

1.2. Sectoral balances identity

1. Sectoral division of an economy

An economy can be divided into three sectors:

- the domestic private sector, subdivided into the non-banking private sector (households and businesses) and the banking private sector (banks);
- the domestic public sector (local, regional and national public administrations); and
- the external or foreign sector (the private and public sectors of the rest of the world).

2. Sectoral balance

There are income and expenditure flows within each sector and between sectors. These flows consist of payments derived from the purchase and sale of goods or services and are thus flows related to the activity carried out in the real sector. In a period of time, a sector has a

- surplus if the sector's expenditure (or payment) flow is smaller than the sector's income (or revenue) flow over the period;
- deficit if the expenditure flow is greater than the sector's income flow over the period;
- zero balance (or balanced balance) if the sector's expenditure flow equals the sector's income flow over the period.

The flows of a sector during a period determine whether a deficit or a surplus occurs in the sector in the period.

Since flows accumulate as stocks, stocks in a sector represent the accumulation or deaccumulation of debts or credits of the sector.

3. Basic accounting principle

The basic accounting principle states that, for every financial asset, there is an equivalent offsetting financial debt: someone's financial debt is someone else's financial asset.

Owning a financial asset means having a financial right over someone else, who in turn, has a financial liability (or financial obligation).

The creation of a financial asset simultaneously generates a financial liability (financial obligation) of the same value and which offsets the asset.

- **Example 1.** When a bank grants a loan to a borrower, it creates an asset (the loan that the borrower will have to repay) and a liability (the deposit in the bank itself, for the value of the loan).
- **Example 2.** A Treasury bill issued by a government represents a financial asset for the buyer but a financial liability (a financial obligation) for the government.

4. Internal and external financial wealth

'Internal financial wealth' refers to financial assets owned by members of a sector of the economy that represent financial claims on members of the same sector. For example, for the private sector of the economy, corporate bonds owned by families are internal financial wealth.

'External financial wealth' refers to financial assets owned by members of one sector of the economy that represent financial claims on members of other sectors. For instance, for the private sector of the economy, Treasury bills held by banks are external financial wealth.

5. Financial and net financial wealth

The financial wealth of an economic agent (household, business, government, ...) is the total value of the financial assets the agent owns.

The net financial wealth of an economic agent is the difference between the agent's financial wealth (the value of all financial assets that the agent has acquired) and its financial obligations or debts (the value of all financial assets that the agent has issued). An agent's net financial wealth is the total value of their financial assets minus the total value of their financial liabilities.

The net financial wealth of a sector is the sum of the net financial wealth of all agents in the sector. The balance of a sector is its net financial wealth. The balance is positive (or in surplus) if the net financial wealth is positive (value of financial assets greater than the value of debts). The balance is negative (in deficit) if the net financial wealth is negative.

- **Remark 1.** The world's net financial wealth is zero (assuming there are no aliens among us).
- **Remark 2.** If the private sector of an economy has no external financial wealth, the net financial wealth of the entire private sector is zero.

6. Surplus, deficit, financial asset, financial liability

A sector has a surplus during a period if the sector earns more than it spends during the period (income and expenses are understood to originate in the real sector of the economy). If a sector has a surplus during a period, the sector's financial wealth increases at the end of the period: the excess of the income flow over the expenditure flow accumulates in the form of financial assets or financial liabilities of the sector are de-accumulated (debts are settled).

- **Example 1.** A household that, during a year, earns 100 and spends 80 will accumulate financial wealth worth 20 at the end of the year (in the form of cash, deposits, Treasury bills, bonds...).
- **Remark 1.** If there are only two sectors, private and public, the private sector can only accumulate financial wealth if the public sector goes into debt (and thus spends more than it earns).
- **Remark 2.** If there are only two sectors, private and public, and if the public sector accumulates financial wealth (has a budget surplus), then the private sector must deaccumulate financial wealth (must spend more than it takes in).

A sector has a deficit during a period if the sector spends more than it earns during the period. If a sector has a deficit during a period, the sector's net financial wealth decreases at the end of the period: the excess of the flow of expenditure over the flow of income causes the sector to deaccumulate financial assets or to accumulate more financial liabilities (the sector issues more financial assets).

7. Sectoral surplus and sectoral deficit

A sector that has a surplus generates, in net terms, a flow of savings. This flow accumulates as a stock that takes the form of a net accumulation of financial assets, that is, an increase in the net financial wealth of the sector. When a sector has positive net financial wealth, some agent in the sector has a financial claim on some agent in another sector; for example, a household owns a Treasury bill issued by a government.

A sector having a deficit generates a flow of dissavings and reduces its net financial wealth. A sector that incurs a deficit sells previously accumulated financial assets or creates (issues) new financial assets. A sector finances its deficits by deaccumulating financial assets or by creating new ones.

8. Sectoral balance identity

The balance identity involving the three sectors establishes that the balances of the three sectors sum to zero:

$$\text{Domestic Private Balance} + \text{Domestic Public Balance} + \text{Foreign Balance} \equiv 0 .$$

The sectoral identity implies that sectors with deficits compensate for sectors with surpluses. For a sector to accumulate net financial wealth some other sector must increase its indebtedness. It is impossible for all three sectors to have a surplus (or a deficit) at the same time.

The sectoral identity is a tautology: that the sum of the inflows (that is, the income) to the three sectors equals the sum of the outflows (that is, the spending) of the three sectors.

Simply put, fiscal policy refers to the set of public sector measures that affect the public balance.

The external balance of payments is interpreted from the external perspective. A negative external balance (revenue from the external sector less than expenditure from the external sector) means a surplus of the domestic economy with respect to the rest of the world (the total payments for real transactions that the economy receives from the rest of the world is greater than the total payments for real transactions that the economy makes to the rest of the world). To maintain a single perspective, the external balance will be interpreted from the domestic perspective: a negative external balance will be called an 'external surplus' (surplus of the domestic economy with respect to the external) and a positive external balance will be called an 'external deficit' (deficit of the domestic economy with respect to the external).

On occasion, it may be helpful to subdivide the private balance into three subbalances, so that

$$\text{Household balance} + \text{Balance of companies} + \text{Balance of banks} + \text{Public balance} + \text{Foreign balance} \equiv 0 .$$

- **Corollary 1.** For a sector to have a positive balance (accumulate financial wealth) it is necessary for some other sector to have a negative balance (issue financial assets, accumulate debt).
- **Corollary 2.** It is not possible for all sectors to have a surplus or for all to have a deficit.

The private sector must have a surplus to accumulate financial wealth. Due to sectoral identity (remembering that the external sector balance is interpreted from a domestic perspective),

$$\text{Private Surplus} \equiv \text{Public Deficit} + \text{Foreign Surplus} .$$

This says that public deficits and external current account surpluses (domestic economy surpluses) create income and financial assets for the domestic private sector.

A public deficit is financed by issuing financial assets; by purchasing them, the private sector increases its net financial wealth.

An external surplus (roughly speaking, more exports than imports or, more precisely, a current account surplus) means that the private sector finances the rest of the world and this is a source of income for the private sector.

Similarly, public surplus and external deficit withdraw income from the private sector and destroy financial assets:

$$\text{Private Deficit} \equiv \text{Public Surplus} + \text{Foreign Deficit} .$$

9. GDP and the sectoral identity

The conventional formulation of the sectoral identity associates the flows of income and spending with GDP (designated by Y) and its known as 'the savings identity'.

This formulation even presumes that the private sector generates the GDP. Hence, Y is the inflow to the private sector: GDP is the source of income for the private sector. Its outflows (ways of spending the outcome) are two: consumption C (private sector spending in final goods/services) and investment I (private sector spending in capital goods/services, that is, goods/services used to produce other goods). In symbols:

$$Y \rightarrow \boxed{\text{Private Sector}} \rightarrow C + I.$$

Since $Y > C$, define savings S as $S = Y - C$. That is, S is income net of consumption. As a result:

$$S \rightarrow \boxed{\text{Private Sector}} \rightarrow I.$$

In view of this, the balance of the private sector (difference between inflows and outflows) is the net private savings, NPS.

$$\text{NPS} \equiv S - I .$$

For the public sector, taxes T are the source of income, whereas spending takes the form of public expenditure G (which includes transfers to the private sector). In symbols:

$$T \rightarrow \boxed{\text{Public Sector}} \rightarrow G.$$

The balance of the public sector (difference between inflows and outflows) is the public savings (or budget surplus), PUS (thus, the public deficit PD is $-PUS$).

$$PUS \equiv T - G \equiv -PD$$

For the foreign sector (that is, the rest of the world, ROW) the income that it takes from the economy comes from the exports that the ROW makes to the economy. But the exports of the ROW to the economy are the economy's imports, IM. Analogously, the spending that the ROW makes on the economy are the ROW's imports, which coincide with the economy's exports EX to the ROW. In sum,

$$IM \rightarrow \boxed{\text{Foreign Sector}} \rightarrow EX.$$

Accordingly, the balance of the foreign sector (difference between inflows and outflows) is the foreign savings, FS (observe that the economy's net domestic exports $EX - IM$ equals $-FS$).

$$FS \equiv IM - EX \equiv -NX$$

Though it may appear counterintuitive, when an economy runs an external (or trade) deficit (that is, the economy imports more than it exports: $FS > 0$), it follows that the economy is using foreign saving (the ROW is financing the economy's external deficit).

