

Dilemes i trilemes monetaris i financers

1. El trilema de l'economia oberta (o la trinitat impossible, atribuït a Robert Mundell)

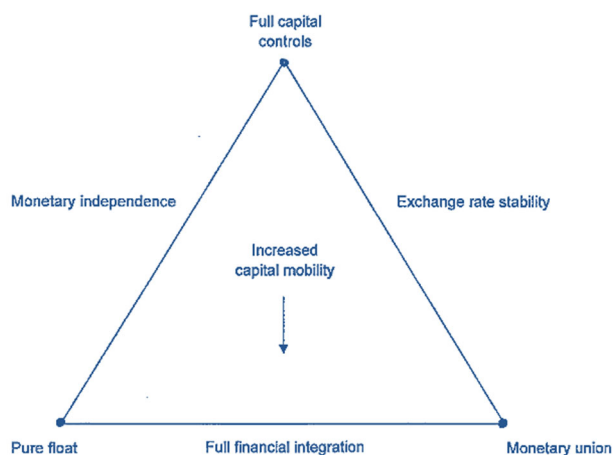
El trilema de l'economia oberta estableix que no es poden aconseguir els tres següents objectius simultàniament:

- estabilitat de la taxa de canvi;
- integració financera; i
- independència de la política monetària.

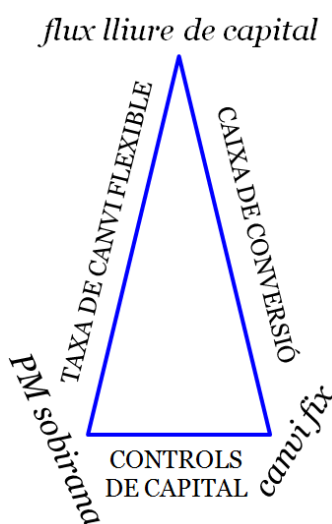
Atesa la tendència dels mercats financers a globalitzar-se, l'elecció sembla limitada a escollir entre els objectius d'estabilitat canviària i independència monetària. Amb tot, Frankel (1999) remarca que res no sembla impedir la renúncia parcial als dos objectius. En concret, que un país adopti un sistema de taxa de canvi regulada on, per exemple, la meitat de l'impacte d'una fluctuació en la demanda de la moneda sigui acomadada mitjançant la política monetària i l'altra meitat amb una variació de la taxa de canvi.

L'esquema de la dreta presenta el trilema com a una elecció entre tres opcions de política econòmica:

- adoptar controls de capital (que implicaria escollir estabilitat canviària i independència monetària);
- triar un règim canviari de taxa de canvi completament flexible (que representaria combinar independència monetària amb integració financera); i
- adherir-se a una unió monetària (que equivaldria a acceptar una integració financera plena i l'estabilitat canviària).



Frankel, Jeffrey A. (1999): "No single currency regime is right for all countries or at all times", <http://www.nber.org/papers/w7338>.



Hi ha tres opcions de política econòmica compatibles amb el trilema:

- **Opció 1. Deixar flotar la moneda.** Si es tria tenir una política monetària independent i no adoptar controls de capitals, llavors la taxa de canvi ha de ser flexible (Regne Unit, Canadà)
- **Opció 2. Caixa de conversió.** Optar per fixar la taxa de canvi i acceptar la lliure mobilitat de capital implica que la política monetària no sigui independent. Es pot interpretar que els països de l'eurozona han escollit aquesta opció: la seva política monetària s'ha deixat en mans d'una autoritat supranacional, el Banc Central Europeu. Quan un país tria aquesta opció aïlladament, l'autoritat monetària resultant

s'anomena "caixa de conversió". El seu objectiu és adoptar la política monetària del país (o països) al qual s'ancora la taxa de canvi i, a tal efecte, la caixa ha d'estar disposada a convertir en la moneda que fa d'àncora qualsevol volum de moneda domèstica. Argentina va tenir una caixa de conversió en els 1990s quan s'establí la taxa fixa u a u amb el dòlar estatunidenc.

