1.3. Fiscal rules and links between fiscal policy and monetary policy

1. Fiscal rules

Orthodox macroeconomics supports the adoption of fiscal rules. Heterodox approaches, like Modern Monetary Theory (MMT), question the usefulness of fiscal rules.

- MMT point to the fact that, given the sectoral balances identity, the public deficit need not be independent from the balances of the private and the foreign sector. Specifically, if the private sector balance and the foreign balance are determined before the public sector balance, then the sectoral balances identity could imply that a fiscal rule involving the public deficit must be violated.
- Moreover, if the foreign sector is balanced or in deficit, for the private sector to increase its financial wealth the public sector must run a deficit. In this case, fiscal rules on the public deficit may make impossible for the private sector to accumulate the desired level of financial wealth. The connection between public spending and private financial wealth is illustrated in §2.
- Fiscal policy is more effective than monetary policy, both under normal conditions (as distinguished from monetary policy, fiscal policy can impact economic activity quickly, directly and specifically; see Fig. 16 and the associated discussion) and abnormal circumstances (a balance sheet recession; see §14 and §15 below).
- As shown in the lecture notes for topic 1.1 on central banks and money creation, to obtain reserves at will from the central bank, banks need some financial asset that is abundant, almost riskless, highly liquid and acceptable by the central bank. Public debt is the best candidate. Growing GDP is associated with a growing amout of loans, and that requires a growing amount of that financial asset; hence, putting arbitrary limits to the growth of public debt may endanger the expansion of economic activity financed by borrowing.
- MMT also calls attention to the fact that government spending creates deposits, which, paradoxically, makes fiscal policy actually a monetary policy; see §2.

2. Public spending and private financial wealth: an example

The example below is based on Stephanie Kelton's analysis developed at http://neweconomicperspectives.org/2010/11/yes-deficit-spending-adds-to-private.html. The purpose of the example is to provide accounting evidence of how public spending financed (totally or partially) with public debt generates, in net terms, financial assets for the private sector.

The orthodox view is the opposite: public deficits do not add financial wealth to the private sector. This view says that the sale of public debt securities by the government to the private sector takes away liquidity ('money') from the private sector (there is no net injection of assets into the private sector: what is given on one side, debt securities, is withdrawn on the other, cash or bank money).

This notwithstanding, an implication of the identity $NPS \equiv PD + NX$ is that, if $NX = 0$, then the private sector cannot accumulate net financial wealth if the public sector does not borrow. With $NX = 0$, $NPS > 0$ is not possible without $PD > 0$. Similarly, with $NX = 0$, for NPS to rise, PD rise as well: if the private sector increases its net financial wealth, the public sector must have increased indebtedness.

If $NX < 0$ the previous messages are reinforced. Now an even larger value of PD (or a higher increase) is needed for the private sector to be able to fulfill its net financial wealth accumulation plans.

If $NX > 0$, the foreign sector supplies part of the net financial wealth that the private sector wants to accumulate. If NX is large enough, the public sector is freed from the need to provide financial wealth to the private sector. If it is not, the public sector will have to complement the contribution of financial wealth made by the foreign sector.

• **Example: a government spends, partly financing with taxes, partly with debt.** The government makes public spending of 10 (by purchasing goods from domestic companies), finances 40% with taxes collected at the time the expenditure is made (families and companies are paying taxes) and finances the remaining 60% with the issuance of Treasury bills (the issuance anticipates the deficit of the fiscal operation and is made before the expenditure is executed).

• Stage 1. The government receives a payment of 4 in taxes from the non-bank private sector (the non-bank private sector is the aggregation of households and businesses).

In Table 1A next non-bank private sector taxpayers use their deposits in private banking sector banks to cancel tax debt.

1A. Non-banking private sector

Deposits –4	Taxes payable –4

1B. Private banking sector

Reserves –4	Deposits –4

In Table 1B above banks reduce the deposits of taxpayers who make the payment. The offsetting entry in the bank balance sheet is the same when deposits are transferred between banks: the bank making the payment effective by lowering the customer's deposits also lowers its own reserves.

1C. Government

Taxes received –4	
Reserves +4	

1D. Central bank

	Banks reserves –4
	Government reserves +4

In Table 1C above the government replaces the rights on taxpayers with reserves. Reserves are the way in which the payment that taxpayers make through the banks reaches the government. It is as if the government were a bank, in the sense that it can operate with reserves.

In Table 1D above the central bank records the transfer of reserves from the banking system to the government.

• **Remark 1.** Personal tax payments destroy bank money: in Table 1B, the banking system reduces deposits. It will be shown below that public spending contributes to create bank money.

• **Remark 2.** If the government and central bank balance sheets are consolidated, then the payment of taxes by individuals also destroys central bank money (reserves): if tables 1C and 1D are merged, the reserves held by the government are canceled.

• **Remark 3.** What if the government had accounts open in banks? The same end result would be achieved this way. First, there is no movement of reserves.

1A'. Non-banking private sector

Deposits –4	Taxes payable –4

1B'. Private banking sector

	Deposits –4
	Government deposits +4

1C'. Government

Taxes receivable –4	
Deposits in banks +4	

1D'. Central bank

Secondly, the government exchanges deposits (bank money) and reserves (central bank money) with the banks.

1E'. Government

Reserves +4	
Deposits in banks –4	

1F'. Private banking sector

Reserves –4	Government deposits –4

Finally, the central bank's balance sheet changes in the same way as in Table 1D .

• **Stage 2.** The government sells Treasury bills worth 6 to the banks. It is assumed that the government has checking accounts with banks reserved for transactions related to the management of the public debt. In the US, these accounts are called *Treasury Tax & Loan Accounts* and facilitate financial transactions between the government and banks.

Table 2A : The government sells bills in exchange for an increase in the value of deposits in banks.

2A. Government

Deposits in banks +6	T-bills +6

T-bills➔
←Deposits

2B. Private banking sector

T-bills +6	Government deposits +6

Table 2B : Banks record the acquisition of bills as an asset and their payment as a liability in the form of deposits.

• **Remark 4.** Tables 2A and 2B show that the purchase of bills by banks (which is like granting a loan to the government) is accountingly equivalent to lending to an individual: the bank increases the value of the government's current account at the bank and records the loan (in the form of a Treasury bill) as an asset, and for the other party to the transaction (the government) the accounting record is the reverse (a deposit as an asset and the loan as a liability).

• **Stage 3.** The government requests a transfer to its account at the central nank.

Table 3A : The government receives reserves and liquidates deposits.

3A. Government

Deposits in banks −6	
Reserves +6	

Deposits➔

➔Reserves

3B. Private banking sector

Reserves −6	Government deposits −6

3C. Central bank

	Bank reserves −6
	Government reserves +6

Table 3B : Banks release reserves and cancel deposits.

Table 3C : The central bank moves reserves from banks to the government.

• **Stage 4.** The government executes public spending by purchasing goods from the non-bank private sector worth 10.

Table 4A : Sellers of goods deliver them in exchange for payment in the form of deposits.

4A. Non-banking private sector

Goods −10	
Deposits +10	

4B. Private banking sector

Reserves +10	Deposits +10

Table 4B : Table analogous to 1B , with banks increasing deposits from sellers of goods and offsetting this increase with additional reserves. As in the purchase and sale paid for with deposits, in parallel with the actual transaction between buyer and seller (which involves a transfer of deposits) there is a financial transaction where reserves are transferred (in this case, it is as if the government were its own bank: the government can operate with reserves).

4C. Government

Goods +10	
Reserves −10	

4D. Central bank

	Banks reserves +10
	Government reserves −10

Table 4C : The government records the purchase of goods as an asset and the transfer of reserves to banks.

Table 4D : The central bank moves reserves from the government account to the banks' accounts.

• **Remark 5.** The net financial result for the non-banking private sector is an increase in deposits of 6 (the value of the issuance of bills and, in this case, the value of the deficit of the fiscal operation: expenditure of 10 less taxes of 4). The net result for the banking private sector is an increase in deposits of 6 and an increase in T-bills of 6 . In consequence, the consolidation of the non-banking private sector with the banking sector cancels the deposits and implies a net accumulation of

financial assets (T-bills) worth 6. This means that the private sector has increased the balance by 6 (increase in surplus in the private sector).

• **Remark 6.** The net financial result for the public sector (the government) is that reserves do not change (the values written in red) and there is an increase in financial liabilities (T-bills) equal to 6. Thus, the public sector experiences a net accumulation of financial liabilities worth 6 (increase in the public sector deficit). In short, deficit public spending (financed by issuing debt securities) has increased the private sector's net holding of financial assets.

• **Remark 7.** The coincidence between the additional deficit of the public sector (increase in public debt) and the extra surplus of the private sector (net increase in financial assets) is maintained if the public sector consolidates the government with the central bank.

• **Remark 8.** The tax collection in stage 1 destroyed money (4 units). The public purchase in stage 4 increased it again (10). The net increase in money (6) corresponds to the increase in deposits in the non-bank private sector (and to the value of the deficit of the operation: expenditure of 10 that is partially financed by tax collection of 4).

• **Remark 9.** Another lesson from the example is that government spending adds reserves to the banking sector (Tables 4B and 4D). These additional reserves put downward pressure on the interest rate in the interbank market (in the euro area it is the Euribor, the Euro Interbank Offered Rate). If the central bank intends to maintain the target interest rate, it should sell financial assets. If the central bank coordinates with the government, the government (as part of its fiscal policy) could issue financial assets with which to withdraw excess reserves.

• **Remark 10.** It is left as an exercise to show that the main result of the example (the private sector accumulates net financial wealth equal to the public sector deaccumulation of net financial wealth in the form of public debt) holds if the T-bills are purchased by the: (i) foreign sector by borrowing from domestic banks; (ii) non-bank private sector with or without bank loans; (iii) central bank.

Conclusions

- Paying taxes destroys bank money.
- Public spending creates bank money.
- Public spending creates reserves for the banking sector.
- Public spending financed with public debt creates net financial wealth for the private sector.
- Like granting a loan to an individual, the purchase of government bonds by the banking sector creates bank money: the banking sector records a financial asset (the loan to an individual or government) and simultaneously generates a bank deposit as its liability. The difference is that the loan to the government is a tradable asset (there is a secondary market).
- Can debt be said to create a burden for the future if it can be sold at any time?

The next table summarizes the previous discussion and results.

Summary of the example: public spending creates net financial wealth for the private sector

Non-banking private sector		Private banking sector		Government		Central bank	
1. Payment of taxes							
Deposits –4	Taxes –4	Reserves –4	Deposits –4	Taxes –4			Bank reserves –4
				Reserves + 4			Government reserves +4
2. Issuance of T-bills							
		T-bills +6	Government deposits +6	Deposits to banks +6	T-bills +6		
3. Deposits to reserves							
		Reserves –6	Government deposits –6	Deposits to banks –6			Bank reserves –6
				Reserves +6			Government reserves +6
4. Public expenditure							
Goods –10				Goods +10			Bank reserves +10
Deposits +10		**Reserves +10**	Deposits +10	Reserves –10			Government reserves –10

Aggregate result

Private sector				Government			
Deposits +6		**T-bills +6**	**Deposits +6**		**T-bills +6**		
Net accumulation of financial assets = 6				**Net deaccumulation of financial assets = 6**			

3. Monetary and fiscal policy in normal situations

Under normal conditions (absence of economic, financial or banking crisis), central bank officials choose a short-term target interest rate that they understand capable of achieving their ultimate objectives (such as price stability, generally specified in terms of a value of the inflation rate).

Central bankers also choose a benchmark market interest rate, such as some very short-term (daily) interest rate in the interbank market, which is a (central bank) reserve market.

The monetary policy actions of central bank officials (liquidity management operations) aim to align the reference interest rate with the target interest rate.

The central bank's liquidity management operations are closely linked to the government's public spending and tax collection operations.

When the government carries out public spending, it pays for the acquisition of goods or services by generating a credit in the sellers' current accounts, that is, the sellers' deposits in banks increase (if the government pays with a check or in cash, generally the check and cash end up in the banking system again increasing the volume of deposits).

This creation of deposits in favour of sellers means transferring a liability to the banks. In return, the government must transfer an asset to the banks: central bank reserves. Thus, when the government purchases goods, pays for services or executes transfers, the volume of banks' reserves goes up.

Conversely, tax collection implies that the government generates a debit in the checking accounts of taxpayers. In this case, whether taxes are paid with deposits or when they are paid with checks or cash, the result for banks is a reduction in reserves.

