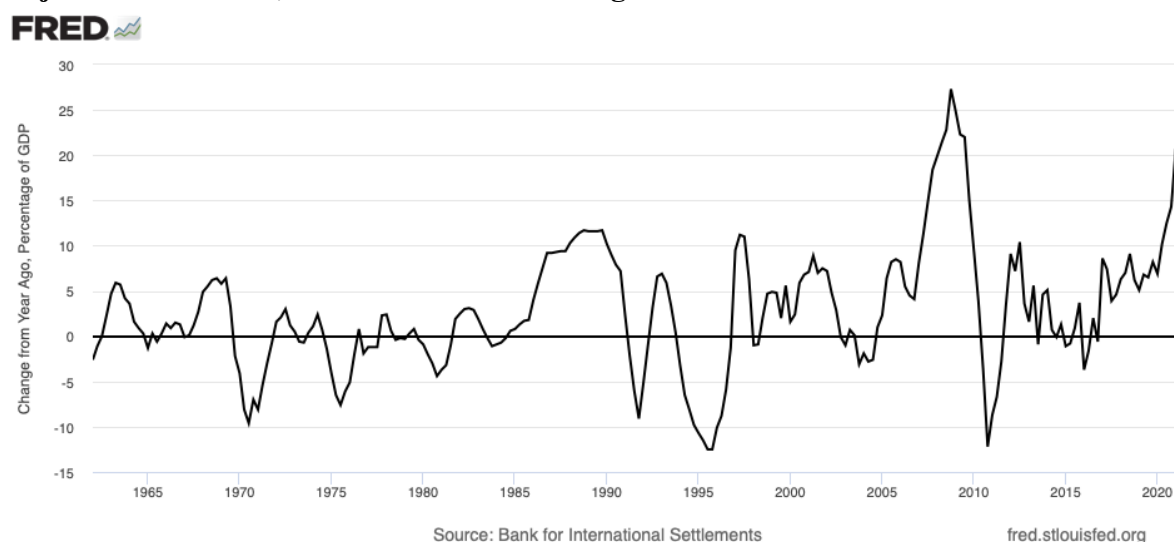
1. the payments of the Swedish federal government can always be executed; and
2. the interest rate in the money market is isolated from net government spending, as any increase in reserves is mopped up by an increase in government bonds.

This allows the Riksbank to fulfill its two roles simultaneously and without conflict. It acts as a bank of the banks, ensuring their liquidity, and as the bank of the government, ensuring that all government payments are made without disturbing the money market. There is no trade off. The Riksbank can provide ample liquidity to the banking system and execute the government's payments at all interest rates. In the last half century, these ranged from below 0 to 500 percent in 1992. It mirrors what Wray (2015) has found for the US: countries with their own currency, no public debt in foreign currency, and a flexible exchange rate have *monetary sovereignty*. They can spend as much as they wish and set interest rates as they please.

### 3. SOME SWEDISH MACROECONOMIC ISSUES

Government spending in Sweden is more than 50 percent of GDP, which was roughly 5.457 billion SEK in 2021. That means that public money creation that year was worth roughly 2.8 trillion SEK, as this is the increase in private bank deposits that government spending caused in 2021. The central government alone spent 1,216 billion SEK and received 1,191 billion SEK in revenues. Thus, money was created that was roughly 22 percent of GDP when the central government spent and destroyed what it taxed. How does private money creation compare with this?

**Figure 1: Year-on-Year Change in Total Credit to Private Non-Financial Sector, Adjusted for Breaks, for Sweden in Percentage Points of GDP**