• **Opció 3. Controls de capital.** Si s'escull controlar tant el valor exterior de la moneda domèstica (fixant la taxa de canvi) com, decidint la política monetària a implementar, el valor interior (taxa d'interès), aleshores s'han d'establir controls de capital (la Xina fins fa poc) que limiten el volum de moneda domèstica es pot intercanviar en el mercat de divises.

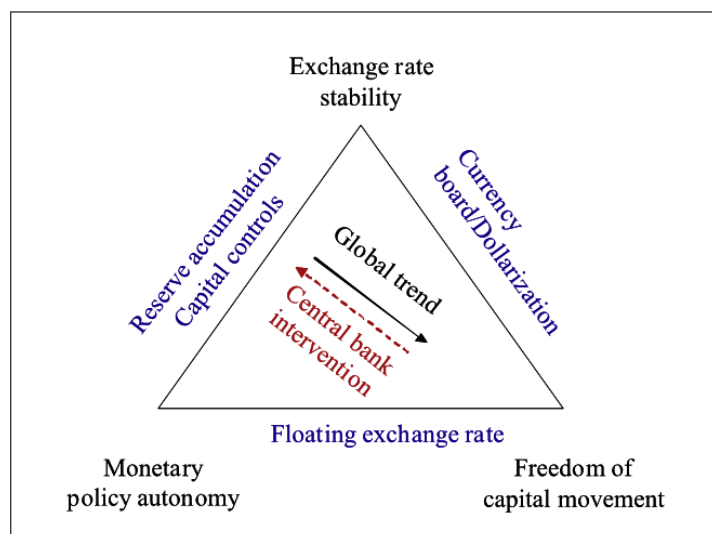


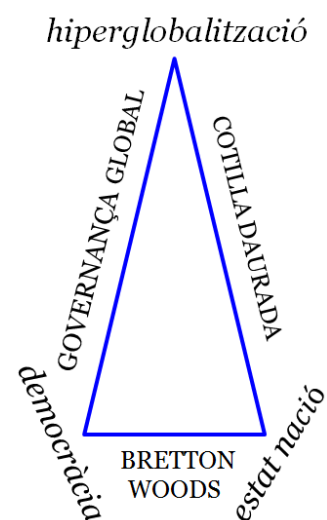
Fig. 3. Macroeconomic trilemma: capital controls and reserve accumulation as substitutes. *Notes.* This figure illustrates that capital controls and reserve accumulation are substitutes in the macroeconomic trilemma: both allow a country to pursue an independent monetary policy and to maintain a stable exchange rate.

Steinar, Andreas (2015): "Central banks and macroeconomic policy choices: Relaxing the trilemma", Journal of Banking & Finance

2. El trilema fonamental de política de Rodrik (o trilema de Rodrik)

Dani Rodrik (2011) identifica una tensió entre democràcia nacional i mercats globals, que il·lustra l'esquema de la dreta. Diu Rodrik: "No podem tenir hiperglobalització, democràcia i autodeterminació nacional a la vegada [...] Si volem hiperglobalització i democràcia, cal renunciar a l'estat nació. Si volem preservar l'estat nació i tenir també hiperglobalització, llavors ens hem d'oblidar de la democràcia. I si volem combinar la democràcia amb l'estat nació, cal dir adéu a una globalització profunda." Per tant, el trilema de Rodrik sosté la incompatibilitat de:

- la hiperglobalització;
- la democràcia nacional; i
- la sobirania de la política econòmica nacional.



Hi ha tres opcions per a posar remei a la tensió entre la democràcia nacional i els mercats globals que el trilema captura. Segons Rodrik, "Podem restringir la democràcia en interès de minimitzar els costos de transacció internacionals, desatenent les fuetjades econòmiques i socials que l'economia global ocasionalment produeix. Podem limitar la globalització, amb l'esperança de construir la legitimitat democràtica interna. O podem globalitzar la democràcia, a expenses de la sobirania nacional."