As result, transactions between the public sector and the non-bank private sector create or destroy reserves (which are a form of liquidity).

Corollary: a public deficit (public spending greater than tax revenue) increases bank reserves and a public surplus reduces them (revisit the previous example and the summary table).

That fiscal policy is susceptible to alter the volume of reserves in the banking sector creates the potential for conflict with monetary policy, since the variation in reserves is likely to modify the reference interest rate that central bank officials are interested in controlling (the reason is that this rate is determined in an interbank market for reserves).

Specifically, a public deficit, by generating reserves, creates the possibility of banks holding excess reserves (relative to the volume of reserves they would voluntarily want to hold). By wanting to get rid of excess reserves, the supply of reserves in the interbank market would increase and downward pressure would be created on the central bank's benchmark interest rate.

In these circumstances, the central bank must intervene in the interbank market to absorb the excess reserves caused by the deviation of the reference rate from the target rate. To make the sale of reserves to the central bank attractive, the latter must offer the banks in exchange some asset with a higher return than the reference rate and that is as liquid as the reserves themselves. Treasury bills

and bonds (generally, public debt securities) have become the assets commonly used as substitutes for reserves that pay a sufficiently attractive interest.

The conclusion is that, for MS governments, public debt is an instrument of the central bank to achieve its target interest rate (through control of the reference interest rate) and not (as presented in the orthodox, conventional view), or not primarily, a tool for financing the public deficit. The issuance of public debt is not so much a financial operation linked to fiscal policy but rather an operation of liquidity regulation.

The issuance of public debt does not respond to the need to finance public deficits (an MS government does not need to finance its spending) but is part of the central bank's liquidity regulation operations.

Moreover, against orthodoxy, the public deficit does not, by itself, put upward pressure on interest rates (the government does not pay for public spending by withdrawing liquidity from the private sector). If there is any increase in interest rates, it is due to the intervention of the central bank, which tries to neutralize the downward pressure caused by the deficit (in increasing reserves).

4. The policy of quantitative easing (QE)

'Quantitative easing' (or expansion) means massive purchases of financial assets by the central bank from the private sector, not only of public debt but also of other financial assets not usually purchased by the central bank in open market operations, such as corporate bonds with high credit quality. The range of assets that the central bank is willing to purchase with quantitative expansion is wider than in open market operations: the central bank accepts assets of higher risk, of lower 'quality' or from more sellers than in open market operations.

QE is an extraordinary policy measure. It is evidence that circumsntances are 'far from normal'. A global financial crisis. A global pandemic. War in Europe. Since the 2008 global financial crisis have engaged, more than once, in unprecedented QE programmes.

Fig. 1 shows the impact on the US Federal Reserve's balance sheet of the two most recent episodes of quantitative easing: those associated with the 2008 global financial crisis and the 2020 health crisis (COVID- 19 pandemic). Figs. 3-5 present information on the European Central Bank QE.

A lesson of the central banks' involvement with QE is that the orthodox prediction regarding the effect of such abnormal central bank behaviour on the inflation rate proved wrong. The orthodox view reduces to the motto 'more money, higher inflation'. The massive liquidity injections by central banks did not cause hiperinflation, nor even a high inflation. In fact, deflation occurred; see Fig. 2 (the inflation rate turned negative once in the US and three times in Spain despite QE).

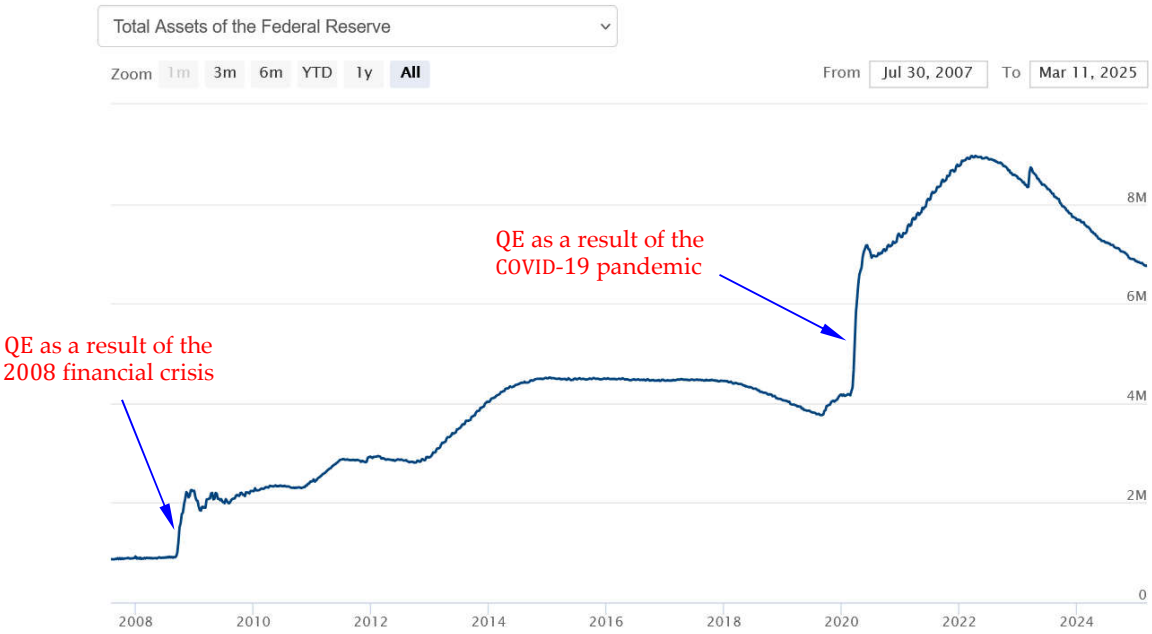


Fig. 1. Federal Reserve quantitative easing (total volume of assets, millions of dollars)
https://www.federalreserve.gov/monetarypolicy/bst_recenttrends.htm

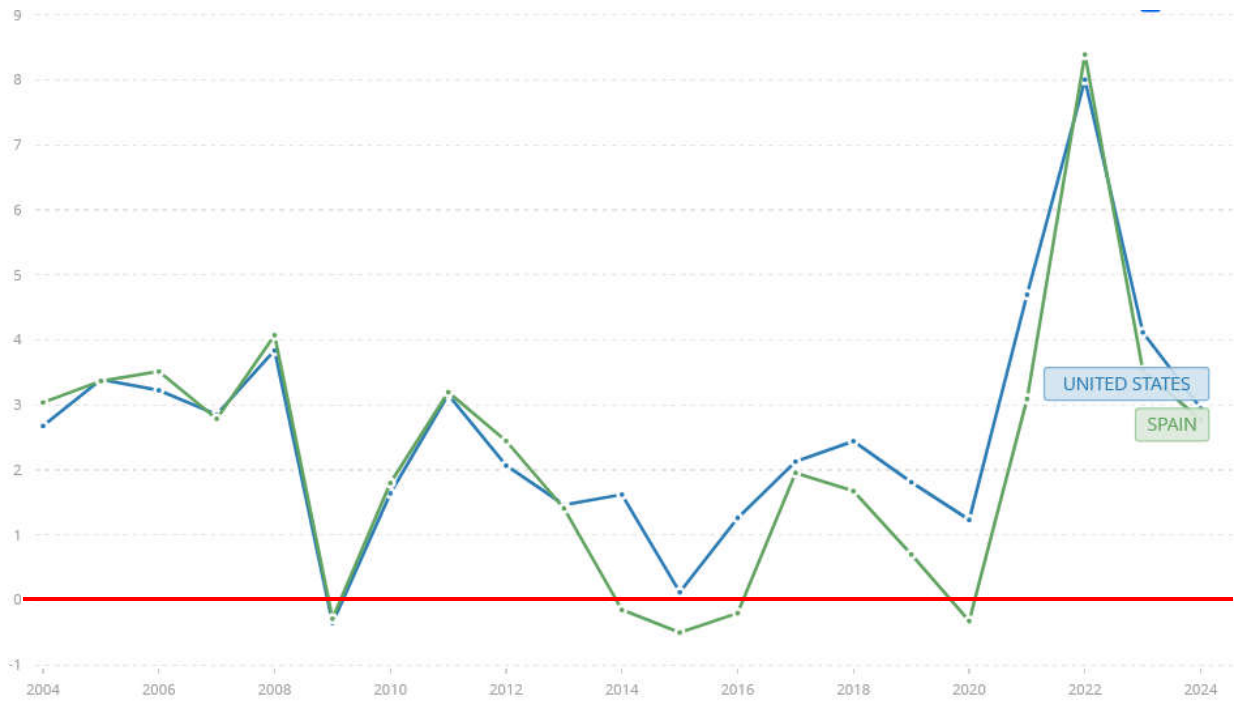


Fig. 2. Consumer price index inflation rate, US and Spain
https://data.worldbank.org/indicator/FP.CPI.TOTL.ZG?end=2024&locations=US-ES&name_desc=true&start=2004&view=chart

Quantitative easing takes place when the central bank's benchmark interest rate is close to zero: the massive injection of reserves that quantitative easing represents pushes the interbank interest rate towards zero. Its aim is to increase liquidity and induce banks to grant more loans and thus stimulate economic activity.

This policy is misleadingly called 'printing money' or 'printing notes', when in reality nothing is printed and the form of money (cash) that one thinks of when one hears the expressions 'printing

money' or 'printing notes' is not created. With quantitative easing, the form of money that is created is reserves: numbers on electronic balance sheets (it is a digital printout). Reserves cannot be spent directly on the purchase of goods and services, because they are money that circulates between the public sector (government and central bank) and the private banking sector, and within the private banking sector itself. The orthodox presumption is that reserves, through banks and their loans, are automatically transformed into money that does allow the purchase of goods and services. Hence the conventional view considers quantitative easing inflationary.

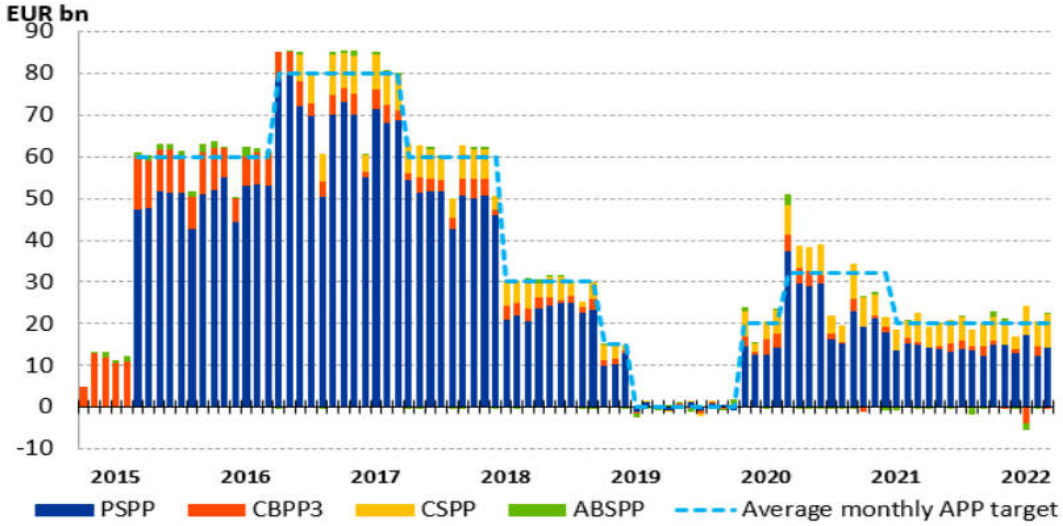


Fig. 3. European Central Bank quantitative easing (APP = asset purchase programme)
CSPP = purchases from companies (corporate sector) · PSPP = purchases from the public sector
CBPP3 = third round of covered bond purchases
https://www.ecb.europa.eu/mopo/implement/app/html/index.en.html
https://www.bbva.com/es/economia-todos-quantitative-easing/

Eurosystem holdings under the pandemic emergency purchase programme

Changes in holdings in EUR millions	Asset-backed securities	Covered bonds	Corporate bonds	Commercial paper	Public sector securities	Total
Holdings* as at end-Jan 2022	0	6,073	40,301	3,857	1,580,547	1,630,779
Net purchases Feb 22 - Mar 22	0	0	48	2,007	68,342	70,398
Quarter-end amortisation adjustment and redemptions of coupon STRIPS	0	-6	-37	-2	-4,643	-4,688
Holdings as at end-Mar 2022*	0	6,067	40,313	5,862	1,644,247	1,696,489

Fig. 4. ECB Emergency Purchase Program for the COVID-19 pandemic (PEPP), March 2022
('commercial paper' = unsecured corporate promissory notes, with an average maturity of about 30 days)
https://www.ecb.europa.eu/mopo/implement/pepp/html/index.en.html

In a somewhat fanciful way (while reproducing the conventional view), the European Central Bank's website explains how its asset purchase program or APP (the quantitative easing) works:

(1) "The European Central Bank buys bonds from banks.