The savings identity holds that the net savings all of three sectors add up to zero:

$$NPS + PUS + FS \equiv 0 .$$

Given the definitions of NPS, PUS and FS, the savings identity can be equivalently expressed as:

$$S - I \equiv G - T + EX - IM .$$

or, more compactly,

$$NPS \equiv PD + NX .$$

This is equivalent to equating total inflows $S + T + IM$ with total outflows $I + G + EX$.

10. Sectoral/savings identity, borrowing, economic activity

The sectoral/savings identity is at least two-fold useful: (i) for identifying what is possible for macroeconomic policy; and (ii) for clarifying the role of private sector borrowing and its impact on economic activity.

Recapitulating, a sector has a deficit if there is an excess of expenditure over income. Financing the deficit requires net borrowing: the sector must increase financial obligations (debts) more than it increases financial assets. In expression (1) below of the savings identity each difference between parentheses measures the sector's net borrowing. By changing its sign, net borrowing is transformed into net lending (that is, acquisition of financial assets). A sector generates net lending when the sector's income exceeds the sector's expenditure. Net external borrowing (inflows from the rest of the world minus outflows) is the inverse of domestic net borrowing.

$$\begin{aligned} & \text{(Private Expenditure – Private Income)} + \text{(Public Expenditure – Public Income)} \\ & + \text{(Inflows from the rest of the world – Outflows to the rest of the world)} \equiv 0 \end{aligned} \quad (1)$$

Equivalently,

$$\begin{aligned} & \text{Private Expenditure} + \text{Public Expenditure} + \text{Outflows to the rest of the world} \equiv \\ & \text{Private Income} + \text{Public Income} + \text{Inflows from the rest of the world} . \end{aligned}$$

Each difference within the three brackets of (1) represents the sector's contribution to the aggregate demand (purchases of final goods or services) of the domestic economy. A positive difference implies a demand expansion; a negative difference implies a demand contraction. Thus, any sector with a negative expenditure–income difference causes economic activity to contract. In fact, increases in investment **I** (private spending), public spending **G** or exports **EX** contribute to expanding economic activity (that is, GDP). Symmetrically, increases in savings **S** (private income), taxes **T** (public income) or imports **IM** contribute to contracting economic activity.

On bank money creation, public spending, exports, and investment (financed by loans) create deposits. Payment of taxes, payment of imports and payment of debts (through the accumulation of private savings) reduce deposits.

11. Graphical representation of the savings identity

The relationship $NPS \equiv PD + NX$ can be represented graphically in the space where **NPS** is measured on the vertical axis and **PD** on the horizontal axis. It is left as an exercise to make the representation in the other five cases in the following table (the one discussed below is case 1).

		represented on the horizontal axis		
		NPS	PD	NX
represented on the vertical axis	NPS	–	case 1	case 2
	PD	case 3	–	case 4
	NX	case 5	case 6	–

If **NPS** and **PD** are equal (for example, they take the value x in Fig. 1a), then their common value cancels out in $\text{NPS} \equiv \text{PD} + \text{NX}$. It follows that whenever **NPS** and **PD** are equal, $\text{NX} = 0$. Geometrically, this means that the main diagonal represents all cases where net exports are zero; see Fig. 1a.

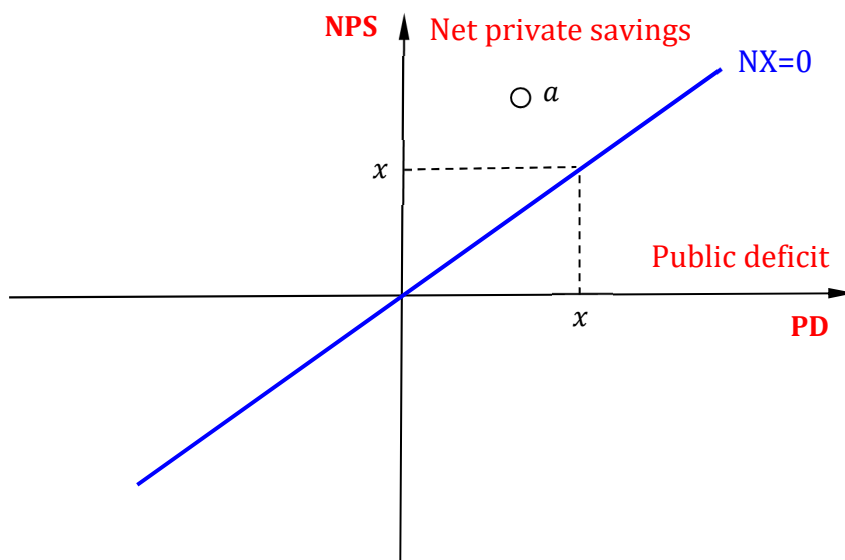


Fig. 1a. Representing the sectoral identity graphically

What can be said about a point (such as a) above the line $\text{NX} = 0$? At every point like a , $\text{NPS} > \text{PD}$. Since $\text{NPS} \equiv \text{PD} + \text{NX}$, having $\text{NPS} > \text{PD}$ entails $\text{NX} > 0$. Consequently, points above the $\text{NX} = 0$ line represent an external surplus (of the domestic economy). How is the amount of the surplus determined? Suppose, as illustrated in Fig. 1b, that point a is the pair $(\text{NPS}, \text{PD}) = (y, z)$. At point a , the surplus NX satisfies $y = z + \text{NX}$. Therefore, at a , net exports are $y - z$. In fact, net exports would also be $y - z$ when $\text{NPS} = y - z$ and $\text{PD} = 0$. Point b on the same graph represents this case.

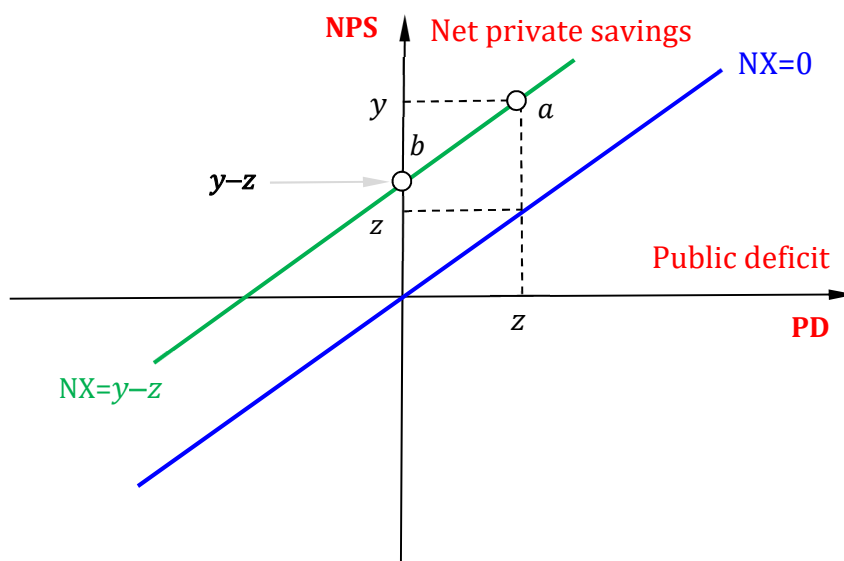


Fig. 1b. Representing the sectoral identity graphically

In general, adding or subtracting at the same time the same quantity to **NPS** and **PD** does not modify **NX**. Hence, a line with slope 1 joins all the points where net exports take a given constant value. This was already observed when $NX = 0$: the main diagonal captures all the points where the external balance is zero. An analogous result holds for the rest of the values of the external balance. Even more: the point of intersection with the **SPN** axis indicates the value of net exports of the line with slope 1 that goes through that point.

Below the $NX = 0$ line the external balance is negative. Fig. 1c represents the identity $NPS \equiv PD + NX$, where each diagonal with slope 1 collects the combinations (**NPS**, **PD**) of private balance and public deficit associated with the same value of the external balance.

Fig. 1c offers in a visual way the same information as the identity $NPS \equiv PD + NX$.