• **Opció 1. La cotilla daurada (The Golden Straitjacket).** Hiperglobalització vol dir que les fronteres nacionals no interfereixen la circulació de béns, serveis i capitals. Si un estat

s'hiperglobalitza, lleis internes i polítiques domèstiques (especialment, la tributària) han de subordinar-se a les demandes de la hiperglobalització; entre elles, assegurar que l'economia sigui atractiva per a inversors i comerciants internacionals i es guanyi la seva confiança. Per aquest motiu, la política domèstica s'ha de subordinar al compliment de les condicions de la globalització econòmica adoptant mesures i polítiques com ara

- una política monetària estricta (*tight money*);
- mercats laborals "flexibles";
- desregulació, privatització i minimització de la intervenció pública ("govern petit");
- mantenir els impostos (sobretot, els impostos sobre el capital i les empreses) a nivells baixos;
- assegurar que l'economia roman suficientment oberta a la resta del món ("fronteres obertes").

Quan s'adopten aquestes mesures es diu que l'estat nació porta La Cotilla Daurada (*Golden Straight-jacket*). El govern que la porta s'allibera d'obligacions i condicionants interns de caire social o econòmic. Les exigències de l'economia global dicten la política domèstica. Signes de dur la cotilla:

- institucions que dissenyen la política econòmica esdevenen "independents" del control democràtic (bancs central, reguladors i supervisors dels mercats);
- es redueix l'assegurança social (es privatitza);
- els impostos sobre empreses i sobre les rendes més altes disminueixen; i
- els objectius de política se subordinen al manteniment de la "confiança dels mercats".

• **Opció 2. El compromís de Bretton Woods** (versió escanyolida de la globalització). El compromís comporta una disciplina internacional reduïda: cada estat nació disposa de prou llibertat per a perseguir objectius domèstics, com el desenvolupament, però si s'apliquen restriccions als fluxos de capital flows. Com que els estats poden triar com desenvolupar-se, les diferències domèstiques poden augmentar.

• **Opció 3. Governança global.** L'opció de governança global involucra liquidar l'estat nació per a tenir polítiques democràtiques i hiperglobalització. Aquesta opció requereix traslladar la política al nivell global, en el sentit que els organismes que dicten les lleis són supranacionals (la Unió Europea és un exemple regional). Les dificultats amb aquesta opció provenen de la possibilitat que existeixi massa diversitat entre els estats nacions com per a fer del federalisme global una opció pràctica.

Rodrik (2007, p. 43) diu que "Sostenir el creixement econòmic és més difícil que engegar-lo". Una generalització d'aquesta observació seria que és més difícil que una economia romangui en un estat no espontani que no pas que l'assoleixi. La globalització il·lustra la generalització: cal més esforços per a mantenir una economia globalitzada que no pas per a globalitzar-la. Per exemple, Argentina en els 1990s esdevingué hiperglobalitzada molt depressa, però el cost de mantenir-la en aquest estat es tornà insostenible i conduí a la crisi de 2001.

Rodrik, Dani (2007): *One economics, many recipes: globalization, institutions, and economic growth.*

Rodrik, Dani (2011): *The globalization paradox: democracy and the future of the world economy.*

3. El trilema de l'estabilitat financera (Schoenmaker, 2011)

Com aconseguir l'estabilitat financera nacional quan, atès que els mercats financers estan globalitzats, els bancs poden operar internacionalment?

El trilema financer que proposa Schoenmaker (2011, p. 57) diu que els tres objectius següents són incompatibles:

- estabilitat financera;
- integració financera; i
- capacitat d'implementar polítiques financeres nacionals.

Explicació: a mesura que avança la integració financera amb la resta del món, s'incrementen els límits i restriccions de les polítiques nacionals i això redueix la seva capacitat de garantir l'estabilitat financera domèstica. Per a recuperar efectivitat de les polítiques financeres nacionals caldria reduir el grau d'integració financera amb l'exterior.