(2) This increases the price of these bonds and creates money in the banking system.

(3) As a consequence, a wide range of interest rates fall and loans become cheaper.

(4) Businesses and people are able to borrow more and spend less to repay their debts.

(5) As a result, consumption and investment receive a boost.

(6) Higher consumption and more investment support economic growth and job creation.

(7) As prices rise, the ECB achieves an inflation rate of 2% over the medium term."

(8) The missing final piece: "And they all lived happily ever after."

https://www.ecb.europa.eu/ecb/educational/explainers/show-me/html/app_infographic.en.html

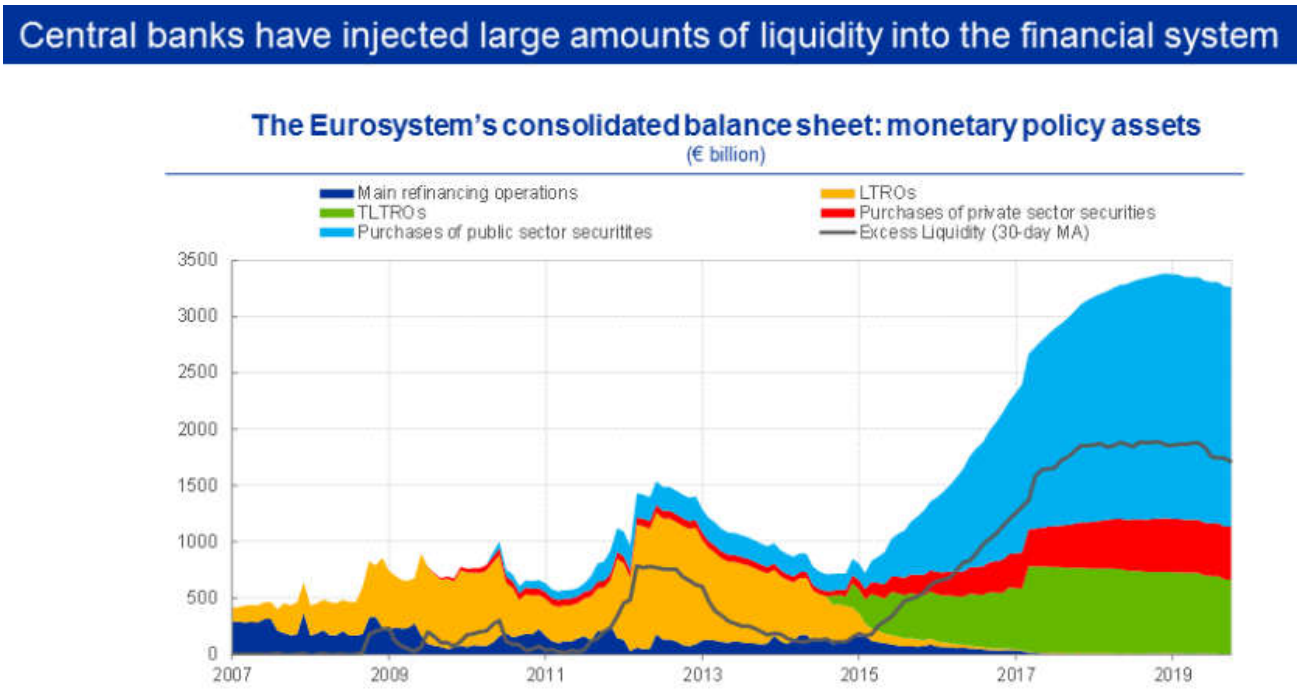


Fig. 5. Balance sheet of the Eurosystem (until October 2019)

https://www.ecb.europa.eu/press/key/date/2019/html/ecb.sp191112~5808616051.en.html

On 18 March 2020, the ECB announced the PEPP (Pandemic Emergency Purchase Programme), a temporary program of private and public sector asset purchases with an allocation of 750 billion euros to address the economic effects of COVID-19 in the euro area.

https://www.ecb.europa.eu/press/pr/date/2020/html/ecb.pr200318_1~3949d6f266.en.html

Figs. 6-12 illustrate the magnitude of the Federal Reserve's quantitative easing. Following the COVID-19 health emergency, the ECB faced a crisis of its own caused by the Russian invasion of Ukraine on 24 February 24 2022. The ECB maintains a website on the monetary and economic impact of the conflict on the euro area:

https://www.ecb.europa.eu/home/search/russia _ukraine_war/html/index.en.html.

Figs. 13 and 14 show that quantitative easing was widespread, not just by central banks in the US and the euro area. As a comparison of the magnitude of balance sheet expansions, Fig. 14 shows the value of world GDP in 2023 in dollars. To compare the financial magnitudes involved in QE with the value generated by the real sector, Fig. 15 displays the evolution of world GDP up to 2024 (world GDP in 2024 amounted to $111.25 trillion).

The conventional view is that quantitative easing is able to stimulate economic activity because it assumes that banks need reserves before lending and quantitative easing provides banks with a sufficient volume of reserves. In reality, banks lend when they consider that the borrower is solvent enough to repay the loan.

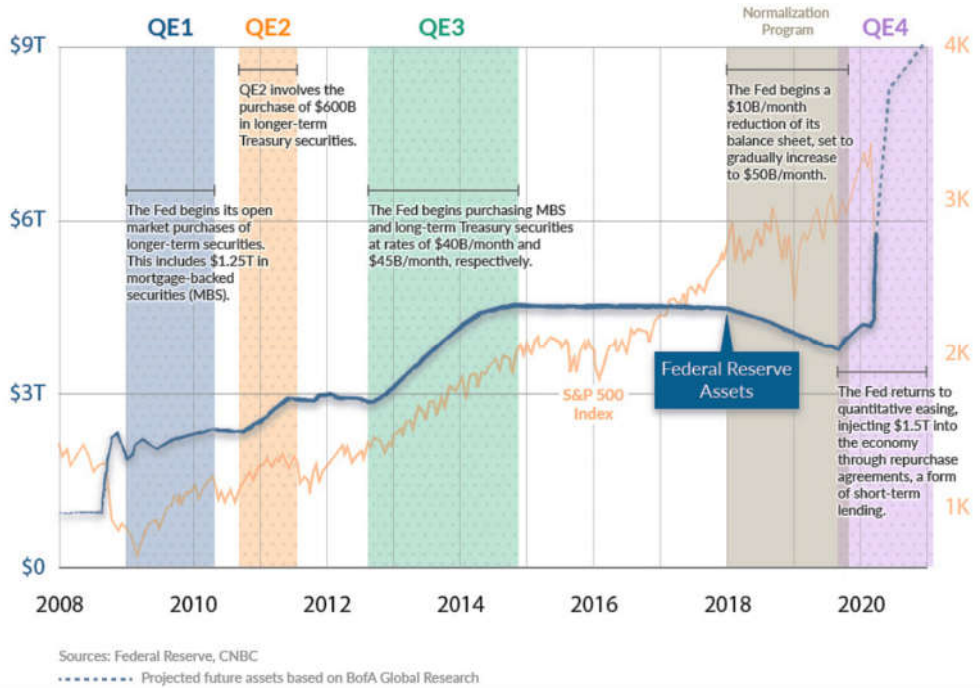
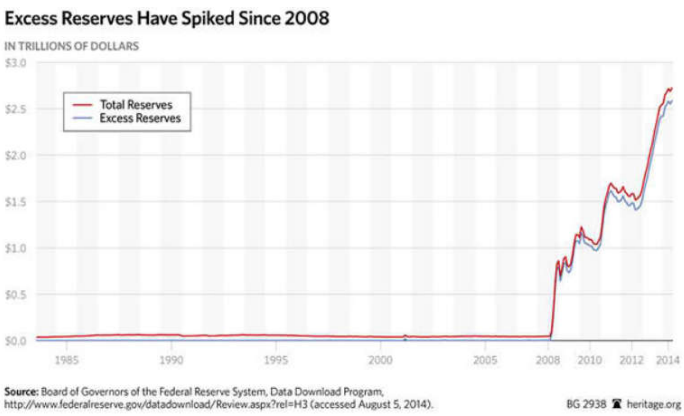
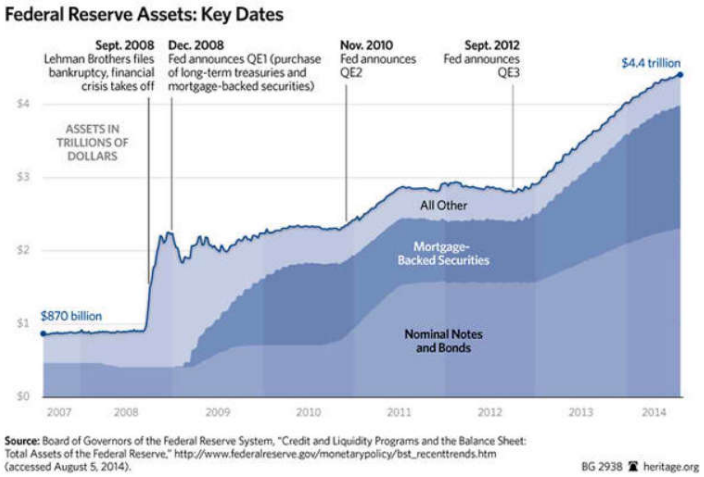


Fig. 6. Federal Reserve Assets
https://www.visualcapitalist.com/the-feds-balance-sheet-the-other-exponential-curve/





Figs. 7 and 8. Quantitative expansions of the Federal Reserve
https://www.heritage.org/monetary-policy/report/quantitative-easing-the-feds-balance-sheet-and-central-bank-insolvency

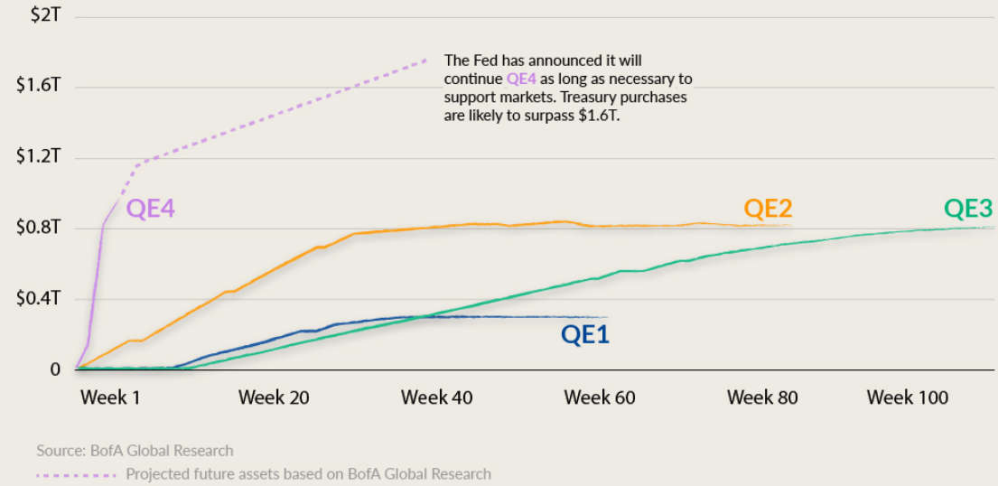


Fig. 9. Magnitude of the Federal Reserve's asset purchase programs
https://www.visualcapitalist.com/the-feds-balance-sheet-the-other-exponential-curve/