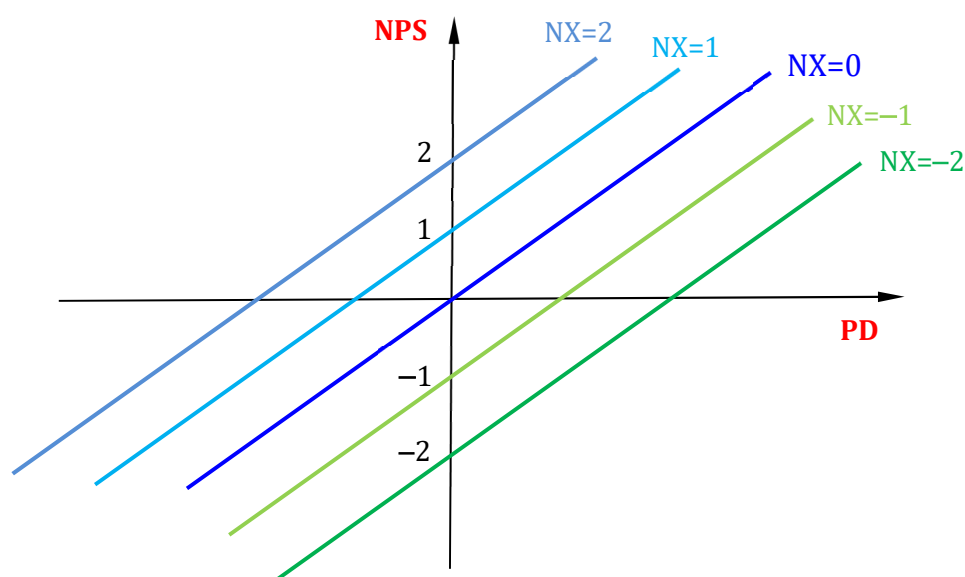


Fig. 1c. Representing the sectoral identity graphically

12. Accumulation and deaccumulation of financial assets

When **NPS** takes positive values, the private sector is in surplus and, as a result, accumulates financial assets (or deaccumulates financial liabilities). When **PD** takes positive values, the public sector is in deficit, so it accumulates financial liabilities (or deaccumulates financial assets). When **NX** takes positive values, the foreign sector is in surplus from the domestic perspective; this means that the foreign sector (from the foreign perspective) accumulates financial liabilities (or deaccumulates financial assets), since the foreign economy pays the domestic economy more than it receives from it.

Fig. 2 summarizes this information, specifying at each point in the space which sectors accumulate, and which deaccumulate, financial assets.

The green colour means that the sector accumulates financial assets and the red colour that the sector deaccumulates financial assets (takes on debt). For example, **SPR** stands for 'positive savings of the private sector' (private net financial wealth rises) and **SEX**, 'negative savings of the external

sector' (foreign net financial wealth declines). By the sectoral identity, it is impossible for all sectors to accumulate or for all to deaccumulate.

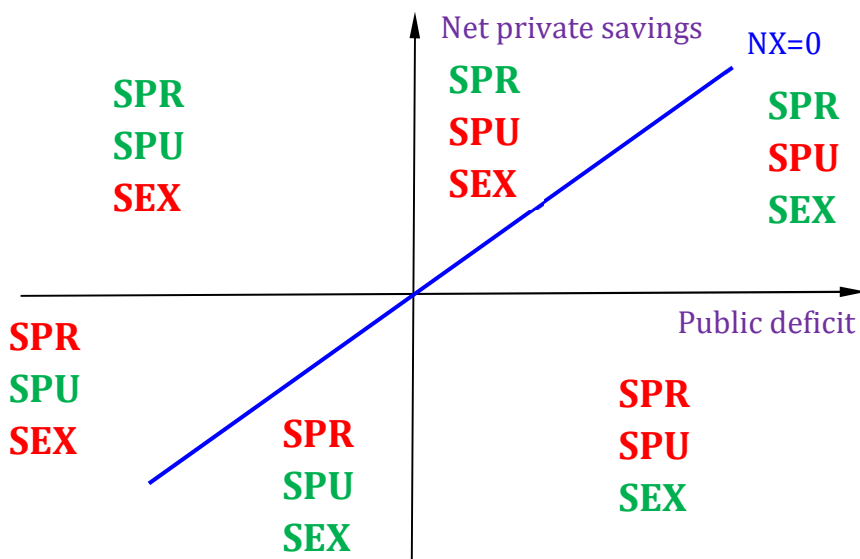


Fig. 2. Accumulation and deaccumulation of financial assets

For example, the entire lower right quadrant represents states of the economy where: the private sector deaccumulates assets or accumulates liabilities (since in this quadrant $NPS < 0$); the public sector deaccumulates assets or accumulates liabilities (given that in this quadrant $PD > 0$); and the foreign sector accumulates assets or deaccumulates liabilities (insofar as in this quadrant $NX < 0$, which means a surplus of the rest of the world and, as a consequence, the rest of the world accumulates assets or reduces liabilities relative to the domestic economy).

13. Fiscal policy

The expression 'fiscal policy' refers to all government decisions that affect the public (or fiscal) deficit $G - T$. Strictly speaking, a fiscal policy measure is the combination of a fiscal policy instrument and the associated intended policy goal (lowering the unemployment rate, increasing GDP growth, reduce some economic inequality measure...). Commonly, fiscal policy measures are simply identified with fiscal policy instruments: tax rates and public spending G , which by definition includes transfers (pensions, unemployment benefits, scholarships, subsidies to companies...).

An expansionary fiscal policy is one that, at least initially, would increase the public deficit (more public spending and/or lower tax rates or fewer taxes). A contractionary fiscal policy does the opposite. The expressions 'fiscal austerity' or 'tight budget' is synonymous with contractionary fiscal policy. Orthodox macroeconomics supports fiscal austerity with the argument that an initial contractionary fiscal policy eventually produces in the economy the effects of an expansionary one.

There is a debate on whether discretionary fiscal policy is preferable to rule-based fiscal policy. Orthodox macroeconomics recommends subjecting fiscal policy to rules. Euro area members, for instance, are required to respect several fiscal rules: deficit-to-GDP ratio at most 3%; debt-to-GDP

ratio at most 60%; and, prior to the preparation of the public budget, determination of the public expenditure ceiling (the upper limit of non-financial spending by the central administration).

14. How fiscal rules shape the policy space

After dividing by GDP the identity $SPN \equiv DP + XN$ another identity emerges:

$$SPN/GDP \equiv DP/GDP + XN/GDP .$$

The new identity, represented in Fig. 3, is more useful for showing the consequences of fiscal rules based on the deficit-to-GDP ratio DP/GDP .

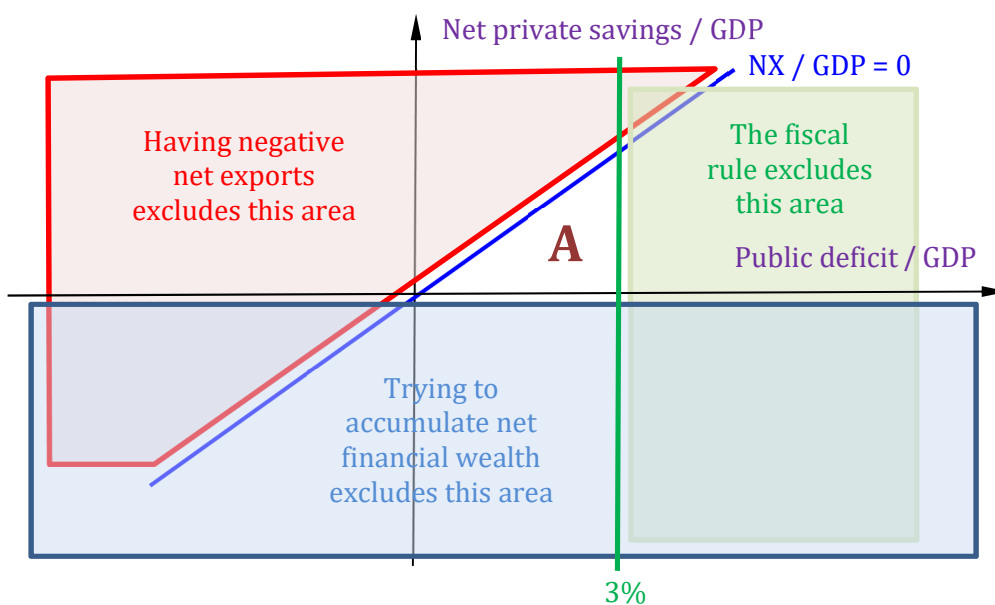


Fig. 3. Implications of fiscal rules

By way of example, consider an economy with a structural external deficit (Spain in the years before the 2008 financial crisis). This implies that the economy is outside the area marked in red. Suppose, in addition, that the private sector wants to accumulate net financial assets (Spain after the 2008 financial crisis). This desire of the private sector means that the economy must be outside the lower blue rectangle. Finally, suppose that a fiscal policy rule must be fulfilled (Spain as a euro area state): public deficit no higher than 3% of GDP. The fiscal rule excludes the green rectangle on the right.