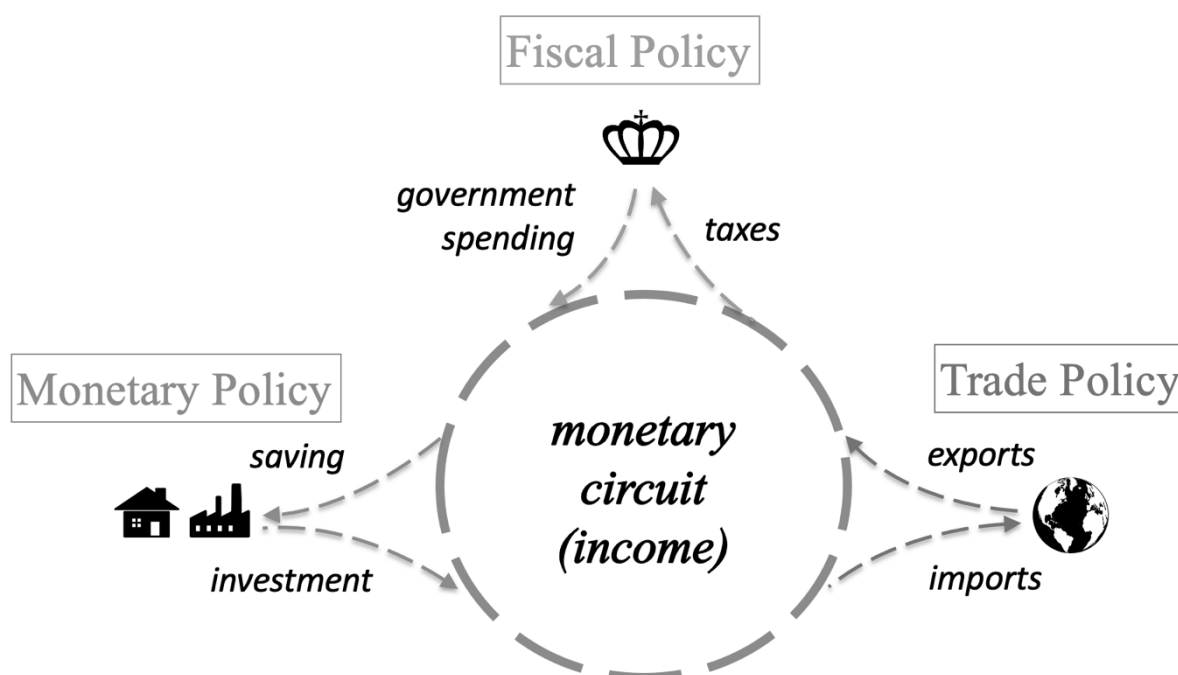
Source: Bank for International Settlements, Total Credit to Private Non-Financial Sector, Adjusted for Breaks, for Sweden [QSEPAM770A], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/QSEPAM770A>, June 13, 2022.

Figure 1 shows how many bank deposits were injected by banks through lending, measured in percent of GDP. In the 2010s, this rate averaged roughly 5 percent of GDP. This means that banks created more deposits than they destroyed. Loans created deposits, as borrowers see the balance of their bank account increase. Repayment of loans destroys deposits, as the borrowers give those deposits back to their bank. Just as the reserves that are used to repay loans from banks to the central bank are removed from the accounting system, the same happens with deposits. They are a liability from the perspective of a bank, which is promising payments for each krona in bank deposits. These payments can be made by the bank, which it usually needs reserves for or by the client who can get cash from their bank.

This means that there is a fundamental difference between private money creation by banks and public money creation by the state. Private money is created by loans, which are private debt. The money will ultimately be destroyed by repayment. Therefore, the net creation of bank money is usually lower than 10 percent of GDP. Also, a rise in bank lending is normally followed by a period of negative bank lending, in which more loans are repaid than new ones taken out.

To conclude this brief paper, let us turn toward the macroeconomic view. We can divide up the economy into three sectors: public, private, and external. The public sector contains governments at all levels, the private sector consists of households and firms and the external sector encompasses the rest of the world. If any one sector pays out more money than it takes in, it has a deficit. That deficit coincides with a surplus elsewhere because every payment equals an income of the same amount.

**Figure 2: The Monetary Circuit**



Source: Ehnts (2020), *Geld und Kredit: Eine €-päisiche Perspektive*, Metropolis

Figure 2 illustrates this principle. If the government increases spending by 100 kr, there must be an increase in income by 100 kr in either the private or the external sector. If the government bought apples from a Swedish household, private savings will now be 100 kr higher than before. This is because saving is defined as income not spent. The household might spend the money on food in a restaurant, but that only means that the owner of the