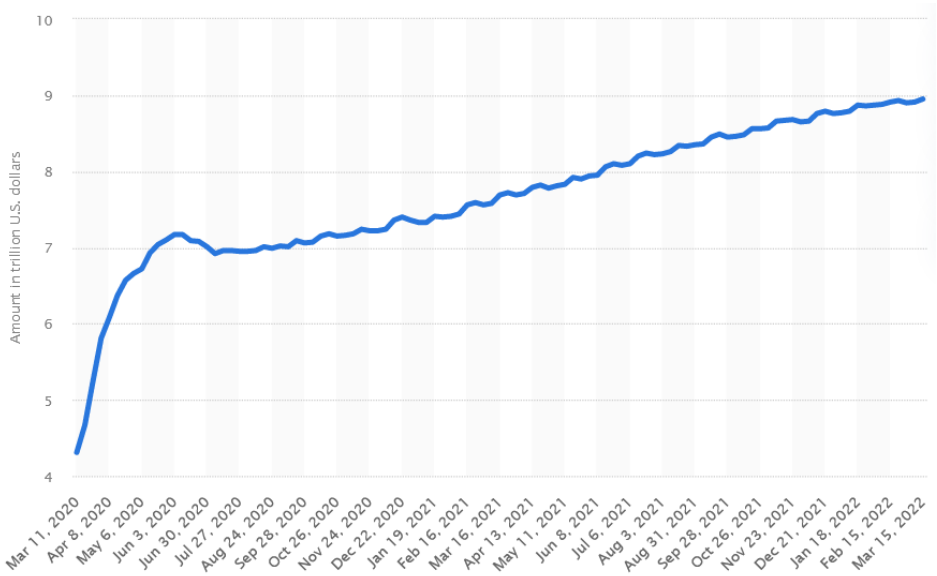


Fig. 10. The Fed quantitative easing in the wake of COVID-19 (03/2020 - 03/2022, trillions of $)
https://www.statista.com/statistics/1121416/quantitative-easing-fed-balance-sheet-coronavirus/

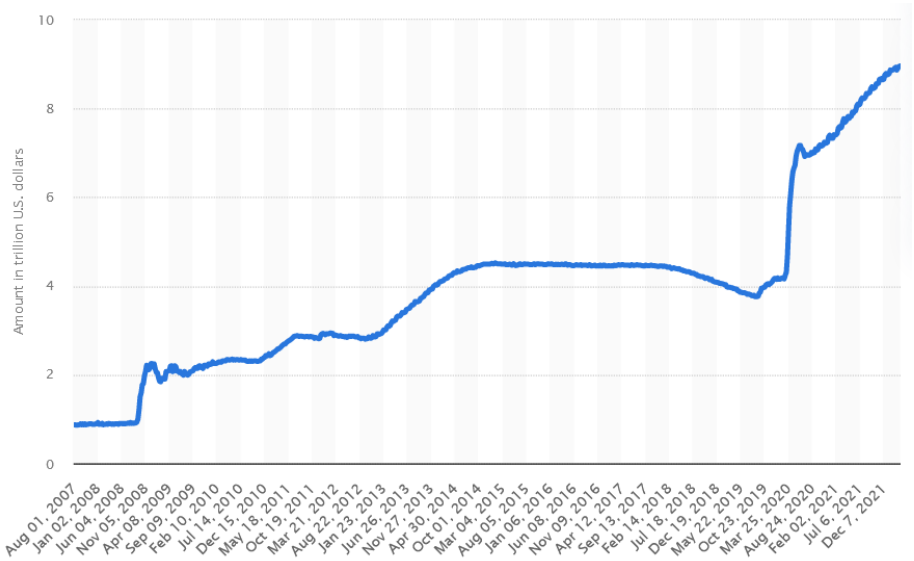


Fig. 11. Quantitative easing, Federal Reserve (August 2007 - March 2022, trillions of dollars)
https://www.statista.com/statistics/1121448/fed-balance-sheet-timeline/

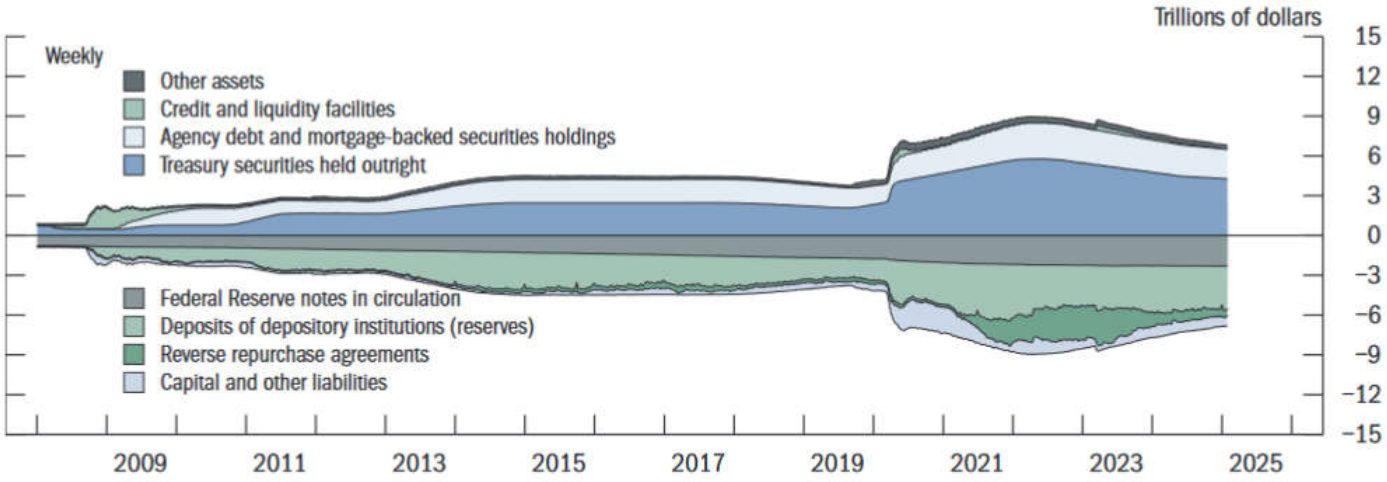


Fig. 12. Balance sheet of the Federal Reserve (trillion = 10^{12})
https://www.federalreserve.gov/publications/files/20250207_mprfullreport.pdf

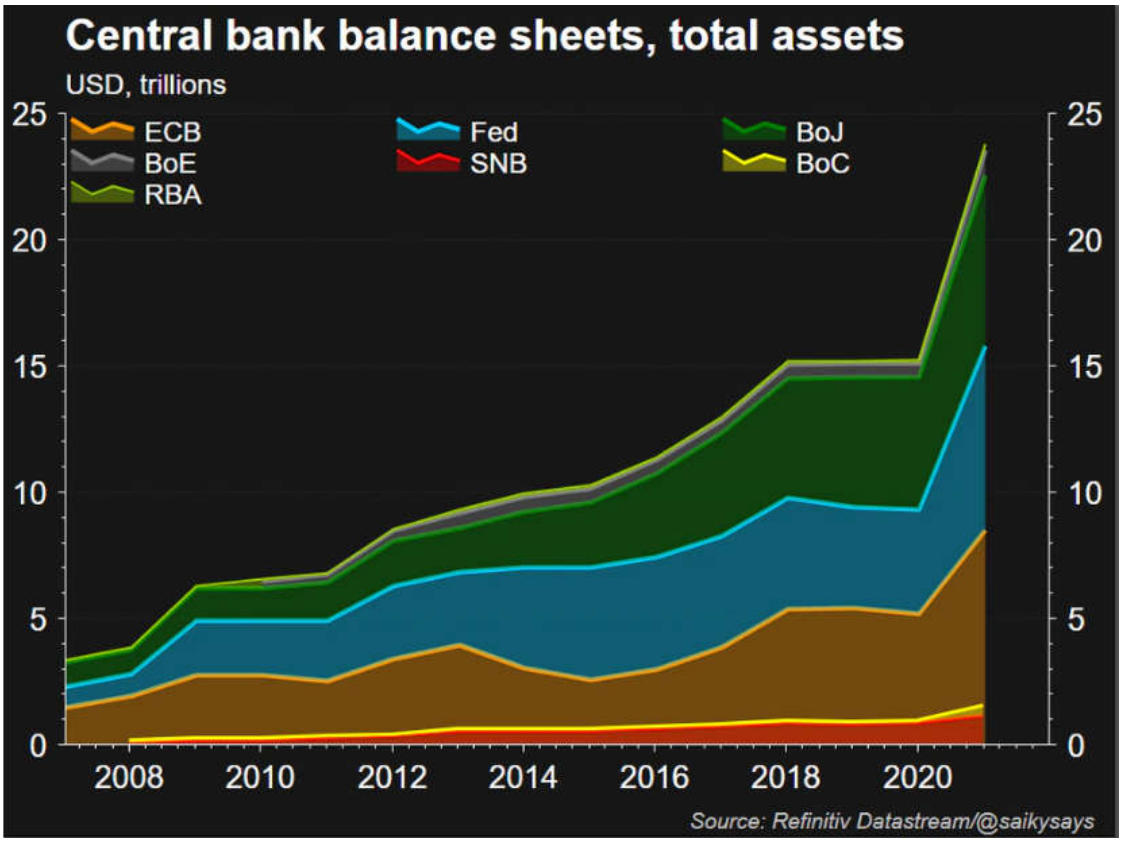


Fig. 13. Central bank balance sheets (BoE = Bank of England · RBA = Reserve Bank of Australia · BoJ = Bank of Japan · BoC = Bank of Canada · SNB = Swiss National Bank)
https://www.reuters.com/business/central-banks-start-turning-off-cash-taps-2022-01-13/

A bank lacking reserves does not need any quantitative easing: it either resorts to the interbank market and obtains reserves from other banks or, as a last resort, appeals to the central bank's credit facility (which involves paying an interest rate higher than that of the interbank market).

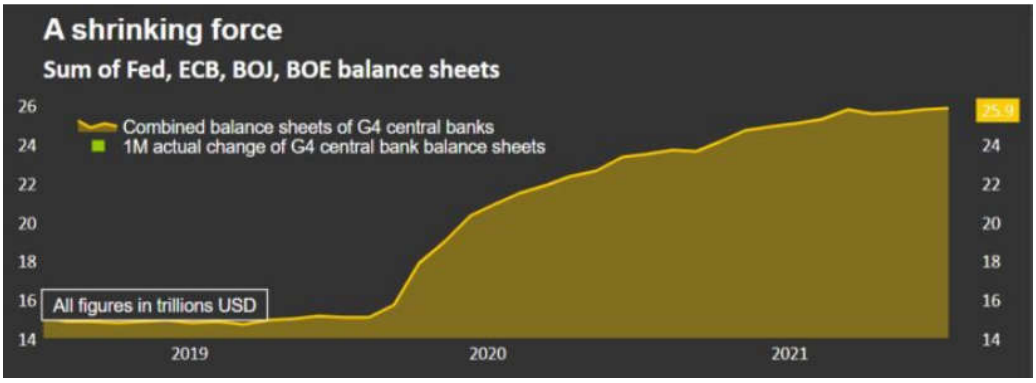


Fig. 14. Aggregate balance sheets of the G4 central banks (US, euro area, Japan, UK)
https://www.reuters.com/business/central-banks-start-turning-off-cash-taps-2022-01-13/

The contraction in credit that motivates quantitative easing is not resolved with more reserves, because the cause of the contraction is the loss of solvency (or the expectation of this loss) of families and companies, which is worsened by the reduced access to credit. Which worker goes into more debt if they fear losing their job? Which company goes into more debt if they fear losing customers?

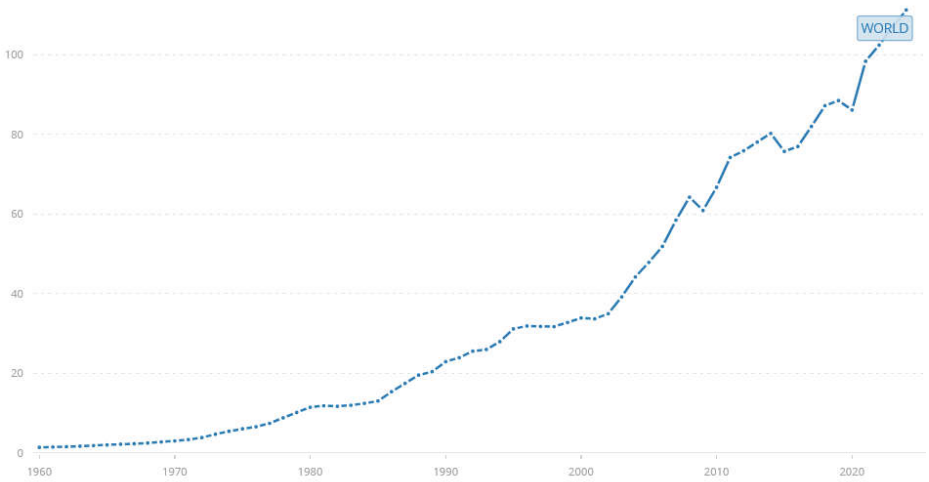


Fig. 15. World GDP, trillions of dollars (2024: World, 111.25; USA, 29.18)
https://data.worldbank.org/indicator/NY.GDP.MKTP.CD

If the central bank wanted to attack the cause of the problem, and not a symptom, it would lend directly to households and businesses, instead of delegating all the power to intervene in economic activity to the banks (when the banks themselves have little interest in sacrificing anything to stimulate economic activity by lowering the required criteria on borrowers).