In short, an economy with a structural external deficit, where the private sector wants to reduce debts and the public sector has a debt limit, can only be located in the white triangle of the graph (labelled 'A'). The only permissible values of the balances are inside the triangle.

In this case, the region of compatibility of constraints and characteristics of the economy is limited but not empty. On the other hand, if the fiscal rule consisted in achieving zero public deficit (or a slight surplus), the constraints would be incompatible: an economy with an external deficit and a private sector surplus cannot have a balanced public budget (or a fiscal surplus).

On the face of it, it can be inferred from the above that an economy with a foreign surplus (Germany) has an easier time adopting and complying with fiscal rules than an economy with a foreign deficit

(Spain). It then should come as no surprise that German politicians, economists and leaders support the adoption of fiscal rules... During the euro area crisis, from the northern euro area countries came criticisms against the southern euro area countries for not having achieved what for the northern countries was easily done: to meet the fiscal rules; failure to comply was sanctioned with accusations of not wanting to comply: by northern standards, the southerners were lazy and untrustworthy.

15. Fiscal rules and foreign sector

The following example illustrates again the possible inconvenience of adopting fiscal rules (setting absolute or relative limits on the public deficit), in this case when the external sector is subject to a significant disruption.

Point *a* in Fig. 4 represents the initial state of the economy. First, there is a fiscal rule that requires not to exceed the public deficit level *y*. Second, the aggregate plan of the private sector amounts to achieving a surplus of *x*. Under these circumstances, the government exploits the deficit margin to the limit and incurs a public deficit equal to *y*. The result of the balance identity is that there is an external surplus equal to *z* and the economy is located at point *a*.

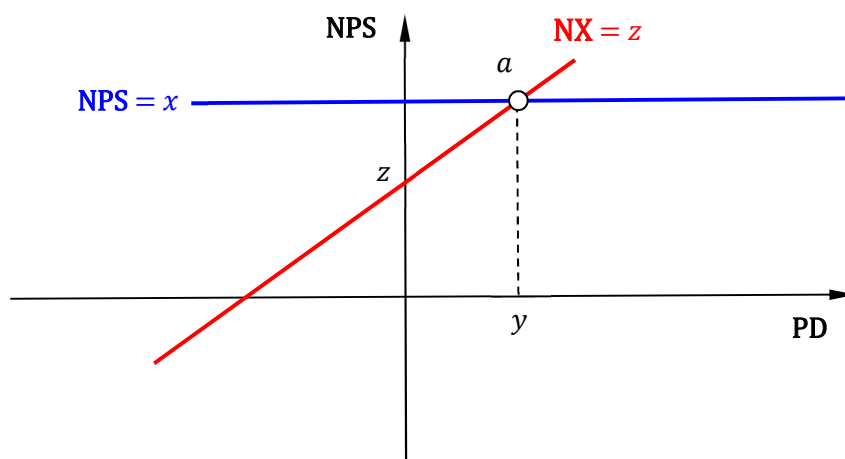


Fig. 4. Initial state of the economy: private surplus, foreign surplus, public deficit

Then there is a shock to the external sector. Specifically, to reduce its external deficit, the rest of the world (the Trump administration in 2025) establishes tariffs on goods coming from the economy.

The tariff measure is so successful that the rest of the world's external deficit now becomes a surplus. Fig. 5 shows the situation from the perspective of the economy: the tariff effect is to shift the net exports line to the right until it reaches a negative value, such as $-v$. The green line represents the new relevant net exports line.

The external shock creates a dilemma: accept more private borrowing or accept more public borrowing. On the one hand, if compliance with the fiscal rule takes priority, the economy would end up at point *b* in Fig. 5, where the private sector, in net terms, has had to de-accumulate financial assets and, most importantly, has not achieved the desired surplus *x*. Therefore, meeting the public deficit limit has forced the private sector to obtain a surplus lower than planned.

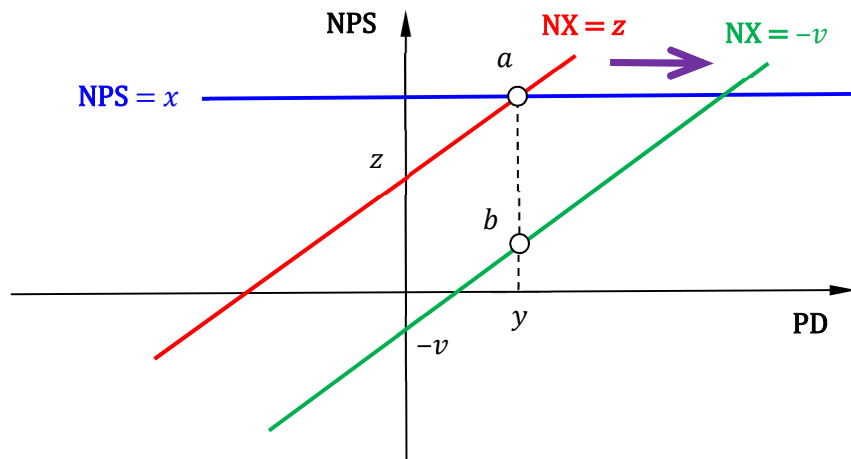


Fig. 5. Subsequent state of the economy if the fiscal rule is respected

On the other hand, the socio-economic doctrine (neoliberalism) that defends the adoption of fiscal rules endorses their adoption on the ideological basis that the public sector should not interfere in the economic plans of the private sector. Consequently, the ultimate principle that endorses fiscal rules would require allowing the private sector to achieve the surplus x . In this case, if respect for the private sector plans takes priority, the economy would be located at point c in Fig. 6, where the public sector violates the fiscal rule of not exceeding the volume of deficit y .

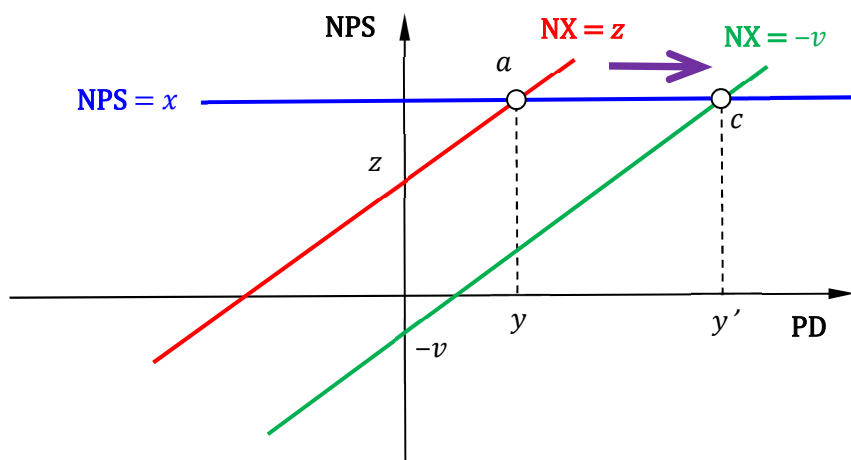


Fig. 6. Subsequent state of the economy if the private sector surplus goal is respected

At point c in Fig. 6 the public deficit is $y' > y$, so the dilemma is plain: the external disturbance (which has translated into a reduction in the initial external surplus) no longer allows both the private and public sectors to fulfil their plans. Respecting the private sector's plan to achieve a surplus entails violating the fiscal rule; respecting the fiscal rule implies preventing the private sector from achieving its goal.

From the orthodox perspective (the one that defends fiscal rules) it seems that the lesser evil is to break the fiscal rule. But then the question is why adopt it in the first place if exogenous reasons can so easily lead to its non-compliance. Is it smart to impose rules whose compliance does not depend on oneself?

16. More on fiscal rules and foreign sector

The next example revisits the previous analysis in a dynamic setting: the external shock is continuous or structural. To be specific, consider an economy that has an external deficit that increases with time. In graphical terms, the **NX** line would be moving downwards. Fig. 7 shows the implications of this trend: if the **NX** line moves downwards continuously, the value of **SPN** must fall, the value of **PD** must fall, or both must fall. To sum up, if an economy experiences a growing external deficit, then the private sector, the public sector, or both need to increase their borrowing.