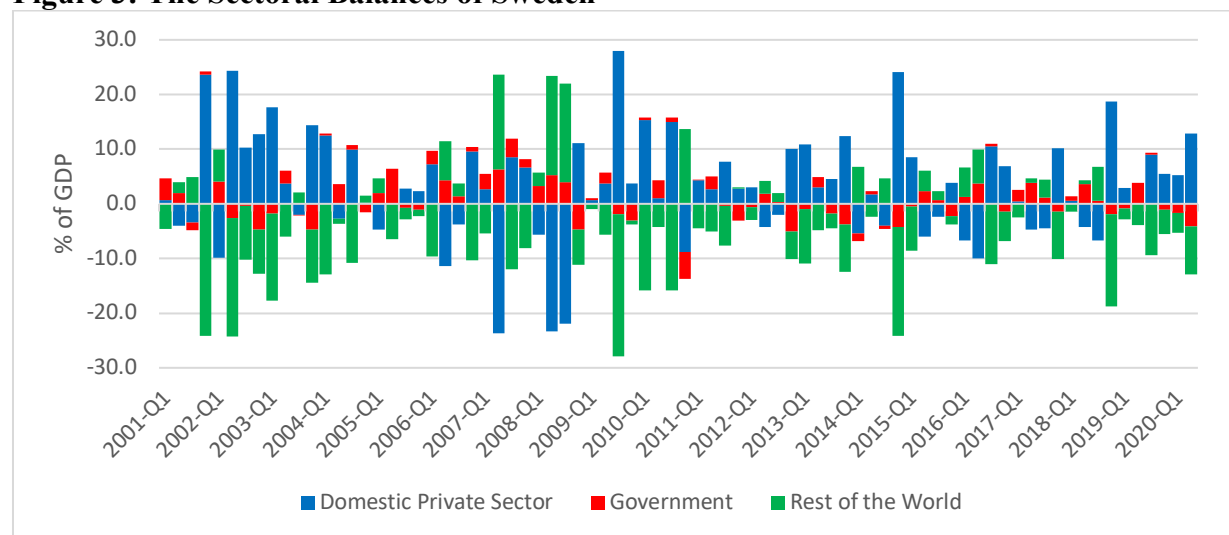
restaurant will now see their savings increase by 100 kr. If the Swedish government buys an electric toy car from Volkswagen, the external sector would see its savings go up. The deficit would be with the public sector. Since tax revenues did not go up (yet), the deficit will be 100 kr higher than before.

Looking at all monetary transactions, we can understand it is possible to identify the sources of firm profits! As can easily be determined from the above figure:

$$\text{Firm profits} = \text{Private investment} - \text{household saving} + \text{government spending} - \text{tax revenues} + \text{exports} - \text{imports}$$

Government spending hence adds to firm profits because firms have higher profits when the government spends more money. That does not mean that the government should not spend. It must make sure that the price is right so that the profits are earned and are not the result of a lack of competition or of outright fraud. Through taxation, the government can reduce profits if it is thought that this would be helpful.

**Figure 3: The Sectoral Balances of Sweden**



Source: Asian Development Bank, <https://covid19policy.adb.org/sector-financial-balances>

Given that private firms want to have positive profits and that most households want to spend less than their income, the private sector will almost always target a surplus. Figure 3 shows the data for Sweden. It is obvious that all surpluses and deficits sum to zero at all times. The private sector (blue) mostly has a surplus, but deficits can happen as well. Usually, they are the result of a rise in private investment, often connected with the building of real estate. The

rest of the world (green) is mostly in deficit as the people of Sweden buy less from abroad than foreigners buy from them—the difference is net money creation. The government (red) is sometimes in deficit, sometimes in surplus. This does not mean that the government plays a small role in the economy, as we have seen above. It is tremendously important! Its large spending provides revenues for firms and incomes to people who are the foundation of the Swedish economy.

Any cuts to the government's spending would cut private-sector incomes krona by krona. That does not mean that the Swedish government should never cut its spending. It means that it has to make sure that when it does, those unused resources are not lying idle. This would create involuntary unemployment and the population would suffer. When the government decides what to do and how much to spend, it should look at the resources that would be needed and ask itself whether they could be used in a better way in the private sector. If the answer is no, the government can spend the money to provision itself with these resources. If it is yes, it should refrain from spending.

#### **4. CONCLUSION**

The government's role in economic policy is very important. It can target full employment with its spending, making sure there is a job for everyone. It can also target price stability by letting public-sector wages rise by the inflation-rate target plus the change in productivity. It can make sure that it increases the prices it paid for resources by more than the inflation rate. The government can help us gain sovereignty by moving away from energy imports and foreign dependency and toward electricity generated inside the country. It can also take more control of our economy. In this paper we have shown that the Swedish government cannot run out of Swedish crowns for technical reasons, as the Riksbank clearly is the monopoly issuer of Swedish currency.

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