Central Bank Digital Currency (CBDC) would allow direct lending by the central bank to the non-bank private sector. Meanwhile, fiscal policy is a more effective tool than monetary policy. The diagram in Fig. 16 helps to understand why.

On the one hand, the central bank can only directly provide one form of money (reserves) to the private banking sector; but, initially, the private banking sector can decide not to extend its form of money (deposits) to the non-bank private sector.

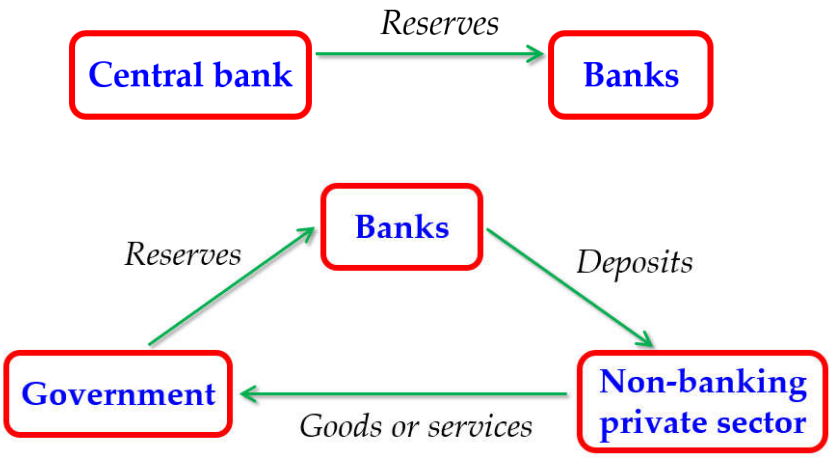


Fig. 16. Monetary policy (expansionary OMO, above) versus fiscal policy (public spending, below)

On the other hand, the government, through public spending, simultaneously achieves four objectives.

- First: public spending directly affects economic activity in the real sector (stimulating production, employment, business creation…). The central bank does not have this capacity for direct influence, as it requires the intermediation of the private banking sector.
- Second: the impact on the real sector can be selective (microeconomic). Public spending can be applied to specific economic activities or companies, because help there is more needed or because they are considered more important; on the other hand, the modification of the central bank's interest rates has a universal impact (macroeconomic), affecting everyone equally.
- Third: public spending creates reserves for the private banking sector (like an expansionary open market operation).
- Fourth: Public spending creates bankable money for the non-banking private sector.

The only significant effect of quantitative easing is to change the composition of banks' assets: they reduce their holdings of certain assets (public debt securities, corporate bonds, other collateralized assets) with relatively long maturities and increase the volume of reserves (which, as a financial asset, is safer and more liquid).

The purchase of longer-term assets by the central bank tends to raise their price and, therefore, reduce their profitability (longer-term interest rates). The presumption is that these rates are the relevant ones to stimulate investment spending.

But the decline in interest rates harms savers who will predictably reduce their consumption spending. All of this leads to the conclusion that the effects of quantitative easing on total spending are, a priori, indeterminate. This ambiguity of effects does not seem to be an argument in favour of using the instrument of quantitative easing mechanically: as an anti-recession recipe it rather seems to have very little power.

Review what the heading of Fig. 5 says: "Central banks have injected large amounts of liquidity into the finacial system". Remind as well the ECB tutorial, whose description of the effects of the central bank's purchases of bonds misses the two forms of money: in (2), by purchasing bonds from banks, the central bank "creates money in the banking system"; and later, in (4), "businesses and people

are able to borrow more". The point is that the money created in the banking system is reserves and that business and people cannot borrow reserves (but bank money, which is created by banks not the central bank).

From the above it follows that the additional reserves created by a public deficit or by QE:

(i) do not contribute to increasing bank lending to the non-bank private sector (banks do not need reserves to make loans);

(ii) they are practically equivalent to short-term public debt securities (given that the reserves at least remunerate according to the central bank's deposit facility rate); and

(iii) by not directly affecting aggregate demand, it is unlikely that they push the inflation rate upwards.

Given the apparent substitutability between reserves deposited with the central bank and government debt securities, it seems reasonable to conclude that the two forms of assets (central bank deposits and government debt securities) cause, if anything, similar pressures on the inflation rate . The conventional view argues that holding liquid assets in the form of government debt securities (in the very short term, for a few days) is more inflationary than holding liquid assets in the form of deposits with the central bank (remunerated according to the interest rate of the central bank's deposit facility).

The same would happen if the public debt were monetized, that is, if the central bank buys public debt securities directly from the government (primary market) or from previous buyers of the securities (secondary market). The conventional view once again considers the monetization of public debt as an inflationary measure. But the only difference is that in the previous case the creation of reserves was associated with an increase in public spending (and, therefore, in aggregate demand) and now the central bank creates even more reserves directly by buying the securities.

At least Japan's experience over the last three decades discredits the view that the monetization of public debt and, in general, the creation of reserves on a large scale, is necessarily inflationary: only in 2001 did the Bank of Japan implement a quantitative easing policy that led to an increase in reserves from 5 trillion (5,000,000,000,000) yen to 30 at a time when there was deflation (and falling asset prices and virtually zero economic growth).

The conventional view is that quantitative easing is able to stimulate economic activity because it assumes that banks need reserves before lending and quantitative easing provides banks with a sufficient volume of reserves. In reality, banks lend when they consider that the borrower is solvent enough to repay the loan.

A bank lacking reserves does not need any quantitative easing: it either resorts to the interbank market and obtains reserves from other banks or, as a last resort, appeals to the central bank's credit facility (which entails paying an interest rate higher than that of the interbank market).

The contraction in credit that motivates quantitative easing is not resolved with more reserves, because the cause of the contraction is the loss of solvency (or the expectation of this loss) of families and companies, which is worsened by the reduced access to credit. Which worker goes into more debt if they fear losing their job? Which company goes into more debt if they fear losing customers?

If the central bank wants to attack the cause of the problem, and not a symptom, it should lend directly to families and businesses, instead of delegating all the power to intervene in economic activity to the banks (when the banks themselves have little interest in sacrificing anything to stimulate economic activity by lowering the level of demand on borrowers).

The only significant effect of quantitative easing is to change the composition of banks' assets: they reduce their holdings of certain assets (public debt securities, corporate bonds, other collateralized assets) with relatively long maturities and increase the volume of reserves.

The purchase of longer-term assets by the central bank tends to raise their price and, therefore, reduce their yield (longer-term interest rates). The presumption is that these rates are the relevant ones to stimulate investment spending.

But the decline in interest rates harms savers who will predictably reduce their consumption spending. All of this leads to the conclusion that the effects of quantitative easing on total spending are, a priori, indeterminate. This ambiguity of effects does not seem to be an argument in favor of using the instrument of quantitative easing mechanically: as an anti-recession recipe it seems to be of little power.

So why was QE conducted? Not to save 'the economy', but to save banks (but it is not popular to inform people that banks come before people). With banks in big trouble, an economy cannot be rescued from a recession (a severe contraction of economic activity, a big drop in GDP). The problem is that having healthy banks is not sufficient for economic recovery: bank lending depends crucially of favourable economic prospects. That is the simple reason why heterodox economists turn to fiscal policy to save the economy: this can be done without having to save banks first or wait for banks to feel saved and safe.

5. The policy of quantitative tightening (QT)

The global inflationary process of 2021-23 associated with the recovery from the pandemic and the geopolitical tensions caused by the war between Russia and Ukraine forced central banks to raise their interest rates, which required an end to and a reversal of quantitative easing.

Since then a phase of 'quantitative tightening' has been entered; the Federal Reserve, for example, between May 2022 and November 2024 , reduced the value of its assets by nearly $2 trillion.

https://en.wikipedia.org/wiki/2021%E2%80%932023_inflation_surge

https://am.jpmorgan.com/us/en/asset-management/adv/insights/market-insights/market-updates/on-the-minds-of-investors/when-might-the-fed-end-its-quantitative-tightening-qt-program/

The Bank of Canada stopped quantitative easing in October 2021 and started quantitative tightening in April 2022 , reducing the value of its assets by nearly $ 2 trillion.

As regards the ECB, Google informs that: "The European Central Bank (ECB) ended its Quantitative Easing (QE) asset purchase program in July 2022, and fully discontinued reinvestments in July 2023. The ECB is now in a phase of Quantitative Tightening (QT), allowing its bond holdings to mature without replacing them to reduce the size of its balance sheet."

Fig. 17 illustrates the general process of 'convergence towards normality'of central banks (except the Bank of Japan: its normality seems quite different, in dynamics and magnitude, from the rest of the banks).

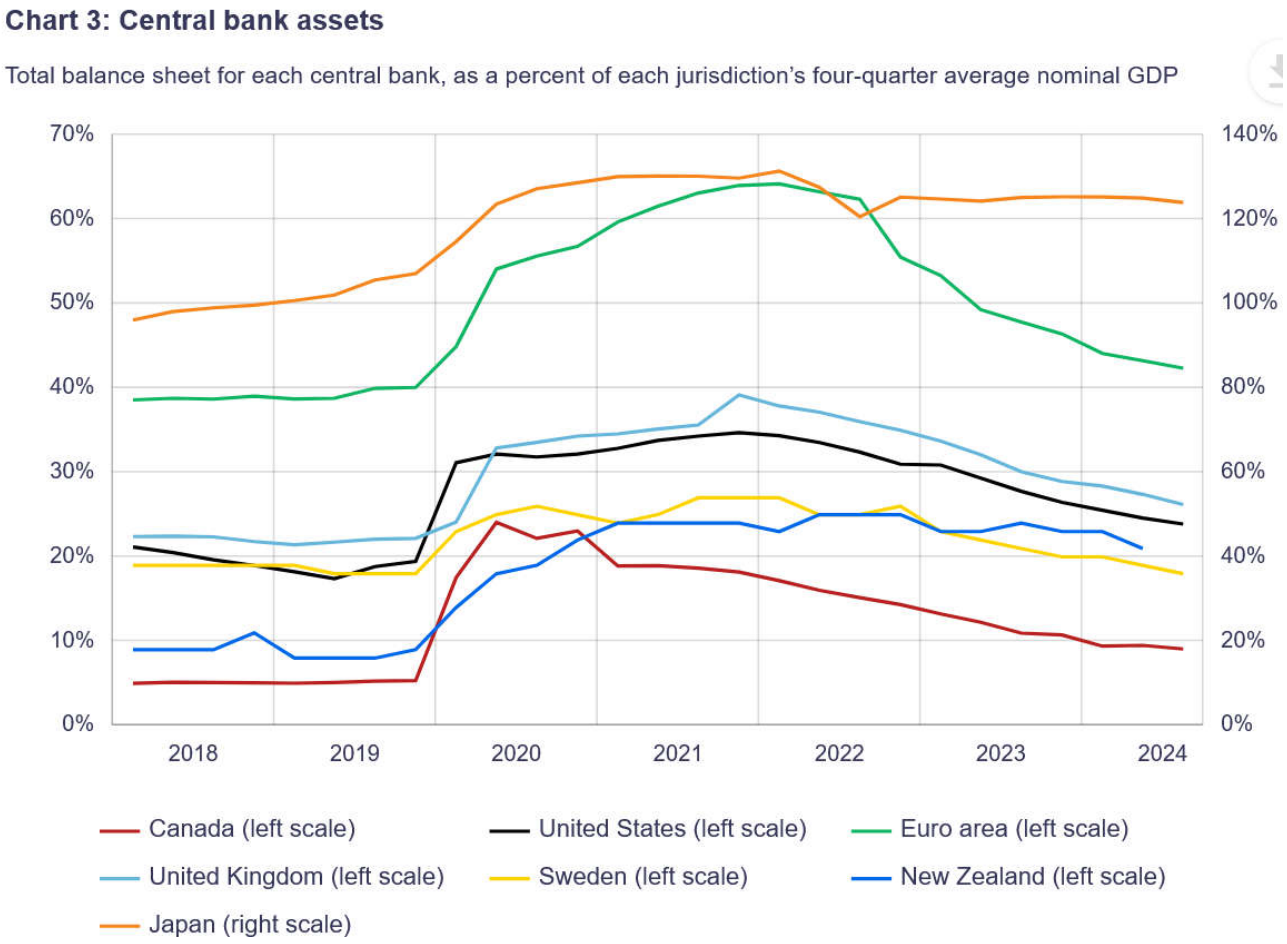


Fig. 17. The balance sheet of central banks in relation to GDP

https://www.bankofcanada.ca/2025/01/the-end-of-quantitative-tightening-and-what-comes-next/

6. Fiscal policy as an alternative to quantitative easing

If the objective of quantitative easing is to stimulate economic activity, there is a more direct and faster way to achieve this: expansionary fiscal policy. If private spending is insufficient to achieve economic activity or employment goals, public spending can easily cover the private sector's shortfall. If the cause of the problem is a lack of spending, the obvious solution is for the government to add the missing spending. Especially when the government does not face the budget constraints of households and businesses: an MS government can pay its debts with money that it can create itself. An orthodox idea is that, when it comes to borrowing, a government is no different from a family. A family has a limit to its borrowing: its ability to generate income. But the same does not apply to an MS government, which does not need to limit its ability to borrow (and spend) by its ability to collect taxes.