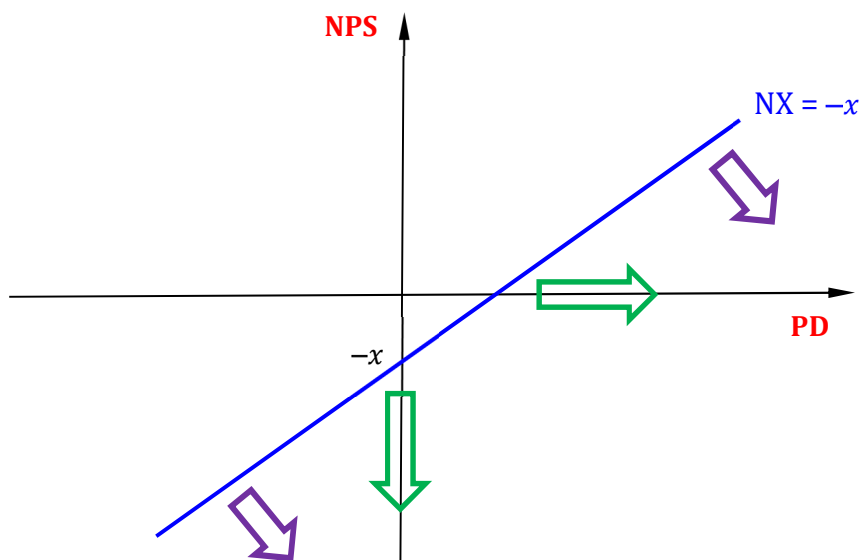


Fig. 7. Consequences of an increasing foreign deficit

The most severe recessions seem to have been preceded by periods when private sector debt reaches historically high levels (very negative and increasingly negative **NPS**). When the growth of private debt is perceived as unsustainable (Hyman Minsky's financial instability hypothesis), the increase in debt moderates or even stops, which reduces aggregate demand for goods and services and causes the contraction of economic activity. In this case, the private sector's response is to reduce debt and increase **NPS**. When **NPS** increases, it must be that **PD** increases, **NX** increases or both. Interpretation: the way out of a crisis caused by excessive or unsustainable private debt involves increasing the public deficit (the public sector compensates for the fall in private aggregate demand associated with the increase in **NPS**), improving the external balance (external demand compensates for the decline in domestic demand) or a combination of the two.

From the above it can be deduced that the adoption of fiscal rules that place arbitrary limits on the volume of the public deficit may make it more difficult to overcome the crisis. To begin with, raising **NX** is not easy or quick. It is also not clear that net exports can increase by the volume necessary to make the increase in **NPS** possible. Furthermore, the solution that involves increasing **NX** is not universally valid: for one economy to increase **NX**, at least another must reduce it, since it is not possible for all economies to improve their external balance simultaneously.

On the contrary, **PD** can grow easily, quickly, voluminously and in all economies at the same time. The US recovered faster than the euro area from the initial impact of the 2008 financial crisis by

approving, in 2009, expansionary fiscal policy measures: The American Recovery and Reinvestment Act. The law established tax cuts, tax breaks for individuals and companies, adjustments for the unemployed and low-income people, investment in infrastructure, spending on health and education... The amount of the set of measures was initially estimated at \$787 billion (later recalculated to \$831 billion). The US GDP in 2009 was around 14,478 billion, so the expansionary fiscal policy represented 5.5% of GDP.

https://en.wikipedia.org/wiki/American_Recovery_and_Reinvestment_Act_of_2009

The initial response to the 2008 financial crisis in the euro area was different, since euro area members were not free to increase public deficits and debt at will (remind that euro area membership requires compliance with at least two fiscal rules: a public deficit to GDP ratio of no more than 3% and a public debt to GDP ratio of no more than 60%). For the economically weaker countries in the euro area (the so-called PIGS: Portugal, Ireland, Greece and Spain) the outbreak of the 2008 financial crisis led them to a dead end.

On the one hand, if governments did not adopt significant expansionary fiscal policy measures (because they gave priority to compliance with the fiscal rules), the financial crisis would be extended to an economic crisis (contraction of economic activity, closure of companies, increase in the number of unemployed people...). One consequence of the contraction of economic activity is the decline in tax revenue. As a consequence, not neutralizing the economic impact of the financial crisis would itself lead to breaching fiscal rules (the 'excessive' public deficit was not achieved by increasing public spending but by reducing revenues; in Spain, the collapse of the real estate sector caused the financial collapse of many city councils, with losses of 90% of revenues).

<https://www.expansion.com/2010/07/04/economia/1278271013.html>

But, on the other hand, if governments increased the public deficit to cushion the impact of the crisis on economic activity, the uncertainty about the severity and duration of the crisis led to the belief that the deficit increases would not be one-off or temporary but would be foreseeable and continuous. The fact of demanding higher returns to finance public deficits made a future increase in the deficit more likely, since interest payments would increase (Spain had to pay around 30 billion euros in interests alone each year). This created a snowball effect, characteristic of financial and economic crises: a context characterized by increasing interest rates on public debt made non-compliance with fiscal rules more likely, which reinforced the upward trend in these rates.

In the euro area case, this snowball stopped growing with a speech by the president of the European Central Bank on July 26, 2012. The speech (summarized in the sentence that the ECB would do 'whatever it takes' to preserve the euro) meant that governments could skip fiscal rules (that the ECB would end up financing deficits), because a point had been reached where the euro and fiscal rules could not coexist. It can be interpreted that the euro was one step away from disappearing because someone did not understand (or did not want to understand) the identity $NPS \equiv PD + NX$.¹

¹ Orthodox economists adduced at the time that no one had anticipated the Great Recession that began in 2007-08. But some did. Wynne Godley (1996-2010) warned, using models based on the sectoral balance identity, that the unprecedented expansion of the US in the 1990s was coming to an end. He observed that the private sector deficit relative to GDP was five times larger than any previous period and that it was being sustained for longer than any previous period. Continuing

17. Two types of government

The most important relationship between money and government is whether the government can create money. Or, to be more accurate, whether the government has its own central bank.

On the one hand, there are monetarily sovereign governments. Being a monetary sovereign (MS) government means being able to create the currency that is used in the economy over which the government has authority. This kind of government has its own central bank which, ultimately, can be used to finance public spending. The vast majority of governments fall into this category: the governments of the USA, Canada, the UK, Japan, Australia, China, Turkey, Brazil...

On the other hand, there are monetarily non-sovereign governments. This sort of government does not have the power to create the currency used in its economy. An MS government is a money issuer (or money creator); a non-MS government is, like individuals, merely a money user.

In some cases, the government has transferred the power to create currency to a supranational authority, in which case it has a say and vote along with other governments. An example is the governments of the euro area countries, which have transferred their monetary sovereignty to the Eurosystem (the European Central Bank plus the central banks of the euro area members). Each government of a euro area country is a non-MS government.

Another way to become a non-MS government is by renouncing monetary sovereignty without transferring it to anyone. The governments of sufficiently small countries (Andorra, for example) or with a tradition of monetary tensions and problems (Ecuador) are non-MS: exercising monetary sovereignty is considered so costly that it is preferable to use the currency of another country. But using the currency of another country does not give you a voice or vote in its creation: a non-MS government of this type is again just like another individual.

18. Are there limits to a government spending capacity?

The answer depends on whether the government is monetarily sovereign. An MS government is always able to pay in currency that it itself can create and hence cannot be insolvent. Thus, an MS government has no financial limit to its spending capacity: by definition, an MS government cannot 'run out of money'². Ultimately, an MS government will never become insolvent because a central bank cannot run out of reserves³.

economic expansion would increase the public surplus and the external deficit. By the balance identity, the private deficit should worsen to unsustainable levels. GDP would stop growing once private spending could no longer grow faster than income. Then the public surplus would become a deficit and the private deficit a surplus, which is what happened.

Wynne Godley; Alex Izurieta (2002): "The case for a severe recession", *Challenge* 45(2), 27-51.

Wynne Godley; L. Randall Wray (2000): "Is Goldilocks Doomed?", *Journal of Economic Issues* 34(1), 201-206.

² This is the view of Modern Monetary Theory; see Warren Mosler (2014): *The Seven Deadly Innocent Frauds of Economic Policy*, freely available at <http://moslereconomics.com/wp-content/powerpoints/7DIF.pdf>.

³ An analogy. In tennis, players get points during a match: 15, 30, 40. They also win games (1, 2, ..., 7) and sets (1, 2, 3). Does anyone wonder where these points, games and sets (numbers) come from? Or whether the chair umpire may run out of points? Or if they should worry about them being stolen? Or where do the points previously assigned go when a game, set or match ends? Or what happens to the third point that could be won with a victory in a football match that is not assigned

On the contrary, a non-MS government is, monetarily speaking, like an individual: its spending capacity is limited by its capacity to raise money or borrow, because both (individual and non-MS government) are money users. The conventional view considers all governments as non-MS government and, consequently, applies to governments restrictions that are typical of individuals.