7. The central bank as lender of last resort

The orthodox view considers government and central bank asymmetrically. A central bank is considered the ultimate protector of the financial sector: there is no objection to attributing to the central bank the function of being a lender of last resort. That is, if liquidity needs to be provided to the banking sector and no one else provides it, the central bank is legitimate to lend whatever is needed to virtually anyone under virtually any conditions.

The speech of Mario Draghi on 26 July 2012, as President of the European Central Bank, can be interpreted as an exercise of the central bank as lender of last resort, in this case to the euro area governments. The key words of the speech were: "Within our mandate, the ECB is ready to do whatever it takes to preserve the euro . And believe me, it will be enough."
https://www.ecb.europa.eu/press/key/date/2012/html/sp120726.en.html

The speech is also an example of setting the path (forward guidance) of monetary policy and, in general, of the objectives and procedures of the central bank's action. Public communication by central banks is a powerful tool for redefining the expectations of members of the economy, announcing the intentions and strategies of the central bank: indicating where the central bank's action is headed and why. Announcing ends and means to facilitate adaptation to the new reality that the central bank intends to create.

The classic rule of action of the central bank as a lender of last resort establishes:

(i) lend to solvent financial institutions and let the others go bankrupt;

(ii) lend early and without limits;

(iii) apply sufficiently high interest rates on loans (as a punishment); and

(iv) require quality collateral assets in loans.

8. The job guarantee proposal

On the other hand, the orthodox view does not attribute to the government the task of ultimate protector of the real sector: rather, it postulates that the best thing the government can do for the real sector is not to get involved too much.

An economic policy proposal defended by Modern Monetary Theory is for the government to act as the employer of last resort: the government hires any worker who cannot find work in the private sector and is willing and able to work.

The government job offer would be unconditional, the worker would be allowed to choose the number of hours (full-time, at most), and the wage of the guaranteed job would set the minimum wage in the economy. Private sector jobs that did not pay this guaranteed wage in the public sector would lose workers, who would accept to work in one of the government-guaranteed jobs and receive a higher wage than in the private sector. This would force companies to pay at least the government-guaranteed wage to their workers.

The ultimate goal of the employer proposal is not to snatch workers from the private sector, but to offer a better alternative to workers on the lower rungs, the most vulnerable and most subject to exploitation due to lack of bargaining power.

Jobs developed in the public sector would also be an opportunity for workers to improve their training and their ability to find more attractive or better-paid work in the private sector.

A predictable implication of guaranteed public employment is that the transfer of workers from the private sector to the public sector (where the guaranteed wage is fixed) reduces inflationary pressure in the private sector. In the conventional view the price of achieving a reduction in the inflation rate is an increase in the unemployment rate. With guaranteed public employment, no more unemployment is needed to control inflation: workers who previously lost their jobs to make the reduction in the inflation rate possible can now find work in the public sector. The consequence is that the unemployment rate can be raised or lowered without requiring a modification of the inflation rate.

9. The paradox of perfection

Until the start of the global financial crisis in 2008, the monetary and financial management of central banks over the previous two decades was considered apparently successful: inflation was under control and, through greater transparency in their actions, expectations in financial markets (specifically, regarding the evolution of exchange rates) were stabilized.

Macroeconomically, those two decades were characterized by a decrease in volatility. The question is whether the main cause was chance (a concatenation of fortunate factors), a structural change in economies in the direction of reducing macroeconomic volatility, or the actions of central banks.

Originating in the apparent success of central banks, the paradox of perfection (Drobny, 2006) contends that the solution to certain macroeconomic problems (excessive inflation, volatile exchange rates) creates others that are probably more serious (global trade imbalances, asset bubbles).

The paradox of perfection means that, as central banks learn (generally from previous mistakes) to be more effective in achieving their objectives (domestic monetary and financial stability, creating an economic environment with low inflation rates, reduced volatility in GDP growth and increased employment), in parallel they generate incentives for financial markets to assume more risks and imbalances are generated in areas outside the direct control of central banks (global imbalances, which arise between economies).

The perfection paradox can be interpreted as a version in the field of public action in the financial sector of Hyman Minsky's financial instability hypothesis, formulated with respect to private action in the financial sector: in both cases, stability (success) brings instability (failure).

Steve Drobny (2006): *Inside the House of Money. Top Hedge Fund Traders on Profiting in the Global Markets*, Wiley.

10. Orthodox view of inflation

The orthodox assumption about inflation is that it is caused by excessive aggregate spending, relative to the sustainable productive potential of the economy.

The unemployment rate and the rate of change in wages are taken as indicators of the degree to which aggregate spending puts pressure on the productive limit of the economy: the lower the unemployment rate and/or the more intensely wages increase, the more indications that spending is excessive and that it needs to be reduced to contain its impact on the inflation rate.

According to the orthodox view, the way to reduce spending (and, by extension, the inflation rate) through monetary policy is to raise interest rates controlled by the central bank (contractionary monetary policy). The presumption, and expectation, is that the increase in these rates will be transferred to the rest of interest rates, in particular, the interest rate that banks charge for loans to consumers and businesses. Banks are also expected to tighten credit conditions: that they will make more difficult for certain groups to obtain loans by requiring additional or stricter guarantees when granting loans.

An implication of this view is that the reduction in the inflation rate occurs by forcing an increase in the unemployment rate and a dampening in the rate of wage increases.

The rise in interest rates on loans to companies causes companies to borrow less, invest less and reduce the demand for workers. More unemployed workers and higher interest rates for households reinforce the contractionary effect on spending: households consume less. Less investment spending and less consumption spending put downward pressure on the inflation rate.

A parallel route through which contractionary monetary policy tends to reduce the inflation rate is wage containment, caused by the transfer of power from workers to employers. With more unemployment, workers lose bargaining power to raise wages and are forced to accept lower wages (or smaller wage increases than previously). The wage reduction is presumably attributed to the prices of goods and services: if labor costs fall (or moderate their increase) companies may agree to reduce prices (or moderate its increase).

http://jwmason.org/slackwire/inflation - interest - rates - and - the - fed - a - dissent

11. Heterodox view of inflation

Several heterodox objections to the orthodox approach to reducing the inflation rate are listed next.

• The approach does not discriminate. Not all financial institutions are equally sensitive to changes in central bank interest rates. Not all businesses and consumers are equally sensitive to the availability and conditions of credit. Therefore, to the extent that monetary policy does not discriminate and treats different situations equally, it distributes the costs of a reduction in the inflation rate unequally (and most likely unfairly). The equivalent in fiscal policy would be that everyone would have to pay the same fixed-amount tax or that everyone paid the same proportion of their income.

• By not making distinctions, monetary policy does not affect different sectors of the economy equally: the contraction of production and the expansion of unemployment occur initially in the most productive sectors sensitive to credit conditions (such as construction). It also initially affects households and highly indebted companies, which will reduce spending and affect sectors where

they currently do less spending. In general, in the second round of contractionary effects, sectors of the economy sensitive to changes in income or wealth will be affected (such as car manufacturers and consumer electronics).

- A more predictable effect of contractionary monetary policy is to raise financing costs. A policy that treats asymmetrical situations symmetrically may not be effective. In the case of monetary policy, the most important causes of inflationary pressures (large corporations, high-income consumers) may not be significantly affected by the contractionary monetary policy (because their spending does not depend on credit or because banks do not pass on the central bank's rate hike to them). Hence, it is possible that the desired effects of contractionary monetary policy (spending contraction, increased unemployment, wage containment, reduction in price increases) do not occur (or not as quickly or as intensely as is believed). But an effect that does seem more immediate, certain and direct is the increase in financial costs (debt service) of companies, families and government (assuming the minimum effectiveness of monetary policy: that there is a minimum link between the rates controlled by the central bank and a large part of the interest rates in the economy).

For families, this means higher mortgage payments and reduced disposable income for consumption. For businesses, reduced profits that can finance investment. For everyone, an increased risk of default (which increases the likelihood of business closure).

- The impact on the prices of financial assets is difficult to control. The implementation of a contractionary monetary policy implies that the central bank sells financial assets. One of the presumed transmission mechanisms of monetary policy acts through the price of financial assets: when it sells them, the central bank tries to make their price fall (and, as a counterpart, raise their profitability and, therefore, their interest rate). The problem is that financial asset markets do not react continuously to changes in monetary policy: these changes may not produce effects for a while and, eventually, suddenly generate them (and almost always more intensely than desired by monetary policy changes). The reason is that most financial assets are bought and sold for speculative reasons: they are bought hoping to resell them at a higher price. A change in expectation about the evolution of the price of assets can cause an avalanche of sales, which magnifies the expected or desired effect on the price of the assets assets. In addition, contagion easily occurs: falls in the price of certain financial assets can cause falls in other financial assets, not related to the assets initially sold by the central bank. In short, a problem with monetary policy is that asset markets tend to to overreact to changes in monetary policy.

- The immediate consequence of the fall in the prices of financial assets is that their holders lose financial wealth. This limits the borrowing capacity of their holders: assets that lose value become a worse guarantee for applying for loans. The loss of net worth of families and companies that have depreciated financial assets will lead to a reduction in its spending, both direct and financed with loans.

Less spending, less GDP, more unemployment is a traumatic mechanism to reduce the inflation rate. Furthermore, it remains to be seen whether much of the investment of companies is very sensitive

to the interest rate. Investment seems much more dependent on the level of indebtedness and the cost of paying off the debt (debt service).

• The increase in the inflation rate may be concentrated in a few sectors of economic activity and not be a generalized increase. Conventional monetary policy makes no difference, so it makes paying the righteous for sinners: even though inflationary tensions occur in a few sectors (for example, certain service sectors not subject to competition in international markets), monetary policy has the potential to affect all sectors of the economy, whether they are inflationary or not.

• The effects that monetary policy can have on the inflation rate take a long time to occur. The Federal Reserve estimates that the most intense effects of a change in the central bank's target interest rate take about two years to occur. Thus, monetary policy is taken with a two-year delay: the measures decided today actually affect spending a few quarters later. What ability does a central bank have to predict the state of the economy? in a year?

The differential impact of monetary policy on the economy and the delayed impact over time make it extraordinarily difficult for the regulation of spending that the central bank can make to be gradual and controlled.

• Central banks may have the wrong model of how an economy works. Conventional models postulate gradual, small effects of gradual, small changes. An alternative view considers that an economy operates discontinuously: economic agents have mechanisms to absorb changes up to a certain magnitude and only alter their decisions when the absorption capacity is exhausted. For example, companies may not transfer to their prices cost increases up to a certain level, so that the small increase in costs that finally makes the glass overflow (exhausts the absorption capacity) leads to a substantial increase in prices. If there is this discontinuity in the functioning of an economy, the multiplier effects (expansive or contractionary) spending patterns only manifest themselves when exogenous changes are sufficiently large large; that is, the multiplier is zero, or very small, below changes of a certain magnitude and are higher than expected when this magnitude is exceeded.

Thus, a central bank can introduce small increases in the interest rate and, not observing a significant reaction in spending, can consider that the increases have been insufficient and insist on further increases. These additional increases would eventually exhaust the capacity of families and companies to absorb them, causing a contractionary reaction in spending much higher than the desired by the central bank. The result is that the alleged stabilizing action of the central bank it can really be destabilizing[1].

[1] If interested, see:
- Bill Mitchell (2009): "Building bank reserves is not inflationary", http://bilbo.economicoutlook.net/blog/?p=6624.
- Bill Mitchell (2009): "Quantitative easing 101", http://bilbo.economicoutlook.net/blog/?p=661.
- Bill Mitchell (2022): "Exploring the essence of MMT – the Job Guarantee – Part 2", http://bilbo.economicoutlook.net/blog/?p=49546.
- Reserve Bank of Australia (2021?): 'How the Reserve Bank implements monetary policy', https://www.rba.gov.au/education/resources/explainers/ https://www.rba.gov.au/education/resources/explainers/pdf/how-the-reserve-bank-implements-monetary-policy.pdf.
- Claudio Borio, Piti Disyata (2009): 'Unconventional monetary policies: an appraisal', BIS Working Papers 292, http://www.bis.org/publ/work292.pdf?noframes=1.

12. The fiscal policy of JM Keynes and MMT

A government that can issue its own currency can always resort to fiscal policy to maintain a sufficiently high level of employment in the economy using public spending to compensate for a lack of private spending.

The thesis that a monetarily sovereign government is not financially constrained to employ fiscal policy and counteract fluctuations in aggregate demand implies that all unemployment above frictional unemployment is attributable to the government and, therefore, is the result of a political decision.

13. Fiscal policy in the euro area

The members of the euro area have given up their monetary sovereignty. This has imposed a financial constraint on their fiscal policy: all public spending must be financed through taxes and/or the issuance of public debt securities.

As a result, a euro area government is forced to sacrifice the goal of full employment, given that the need to finance public spending restricts its use.

The autonomous communities in Spain are in a similar situation. The advantage with respect to the governments of the euro area is that the existence of a central government can contribute to relaxing the financial constraint of the communities, since the central government can make transfers to the communities. In the case of the euro area there is no supranational government that is itself monetary sovereign (and in practice eliminates the financial constraint of national governments) or that, without being monetary sovereign, relaxes the constraint through transfers.

The design of the euro area seems deficient in two ways.

- National governments have renounced their monetary sovereignty and have not granted fiscal sovereignty to any supranational fiscal authority . Monetary sovereignty has been transferred to the European Central Bank, which cannot use it for what this sovereignty ultimately serves: financing public spending that brings the economy closer to full employment (since a Central Bank does not intervene directly in the real sector of the economy).
- They have increased the financial restriction derived from the renunciation of monetary sovereignty by imposing arbitrary fiscal rules on themselves (public deficit limit of 3% of GDP and public debt limit of 60 % of GDP).

The 2008 financial crisis, the 2010–2012 euro crisis, the 2020 COVID-19 health crisis and the geopolitical tensions resulting from the Russian invasion of Ukraine in 2022 and the 2026 Iran war

- Cullen Roche (2014): 'Nobody needs to understand the liquidity trap', https://seekingalpha.com/article/2542775-nobody-needs-to-understand-the-liquidity-trap.
- Paul Krugman (1998): "Japan's trap", http://web.mit.edu/krugman/www/japtrap.html.
- Steve Drobny (2006): *Inside the House of Money. Top Hedge Fund Traders on Profiting in the Global Markets*, Wiley.
- https://academic.oup.com/cje/article/33/4/741/1730234?login=true
- https://voxeu.org/article/stabilities - and - instabilities - macroeconomy
- http://jwmason.org/slackwire/inflation - interest - rates - and - the - fed - a - dissent
- https://www.federalreserve.gov/econres/notes/feds - notes/overview - of - the - changes - to - the - frb - us - model - 2018 - accessible - 20181207.htm#fig2

have demonstrated how damaging the euro area's design is to euro area economies, based on adopting arbitrary financial constraints on fiscal policy and restricting the limited room for maneuver of fiscal policy resulting from the renunciation of fiscal rules that do not take into account the characteristics or situation of national economies[2]. The damage has been materialized in the inability of euro area governments to neutralize the negative impact of crises on economic activity and employment, and in the fact that the euro area's design itself has contributed to aggravating their impact. The solution applied when the negative impact became intolerable has been to dismantle, in practice, this design: the fiscal rules have been violated and nothing has happened (they have been repealed de facto) and, timidly, fiscal sovereignty has been recovered (also lifting, de facto, the foundational prohibition that neither the European Central Bank nor euro area governments could finance other euro area governments). At the very least, it seems that some lessons have been learned: the doctrine of fiscal austerity that dominated the European Commission's reaction to the 2008 and 2010-12 crises was completely ignored when addressing the 2020 and 2022 crises.

http://bilbo.economicoutlook.net/blog/?p=18780

14. The balance sheet recession theory

The balance sheet recession theory was proposed by Richard Koo[3] and was inspired by the analysis of the Japanese economy, particularly since the late 1980s.

The secret to the successful recovery of the Japanese economy after World War II was the combination of abundant savings provided by households with high levels of investment by businesses. For the 45 years after World War II, the Japanese economy operated on the basis of a high rate of household savings and a high rate of investment by businesses. The large volume of savings provided by households allowed businesses to borrow at low interest rates and accumulate capital in a sustained manner. One of the results of maintaining high growth rates in the Japanese economy for almost 50 years was that it became the second largest economy in the world in the 1980s.

In the early 1990s, asset prices began to fall, followed by a sharp decline in real estate prices. These declines resulted in a loss equivalent to two years of Japanese GDP, about 1 trillion yen. The loss of wealth in proportion to the size of the economy was comparable to that of the Great Depression in

[2] The European Commission's response to the Trump Administration's tariff increase in March 2025 also appears limited and weakened by the absence in the euro area of a supranational fiscal authority. https://ec.europa.eu/commission/presscorner/detail/en/ip_25_740 (press release of 12 March 2025)

[3] See, for example:

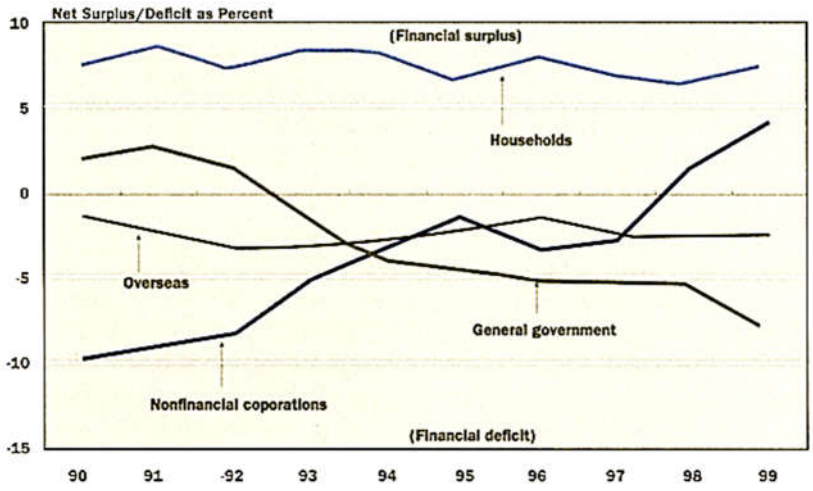
Koo, Richard C. (2001): "The Japanese economy in balance sheet recession. The real culprit is fallacy of composition, not complacency", Business Economics 36(2), 15-23.

Koo, Richard C. (2013): "Balance sheet recession as the 'other half' of macroeconomics", European Journal of Economics and Economic Policies Intervention 10(2), 136-157.

Koo, Richard C. (2022): *Pursued Economy. Understanding and Overcoming the Challenging New Realities for Advanced Economies*, Wiley.

the United States of the 1930s. For some real estate assets, the reduction in value represented a shift from 8 to 1.

A large part of the assets that lost value were acquired on credit. This caused a sharp decline in the net worth of a large number of families and companies. In many cases, the net worth was negative. This situation forced the bulk of the private sector to try to minimize debt above all else, and as a result, consumption and investment spending were reduced. In this way, the priority of millions of Japanese companies shifted from maximizing profits to minimizing debt. With such a high volume of companies concerned with offsetting the decline in the value of assets by reducing liabilities, the high investment rates characteristic of previous periods disappeared.



The graph on the right (Koo, 2001) shows that the private sector subsector consisting of businesses went from a deficit to a surplus , indicating that the subsector is a net provider of funds and not, as traditionally, a net demander. The graph shows a change in the subsector balance of 14 points of GDP over a decade: from –10 to +4. As households maintained a high savings rate (between 5 and 10%) and businesses were not interested in borrowing the saved funds, the result was a contraction in aggregate spending and immense deflationary pressures in the economy. The graph also indicates that the private sector surplus was offset by a public sector deficit.

Koo calls this situation a 'balance sheet recession': the economy suffers a recession because a sufficiently large part of the private sector, as a result of the sudden and intense loss of value of certain assets, devotes its efforts to reducing liabilities rather than expanding assets through investment and consumption.

15. Features of a balance sheet recession

A balance sheet recession has characteristics that differentiate it from other types of recession.

- Monetary policy becomes ineffective. With so many companies prioritizing debt repayment, there is no interest rate low enough to induce them to borrow money to invest. The same argument would apply to households: in the case of the Great Recession of 2008-12, unlike the Japanese experience of the 1990s , there was a substantial percentage of households interested in reducing debt above all else. Thus, if a sufficiently substantial part of the private sector prioritizes minimizing liabilities, even a zero interest rate would not incentivize them to borrow to increase spending, in consumption and/or investment.
- The recession is exacerbated by a fallacy of composition effect. People try to do what is best for their own interests: debtors cannot ignore the imbalances in their balance sheets and be dazzled

by very low interest rates to induce them to forget about the state of their liabilities and take on more debt; and creditors, while interested in lending more, cannot irresponsibly ignore that this would imply lowering the requirement for sufficiently solid guarantees from borrowers (who face serious solvency problems). The aggregate effect of trying to do what is best for oneself is that everyone is harmed: the recession makes it difficult to pay off debts to consumers and businesses (falling wages, job losses, reduced sales) and prevents savers from obtaining a return on their savings (by not finding enough sufficiently solvent borrowers).

- Everyone's attempt to overcome the recession makes it worse: the more money is spent on paying off debt, the less is spent on stimulating economic activity and the more it contributes to the fall in the value of assets, which worsens the imbalance of balance sheets (due to an additional decrease in the assets of the balance sheet), from which it follows that debtors have to spend more money on canceling debts. This vicious circle illustrates the effect of the fallacy of composition: one tries to do the best from one's individual perspective, but the collective result of the decisions worsens the individual situation.
- In these circumstances, it doesn't matter what the central bank intends or does. As long as the underlying problem (the imbalance of balance sheets due to the reduction in the value of assets) is not solved, no economic policy measure that does not address this problem will be effective.
- Fiscal policy is more effective. The deficit in private sector spending (which prioritizes saving to pay off debts) can only be offset by spending by the foreign sector (increased domestic exports) or by public spending (increased public deficit). In terms of the identity of balances $NPS \equiv PD + NX$ (where NX are net exports from the point of view of the domestic economy) :

$$NPS > 0 \text{ demands } PD + NX > 0; \text{ and}$$

$$\uparrow NPS \text{ demands } \uparrow PD \text{ or } \uparrow NX \text{ (or both).}$$

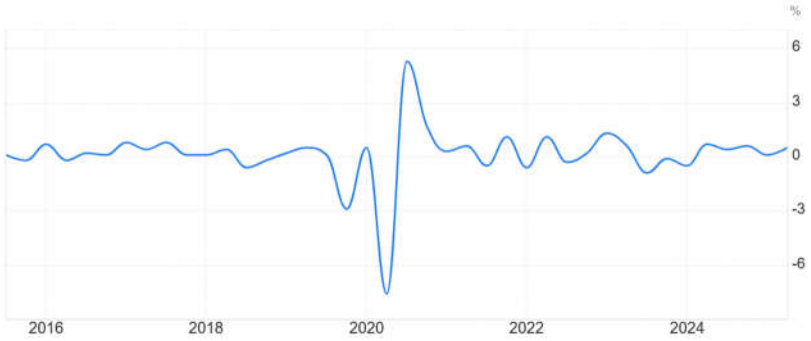
  Where the external sector's compensatory action fails, the public sector will have to intervene through the public deficit. According to Koo (2001), the Japanese fiscal stimulus prevented economic collapse, despite producing economic growth of just over 0%. The conventional view interprets this lack of growth as a symptom of the failure of fiscal policy; Koo sees it as a symptom of the opposite: the increase in the public deficit of nearly 10 percentage points in a decade has saved the Japanese economy from a deep depression. Studies that follow the conventional view describe fiscal stimulus as ineffective because they baselessly assume that the economy would have grown by just over 0% without the fiscal stimulus.
- The disinflation associated with any recession can become an intense and lasting deflation. The danger of a deflationary spiral (deflation that causes more deflation) is greater than in other recessions. Both recession (of balance sheets) and deflation are effects of a common cause: the concern of the private sector for the state of its balance sheets drives them to reduce consumption and investment as much as possible in order to cancel debts, as quickly as possible. Decisions derived from this concern tend to reinforce the recession and its cause, the imbalance of balance sheets due to the massive loss of asset value. The more the recession intensifies, the less spending and the more tendency for prices to fall. The loss of asset value reinforces the priority in paying

off debts, which further contracts spending and deepens the recession. Deflation itself increases the real value of debt, which still induces to attribute more weight to debt reduction as a goal.