The advantage of a non-MS government over an individual, in relation to spending capacity, is the ability of governments to impose payments on the private sector through taxes and the derived advantage that this can imply when borrowing.

A disadvantage of a non-MS government over an MS government is that all MS governments have an insolvency risk. In some (few) cases, the risk can be considered null in practice (Germany?); in the rest, a risk premium will measure the lenders' perception of this risk.

19. The downside of being a non-MS government

In the euro area, each country's public debt has an associated risk premium that measures the risk of default on the country's public debt relative to German public debt. Fig. 1 shows Spain's risk premium before and just after the start of the 2008 financial crisis.



Fig. 8. Spain's risk premium (2004-2009)

<https://datosmacro.expansion.com/prima-riesgo/espana>

Fig. 8 shows that at times in 2005, 2006 and 2007 the risk of default on German debt was considered higher than Spanish risk. Following the outbreak of the 2008 crisis (mid-September 2008), the perception was of an increasing risk of default on Spanish debt compared to the German risk. In 2009, the 100 basis points mark (representing an additional 1% on interest rates) was reached: the yield on Spanish public debt had to be one percent point higher than the yield on German debt to compensate debt buyers for the perception of the higher risk of default (real or presumed) in the Spanish case.

In July 2012, the Spanish debt premium exceeded six percent points (more than 600 basis points). This value of the risk premium showed that, despite sharing a currency and a central bank, debt buyers regarded the German and the Spanish enormously different governments. It was firmly

to any team when the match ends in a draw? So why worry about the origin of the points that an MS government allocates when it spends if the government itself can create the points at its convenience through its central bank?

believed that the Spanish government's capacity to control its deficit/debt was much lower than that of the German government and hence the Spanish government had to pay for the difference. The paradox of the case is that the belief in a higher risk of Spanish insolvency caused an increase in the Spanish risk premium which increased the risk of insolvency (given that the Spanish government was forced to pay an interest rate higher than the German debt, despite sharing a central bank). Fig. 9 illustrates the magnitude of the problem.



Fig. 9. Spain's risk premium (2006-2024)

<https://datosmacro.expansion.com/prima-riesgo/espana>

In an expanding economy and with sufficiently low interest rates, it may not make much difference in practice whether a government is monetarily sovereign or not. The confidence of debt buyers in the ability of a non-MS to repay loans means that a non-MS has a relatively wide margin of maneuver when deciding the volume of spending, deficit and public debt.

In a contracting economy (or one that is growing 'insufficiently') the room for maneuver of a non-MS is reduced, mainly because debt buyers believe that it is reduced (and by demanding a higher return, they themselves contribute to reducing it).

An MS government has its own central bank to bail it out, if necessary. In practice, there is no need for the central bank to bail out the government, because purchasers of government debt from an MS government know that the government has the backing of some central bank.

A non-MS government does not have a central bank that can rescue it: the government must rescue itself, largely by convincing debt buyers that it will do whatever it takes to self-rescue itself (reduce spending, increase tax rates, change fundamental laws to prioritize the payment of public debt...). The sharp rise in the Spanish risk premium between early 2010 and mid-2012 is a symptom that the Spanish government was not persuasive enough (it is not ruled out that nothing could have been done to be persuasive enough).

The risk premium problem was not limited to Spain: Portugal, Ireland, Italy, Greece... suffered higher premiums (Fig. 10 shows the annual average of the Greek risk premium). This was Spain's salvation: many countries in the euro area ('the euro area south') were facing high and increasing risk premiums compared to the rest of the members ('the euro area north': Germany, Austria, the

Netherlands...), so it was necessary to provide a global solution (namely, involving the whole euro area) to the problem and not trust that each country could get by on its own.

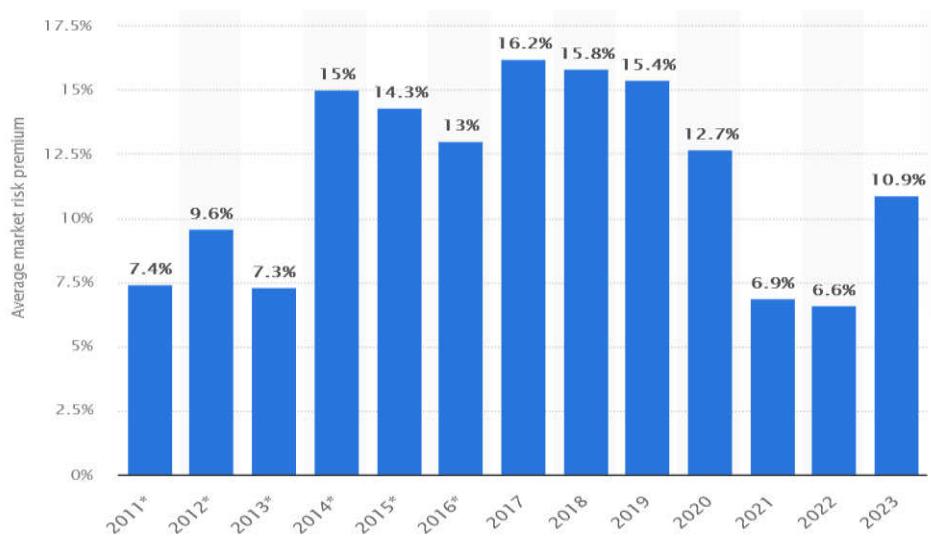


Fig. 10. Greece's risk premium (2011-2023, annual average)

<https://www.statista.com/statistics/664934/average-market-risk-premium-greece-europe/>

The cost (financial, economic, reputational) generated by a high and growing risk premium led some governments (the Greek one) to consider becoming an MS government again by reintroducing their own currency and abandoning the euro. Proposing what was considered unthinkable finally made those responsible for the European Central Bank aware that governments needed to be rescued, despite the fact that the laws regulating the bank prohibited bailing out governments.

An MS government has a central bank that, in case of need, will act as the government's bank. The euro area experiment created a central bank that did not act as the bank of any government. Perhaps there were governments (German, French) that could do without a central bank (although the powerful always fall through pride⁴). But what the dynamics of the risk premium of certain

⁴In 2025, the 'sick' economy was Germany, not Spain: in Q2 2025 German GDP contracted by 0.3% and, in 2024, German GDP contracted for the second consecutive year: <https://tradingeconomics.com/germany/gdp-growth> reports -0.2% in 2024 and -0.3% in 2023. By contrast, in Q2 2025 Spanish GDP expanded by 0.8%, in 2023 it grew by 2.5% and in 2024 by 3.5% (<https://tradingeconomics.com/spain/gdp-growth>). The popularizer of Modern Monetary Theory William Mitchell, in his blog, criticizes the monetary and fiscal architecture of the euro area. With regard to Germany, he points out that the limits of the orthodox vision that its rulers have applied in fiscal policy are now evident: "The blog posts cited above trace the way in which Germany's obsession with fiscal surpluses and reducing government debt, coupled with its suppression of domestic spending capacity (through the real wage suppression etc), was slowly undermining the viability of the common currency, but also steadily undermining its own economic model. In recent years, it is becoming clear that the German industrial powerhouse is now compromised after years of poor government policy and hubris among the industrial leaders." (<https://billmitchell.org/blog/?p=62339>)

Regarding the financing of public debt in the euro area generated by the response to the pandemic, Mitchell says: "There are repeating episodes in world macroeconomics that demonstrate the absurdity of the mainstream way of thinking. One, obviously is the recurring debt ceiling charade in the US, where over a period of months, the various parties make threats and pretend they will close the government down by failing to pass the bill (...) Another example is the European Union 'budget' deliberations which involve excruciating, drawn out negotiations (...) is the rather significant quantity of joint EU debt that was issued during the pandemic to help nations through the crisis. How that is repaid is causing grief and leading to rather ridiculous suggestions of further austerity cuts and more issued because the Member States were pursuing irresponsibility and profligate fiscal strategies." (<https://billmitchell.org/blog/?p=62355>)

countries made clear is that not all governments were equally strong or, at least, not for long. The end of the troubles came when the European Central Bank finally acted as the central bank of the euro area governments. And it only took a speech to convince everyone that the euro area governments, de facto, became MS governments.

On July 26, 2012, at the height of the euro crisis and risk premiums, the President of the European Central Bank, Mario Draghi, publicly stated the following:

“The first message I would like to send, is that the euro is much, much stronger (...) than people acknowledge today. Not only if you look over the last 10 years but also if you look at it now, you see that as far as inflation, employment, productivity, the euro area has done either like or better than US or Japan (...)

When people talk about the fragility of the euro and the increasing fragility of the euro, and perhaps the crisis of the euro, very often non-euro area member states or leaders, underestimate the amount of political capital that is being invested in the euro.