- In the words of Koo (2001, p. 18): "A balance sheet recession is like radiation: it is devastating, but no one sees it (…) In a balance sheet recession, homes stay where they are and cars continue to circulate, although the invisible damage being done to the economy is no less real."

16. The Great Recession as a balance sheet recession

The Great Recession of 2008-2012 shares many features with Japan's 'lost decades' (1990-2025?): the graph below displays Japanese GDP growth in the last ten years, https://tradingeconomics.com/japan/gdp-growth.



An explanation of the Great Recession runs as follows. Its origin is the private sector's debt binge, which creates a bubble in the financial sector in which the real sector (the real estate part, at least) participates.

When the bubble bursts (the rate of borrowing cannot be maintained), the rapid, intense and widespread fall in the values of certain assets (financial and perhaps also real) forces the private sector to change priorities: the new priority is now to minimize debt. The bursting of the bubble changes the perception of the level of debt, which is now perceived as excessive.

With the private sector primarily engaged in deleveraging, not even near-zero interest rates caused by massive injections of liquidity by central banks induce the private sector to maintain consumption and investment spending (much less to increase it).

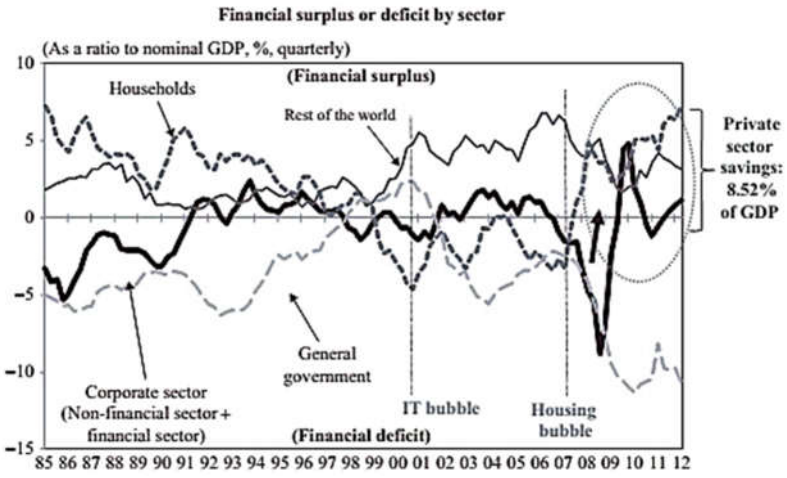


Fig. 18. Sectoral balances of the US (1985-2012) according to Koo (2013, p. 137)

Given the ineffectiveness of monetary policy, fiscal policy becomes more effective in avoiding the contraction of economic activity (and of the quantity of money which, being endogenous, is

positively correlated with economic activity). This translates into big and growing levels of public deficit and debt. High levels of deficit and public debt coincide with very low interest rates.

- Fig. 18 shows the reaction of sectoral balances to the bursting of the housing bubble and the financial crisis in the US. In 2012, the public deficit alone had to compensate for the excess savings of the private sector ($NPS > 0$) and the foreign sector ($NX < 0$). Fig. 19 presents the evolution of balances in the euro area; Fig. 20 in Spain; Fig. 21 in Japan; and Fig. 22 in the UK.

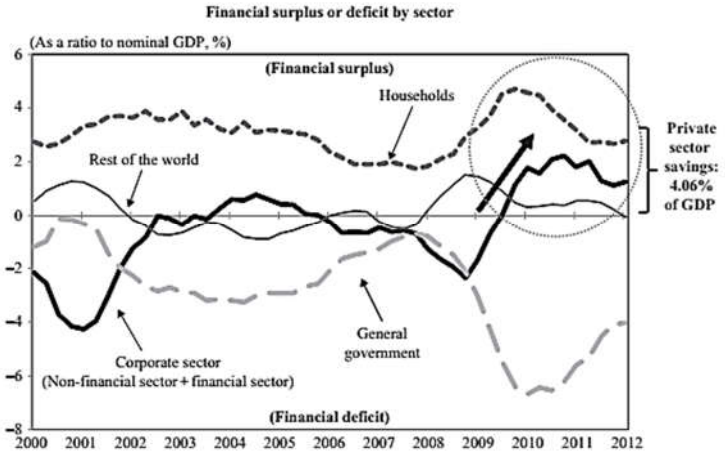


Fig. 19. Sectoral balances (euro area)

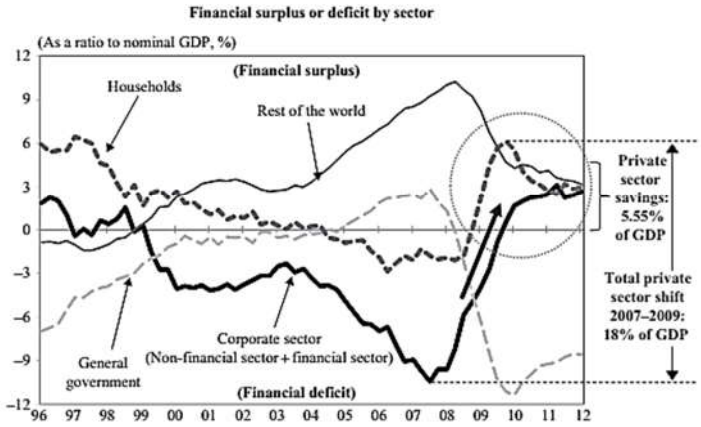


Fig. 20. Sectoral balances (Spain)

- In the euro area, the global financial crisis triggered the same pattern of increased household and corporate savings that occurred contemporaneously in the US and in the 1990s in Japan (as a result of the balance sheet recession that the Japanese economy was then experiencing). The zero external balance in 2012 implies that the public deficit is necessary to offset the private surplus.
- The Spanish case (Fig. 20) is much more dramatic due to the magnitude of the changes in sectoral balances, comparable to the Japanese case (Fig. 21): in two years (2007-2009), witnessing the excess of private indebtedness, the private sector balance increased by 18 percentage points of GDP (at the end of 2008 Spain entered recession after around 15 years of growth). https://es.wikipedia.org/wiki/Crisis_econ%C3%B3mica_espa%C3%B1ola_(2008-2014)

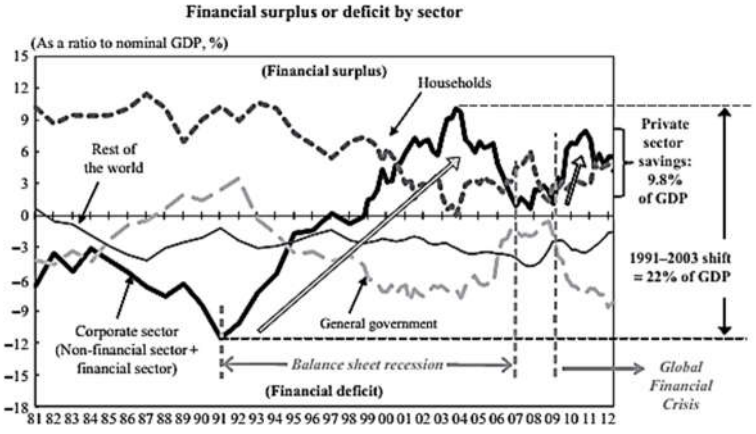


Fig. 21. Sectoral balances (Japan)

Fig. 22. Sectoral balance sheets (United Kingdom)

- The United Kingdom (Fig. 22) copies the dynamics of the balances of the US and the euro area. And the same is observed in Japan (Fig. 21): the global financial crisis caused the same effects as the domestic balance sheet recession that Japan suffered for a decade and a half.

An interpretation consistent with the data in Figs. 18-22 is that the world's most advanced economies experienced, in the late 2000s, a global balance sheet recession: a kind of pandemic of balance sheet recessions.

17. MMT, fiscal policy and monetary policy

"The most salient feature of MMT is that fiscal policy is effective while monetary policy is ineffective for several reasons.

For starters, monetary accommodation or a cut in interest rates in a downturn does not necessarily generate sufficient private sector demand for credit when the outlook on firm profitability and household income remains weak.

Second, a cut in interest rates could be economically contractionary, since reduced interest income discourages active private sector spending. A cut in interest rates also promotes an unfair transfer of interest income from creditors to debtors, causing distortions in income distribution. For these reasons, a negative interest rate policy is dismissed by MMT. Similarly, monetary tightening or an interest rate hike in an expansionary phase does not necessarily contain credit growth and excessive inflation if domestic demand could be boosted by increased interest income.

Third, monetary easing tends to promote an accumulation of private sector debt and thus reduce private sector net wealth, as mentioned below.

Some of these points – especially those related to the effectiveness of monetary policy – seem to partially align with the fact that unconventional monetary easing conducted by major central banks after the Global Crisis generated disappointing results in terms of addressing aggregate demand, inflation, and long-term inflation expectations. In contrast, the government is able to increase employment directly by conducting various public projects. Another distinctive feature of MMT is that expansionary fiscal policy lowers interest rates rather than raising them – contrary to the widely shared view of the crowding-out effect in the loanable funds market. This feature could prevail if increased government spending raised reserve balances and place downward pressure on market interest rates.

Regarding the role of monetary policy, MMT emphasizes that a central bank should support fiscal policy by maintaining interest rates at around 0% persistently and passively to maximize the effectiveness of the fiscal policy. Maintaining the low interest rate is conducted by an open market operation with commercial banks using government bonds. This means that the objective of monetary policy should be shifted solely to making fiscal policy as effective as possible – the conventional active role of stimulating/containing aggregate demand and inflation. This leads to a provocative conclusion that monetary policy cannot control inflation but can only control interest rates, which poses a major challenge to modern central banking practices that emphasize the price stability mandate and central bank independence."

"… at least three conditions are necessary to justify MMT's conclusions.

- First, public spending should intensively prioritize productivity-enhancing infrastructure, human capital, and innovation, which would raise potential economic growth and thereby prevent substantial inflation.
- Second, a government should issue its own currency rather than issue bonds through capital markets that are sensitive to investor sentiment and subject to volatility. To do so, dollarisation or the prevalence of a foreign currency in economic and financial transactions domestically should be avoided. The public needs to build up trust in a central bank and its issuing currency.
- Third, the private sector is able to increase corporate or household debt, but must achieve debt sustainability in the long run to avoid the banking and private sector debt crises in the future that would require painful debt restructuring. This reflects MMT's view that government debt is more desirable and sustainable than private sector debt. This is because growing government debt could raise net financial wealth within the private sector and thus enhance well-being by allowing future consumption through saving today. In contrast, growing private sector debt reduces net financial wealth within the private sector and amplifies default risk. Monetary easing may promote an accumulation of private sector debt, possibly leading to future private sector debt and financial crises. Indeed, this point appears to be consistent with the reality that private sector debt crises occurred frequently globally in the past while public debt crises rarely happened in advanced economies in the contemporary era, where mature physical and social infrastructure are already in place and most government debt held by foreign investors are denominated in their own domestic currency."

	Mordern Monetary Theory	Current Policy (Qualitative and Quantitative Monetary Easing with Yield Curve Control)
Effective Policy	Fiscal Policy	Monetary Policy
Inflation Adjustment Tool	Taxes	Interest Rates
Role of Monetary Policy	Passively Stabilize at Around 0%	Actively Stabilize the 10-Year Yield at Around 0% (with -0.1% on the interst rate on excess reserves)
Relation Between Fiscal and Monetary Policy	Fiscal Policy Dominance	Monetary Policy Independently Conducted (policy coordiation with government)
Public Deficit Financing	Denied (government debt funded by reserve balances)	Denied (government debt purchased from the market in exchange of resrve balances)

Sayuri Shirai (2019): "Modern money theory and its implementation and challenges: The case of Japan"
https://voxeu.org/article/modern-money-theory-and-its-challenges