And so (...) we think the euro is irreversible. And it’s not an empty word now, because I preceded saying exactly what actions have been done, are being done to make it irreversible.

But there is another message I want to tell you. Within our mandate, the ECB is ready to do whatever it takes to preserve the euro. And believe me, it will be enough.”



Fig. 11. Spain’s risk premium before and after the Covid-19 emergency (March 2020)

<https://datosmacro.expansion.com/prima-riesgo/espana>

The last words meant that the European Central Bank was prepared to bail out governments, buying their debt and thus lowering the risk premium⁵ (more purchases of a financial assets tends to raise

⁵The expression that has become a household name is ‘whatever it takes’. Draghi’s speech is known as the ‘whatever-it-takes speech’. It took almost 4 years from the beginning of the financial crisis for the president of the ECB to publicly state what seems obvious: that a central bank will do whatever it takes to preserve the existence of the currency that the central bank creates and manages. That it had to be said publicly suggests that the institutional architecture of the euro area was deficient, creating a central bank so independent that it had no government to serve. Another conclusion that can be drawn from the euro crisis is that currencies do not exist for their own sake, but rather because they serve the needs of governments.

its price and lower its rate of return). That is what happened: the premium went down and the euro crisis vanished. A lesson from this traumatic experience: for the medium to long run, it seems a bad idea to separate a government from its central bank. It is a mirage to think that each can do independently of the other: a government not backed by a central bank is like a car without fuel. You may not need fuel when the road goes downhill, but it is naïve to believe that roads never go uphill.

The health emergency caused by Covid-19 and the 2022 Russian invasion of Ukraine are examples of high mountain roads. Apparently, lessons learned during the euro crisis were applied in both cases: Figs. 11 and 12 show the non-severe impact of the two events on Spain's risk premium.



Fig. 12. Spain's risk premium before and after the Russian invasion of Ukraine (February 2022)
<https://datosmacro.expansion.com/prima-riesgo/espana>
 (see also https://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/ctryprem.html)

20. What goals should a government's spending capacity serve?

The traditional, orthodox view is that public spending has the primary mission of reaching where private spending does not, whether in quantitative or qualitative terms. When private spending is insufficient (in periods of contraction in economic activity), public spending can temporarily serve to cover the volume of private spending considered insufficient.

On the other hand, public spending can cover qualitative deficiencies in private spending, that is, certain types of spending that the private sector does not carry out or does so in a way that is considered insufficient: healthcare spending, education and vocational training, social assistance, infrastructure...

When it comes to compensating for quantitatively insufficient private spending, it can be interpreted that the ultimate objective of public spending is to maintain the results that would be obtained if private spending were sufficient. Among the main results to be maintained are general employment in the economy and, more specifically, the economic activity of economic sectors

Currencies are instruments serving goals established by governments and not an authority to which governments must pay homage and be subordinated.

whose viability is considered desirable from a global point of view (for example, because they are sectors on which the viability of many other sectors depends).

The objectives of qualitatively complementing private spending are essentially twofold.

One of efficiency: executing this type of public spending facilitates and enhances private economic activity (for example, creating and maintaining basic infrastructures such as roads, railway lines, electricity networks, airports, courts, police stations...⁶).

And another of equity (distributive justice): that public spending contributes to reducing economic inequalities derived from private sector activity (for instance, providing free education services, providing universal healthcare, paying subsidies to disadvantaged groups or those deserving of special protection...).

The conventional view is that the overriding commandment for public spending is not to harm private spending: public spending must be subordinated to private interests. From this point of view, the less public spending, the better.

At the other extreme is Modern Monetary Theory (MMT) which, adopting the standpoint of an MS government, maintains that public spending must be functional (destined primarily to achieve the objectives that motivate it) and that the only brake on the volume of spending is that the impact of public spending on the evolution of inflation is considered excessive or undesirable. The ultimate limit to the government's spending capacity is the productive capacity of the economy. In general, the evolution of inflation is taken as an indicator of how close the aggregate demand in the economy is to its capacity to serve this demand.

On the contrary, a non-MS government may be forced to give priority to compliance with certain fiscal rules⁷ and, even if they comply with them, they may be forced by circumstances to assume as a priority fiscal policy goal reducing the public deficit and/or public debt (an objective that is usually associated with the reduction of public spending, however necessary it may be functionally: case of Spain for a few years after 2010).

According to MMT, the function of taxes is to regulate the state of the economy (avoid excessive aggregate spending in relation to productive capacity) and serve redistributive purposes (reduce

⁶The German economy no longer seems to be the ideal to copy. The German ordoliberal model (the social market economy) shows signs, at least with respect to the state of infrastructure: "Aging, clapped-out infrastructure and badly planned projects are among some of the most visible problems facing Europe's top economy, whose malaise has become a key issue in the February 23 parliamentary election. Germany's reputation for efficiency no longer holds true, critics contend — trains do not run on time, internet and mobile phone coverage is often patchy, and roads and bridges are in a state of disrepair." (<https://www.france24.com/en/live-news/20250216-late-trains-old-bridges-no-signal-germany-s-infrastructure-woes>)

⁷ To repeat once more: the governments of euro area countries have a number of mandatory fiscal rules. Among them: public deficit not exceeding 3% of GDP; public debt not exceeding 60% of GDP; and, prior to the preparation of the public budget, determination of the public expenditure ceiling. This ceiling establishes the upper limit of non-financial expenditure of the Central Administration (local administrations, autonomous communities, Social Security and payment of public debt are excluded). For Spain, the 2024 ceiling was 199,120 MEUR, 0.5% higher than the 2023 ceiling. The 2025 ceiling was 199,171 MEUR (European funds included; without them, 195,353 MEUR). The 2026 ceiling has not been approved yet due to the unwillingness of the Spanish government to submit to Parliament a draft budget for approval.

<https://www.hacienda.gob.es/es-ES/Prensa/En%20Portada/2023/Paginas/20231212-MONTERO-CM-TECHO-GASTO.aspx>

<https://www.servimedia.es/noticias/gobierno-aprueba-techo-gasto-199171-millones-para-2025-identico-julio/1410249890>

excessive inequalities of wealth or income) and not to finance public spending (which actually does not need taxes to finance itself if the government is MS).

21. Heterodox view of fiscal policy, public deficit and public debt

MMT defends a view that is broadly opposite to the orthodox or conventional. The MMT view applies to countries that have their own central bank and, therefore, currency: the US, Canada, Australia, the UK, Japan, India, Brazil, Russia, China, Mexico, Argentina... Spain, and the rest of the eurozone countries, have neither their own central bank nor their own currency: they are not monetarily sovereign countries. MMT claims the following holds in monetarily sovereign countries⁸.

- A government does not need to collect taxes to make public spending. The orthodox view considers a government to be like an individual, who cannot spend unless income is first received: taxes are collected first and next spending is made. The heterodox view maintains that an MS government is different: since it ultimately has control over its currency, it can create it at will to finance public spending; in this case, spending is done first and then, if considered necessary, taxes will be collected.
- The function of taxes is not to finance public spending, but to regulate aggregate demand (when it is regarded excessive and inflationary pressures are created, an increase in taxes reduces the pressure). In the orthodox view, monetary policy is the most effective way to control inflation; in the heterodox view, it is fiscal policy.
- Public deficits and debt are not in themselves an economic problem, in view of the fact that an MS government can never go bankrupt (unlike a person or a company). The reason is that this type of government has the power to create the medium that liquidates its own debts: a government borrows in its own currency and, if necessary, can create it to pay off the debt. [One may ask: what if a government borrows in foreign currency? Reply: why do that when it can borrow in currency that it can create itself?]
- The public deficit is an instrument to achieve an objective, not an end in itself. The relevant question is not whether the public deficit (or public debt) is 'too high', but whether it reaches the goal that justifies it: maintaining or boosting economic activity and maintaining or boosting employment. The heterodox view speaks of 'functional public expenditure': what is important about public expenditure is not its volume but whether it serves to achieve socially desirable objectives.
- What makes a level of deficit or debt problematic is not its level (whatever it may be) but whether it causes excessive inflation. For this reason, it is not argued that public deficit or debt are always irrelevant. But, unlike the orthodox view, the idea that they are always relevant is not accepted.

⁸ See Warren Mosler (2010): *The Seven Capital Innocent Frauds of Economic Policy*, <http://mosler.economics.com/wp-content/uploads/2021/06/7-Fraudes-inocentes-capitales-1.pdf>, and/or Bill Mitchell's Modern Monetary Theory website, <http://bilbo.economicoutlook.net/blog/>, and/or Stephanie Kelton (2021): *The Deficit Myth: Modern Monetary Theory and the Birth of the People's Economy*, PublicAffairs.

- The public deficit creates net financial wealth for the private sector (the orthodox view says it does not). By the identity of balances (and, for simplicity, assuming that the external balance is zero),

$$\text{private sector balance} + \text{public sector balance} \equiv 0.$$

Consequently, if the private sector wants to have a surplus (it intends to accumulate financial assets), it is necessary for the public sector to run a deficit (by means of which financial assets for the private sector are created). So the public deficit does not take savings from the private sector, but rather it creates the savings.

- There is no crowding-out effect of an increase in public spending financed by public debt. When the government borrows, it does not borrow money from the private sector: since, to a large extent, banks buy government debt securities, they pay for it with new money. As with a private loan, banks create money (deposits, bank money) when they lend to the government. This, if anything, does not push the interest rate up, but rather down (see the example in section §3 illustrating the link between public expenditure, money creation and government debt).
- Public spending creates money. If public spending is financed by issuing public debt securities and if these securities are purchased by banks by creating new deposits, these deposits pass to the non-bank private sector when the government makes public spending (it buys goods and services and pays with the deposits that the banks have created by purchasing public debt). This makes fiscal policy a more agile and effective monetary policy than the central bank's own monetary policy: when the government pays for purchases or makes transfers, it sends the new bank money directly to the private sector and, if so intended, to a specific part of the private sector; on the other hand, the central bank needs the collaboration of intermediaries: the banks⁹.
- Taxation destroys money. In practice, a government operates like a bank (with the only difference that it does not create bank money). Thus, when taxpayers order their banks to pay a tax on their deposits, the bank liquidates part of the deposits but the form of money it sends to the government is not a deposit (the bank's own deposit) but reserves (of the central bank). One reason is operational: banks do not accept deposits from other banks, but they do accept reserves (which is a sort of universal money in the banking sector). If the government accepted the bank's deposit as tax payment, it would have limited ability to use this form of money to pay other banks. Reserves, not deposits, are the 'natural' interbank form of money. That tax payment destroys bank money reinforces the effectiveness of fiscal policy as monetary policy.
- Fiscal policy as a countercyclical policy. MMT sees fiscal policy as a tool to stabilize the economic cycle. The business cycle is associated with fluctuations in aggregate private spending. Fiscal policy is countercyclical if:

⁹ If the non-bank private sector is considered, the net effect of the public deficit is to create deposits (here the creation of net financial wealth for the non-bank private sector occurs: more deposits). If rather the entire private sector (banking and non-banking) is considered, then deposits are cancelled (they are an asset for the non-bank private sector but a liability for the banking private sector). However, the creation of net financial wealth persists (now for the entire private sector) because the banks hold the public debt securities (which are an asset of the private sector and a liability of another sector, the public sector).

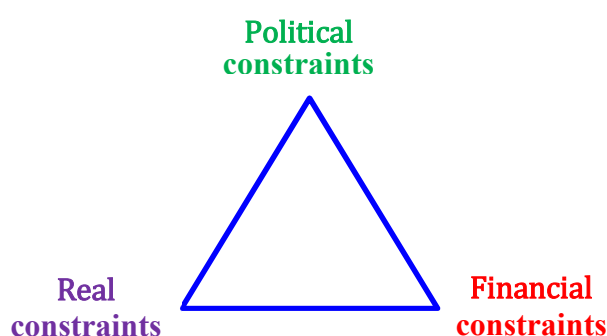
- (i) it implies an increase in public spending (and, complementary, a reduction in taxes) during the contractionary phase of the cycle (when private spending decreases); and
 - (ii) it involves a reduction in public spending (and, in addition, an increase in taxes) during the expansionary phase of the cycle.
- A parallel objective of fiscal policy is to facilitate the expansion of private spending, that is, to 'make space' for (and lay the foundations for) sustained and sustainable growth in private spending.

[Fiscal austerity expresses a procyclical fiscal policy: public spending is cut during a recession (raising unemployment) and increased during an expansion (stimulating inflation). A procyclical fiscal policy could be justified at the start of the expansionary phase of the business cycle: a temporary surge in public spending could help consolidate expectations of recovery, so that as the expansion is consolidated by the progressive rise in private spending, public spending is reduced to 'make room' for more private spending; see <http://bilbo.economicoutlook.net/blog/?p=18780>.]

22. A trinity of economic policy constraints

Fiscal policy (and, in general, economic policy) faces at least three constraints.

- **Financial constraints.** Fiscal policy is said to be subject to financial constraints if all government spending must be financed by raising taxes or issuing government debt. MMT holds that a monetary sovereign government is not intrinsically subject to financial constraints.
 - This does not mean that the government cannot establish rules, conventions or procedures that represent some type of restriction. For example, the government can self-impose the condition of not spending without having previously issued debt to finance it or that a certain percentage of spending be financed with taxes (the British government self-imposes fiscal rules more or less precisely defined). But these restrictions are voluntary and could be eliminated or modified at convenience. In no case do they represent intrinsic or insurmountable restrictions.
 - The conventional view holds that fiscal policy is necessarily and inevitably limited by financial constraints. According to this view, just as a household cannot spend without first earning income, a government is considered unable to spend unless it collects the necessary taxes or borrows from the private sector. The conventional view claims that every government is limited in its action by an intertemporal budget constraint: if in the present it spends more than it receives in taxes (and the difference must be covered by public debt), in the future it will have to spend less than it receives in taxes.
 - According to the MMT, a government faces an intertemporal budget constraint only if it voluntarily decides to do so. This is the case for the governments of the euro area countries: by



giving up their monetary sovereignty, governments face the financial constraint of having to subordinate public spending to obtaining financing from the private sector (via taxes or via loans).

• **Political constraints.** Political constraints on fiscal policy are associated with the acceptability of fiscal policy measures among the population (and, mainly, among the most powerful or influential groups). The acceptability of a fiscal policy measure is related to the measure's alignment with ideological positions or with collective interests.

- For example, for ideological reasons, part of the population may oppose tax cuts for the wealthiest; this opposition would represent a political constraint on the implementation of the measure. Similarly, business organizations may oppose an increase in corporate taxes because the measure negatively affects their economic interests.
- The MMT alleges that the conventional view presents as financial restrictions (that the government does not spend before receiving money from the private sector) what is really a political restriction (for ideological reasons, it is intended to minimize the intervention of the public sector in the economy or to make people believe that the government is less capable than it actually is, while spreading the opinion that a monetarily sovereign government can run out of money). For MMT a function of taxes is redistribution: taxes help transfer spending capacity from some groups in the private sector (which are considered to have excessive capacity) to other groups (which are considered to have insufficient capacity).

• **Real constraints.** Real constraints are defined by the availability of resources: fiscal policy that involves purchasing goods and services is physically limited by the existence of resources that allow the goods and services to be created. The government cannot buy what the economy cannot produce, because there are not enough resources to make its production possible. Real constraints on fiscal policy are the limits on the productive capacity of the economy.

- MMT claims that real restrictions are the only effective restrictions on fiscal policy. The ultimate guide for fiscal policy is to not lead the economy beyond its sustainable productive capacity.
- According to MMT, the lack of effective financial constraints on fiscal policy, and the willingness to overcome any political constraints, means that the real limitation of fiscal policy is to avoid the inflationary pressures that occur when the economy's total spending approaches the limit of what the economy can produce. For MMT taxes serve to regulate private spending: when it is excessive and risks generating excessive inflation, an increase in taxes helps to control inflation.
- For this reason, the ultimate check on fiscal policy discretion is excessive inflation: public spending must be curbed when inflation reaches levels considered excessive or costly to control, that is, when public spending strains the productive capacity of the economy. The sustainable productive limit of the economy marks the limit of the expansiveness of fiscal policy.

Can restrictions be removed? Financial restrictions do not apply to a monetarily sovereign government. Becoming a dictatorship is a way to get rid of political restrictions, since the government is not accountable to anyone for its decisions. Finally, the government of a sufficiently small economy (Andorra, Luxembourg) could in practice make real restrictions ineffective, because

in principle it could turn to the rest of the world to satisfy any demand for goods or services that exceeds domestic production capacity.

In the latter case, it is essential to meet one condition: that the small economy is integrated into the rest of the world (is globalized). North Korea is a small economy, not subject to financial or domestic political restrictions; but because it is not integrated with the rest of the world, the real restrictions are even stricter. One manifestation of these restrictions is starvation. Between 1994 and 1998, it is estimated that between 0.24 million and 3.5 million North Koreans, out of a population of about 22 million, died of starvation. The COVID-19 pandemic exacerbated the food shortage.

https://en.wikipedia.org/wiki/North_Korean_famine

<https://asiasociety.org/famine-north-korea> <https://www.bbc.com/news/world-asia-59144712>