Schoenmaker, Dirk (2011): "The financial trilemma", Economics Letters 111, 57-59.

4. El trilema d'una unió monetària (Beck i Prinz, 2012)

El trilema d'una economia oberta no s'aplica a una unió monetària, atès que entre els seus membres no hi ha taxes de canvi ni, per definició d'unió monetària, poden establir-se limitacions als fluxos financers entre els membres de la unió.

El trilema d'una unió monetària que proposen Beck i Prinz (2012) estableix la impossibilitat de tenir, simultàniament:

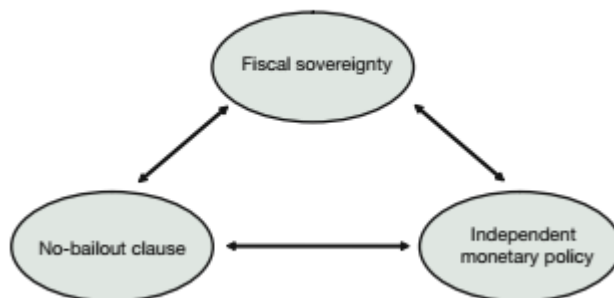
- sobirania fiscal nacional;
- independència monetària del banc central de la unió;
- l'establiment d'una clàusula de no rescat dels membres amb deute públic 'excessiu'.

La sobirania fiscal nacional és la capacitat de cada membre de la unió de decidir lliurement els nivells de deute públic i de dèficit públic.

La independència monetària del banc central supranacional significa que la política monetària es decideix per a tota la unió, no per a membres específics d'ella. En particular, el banc central de la unió no pot finançar el deute públic de cap dels seus membres. Com a conseqüència, quan un membre de la unió decideix la política fiscal nacional no pot comptar que el banc central aplicarà una política monetària convenient als interessos o necessitats d'aquell membre.

Un tret important d'una unió monetària és que els seus membres es comprometen a no impagar el seu deute públic. La raó és que típicament els bancs d'uns membres compren deute públic d'altres membres i un possible impagament de deute públic podria posar en risc la viabilitat dels bancs que l'han finançat i, per extensió, podria generar incertesa sobre l'estabilitat del sector financer de tota la unió. El tercer element del trilema estableix que, malgrat l'acumulació per part d'algun membre d'un volum de deute públic suficientment elevat, hi ha el compromís de no rescatar el país afectat: ni la resta de membres de la unió ni el banc central estan habilitats per a ajudar el membre amb un deute públic considerat excessiu (finançant-ne una part).

The Impossible Trinity of a Monetary Union



Si es permet una clàusula de rescat, aleshores els membres de la unió poden estar disposats a generar grans volums de deute públic sabent que, en cas de ser necessari, seran rescatats per la unió. Si algun membre s'aprofita d'aquesta possibilitat probablement provocarà que els altres membres es repensin la seva pertinença a la unió. Com a resultat, per a fer viable la unió, una clàusula de rescat (en presència d'un banc central independent) requereix imposar límits a la sobirania fiscal dels membres (imposició de regles de disciplina fiscal que limitin el nivell de dèficit i el volum de deute dels membres).

La crisi europea del deute públic es va iniciar a finals de 2009. El 9 de maig de 2010, els membres de la UE van acordar crear la Facilitat Europea d'Estabilitat Financera (acrònim anglès: EFSF), un instrument que ajudés a preservar l'estabilitat financera proporcionant assistència financera a membres amb dificultats financeres (de bancs o de governs). El 9 de gener de 2011 es va crear el Mecanisme Europeu d'Estabilització Financera (EFSM), un programa d'emergència també per a ajudar a membres amb dificultats econòmiques. Tant l'EFSF com l'EFSM van ser reemplaçats el setembre de 2012 per un programa permanent de rescat: l'ESM (el Mecanisme Europeu d'Estabilitat).

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

Amb tot, la crisi del deute públic europeu va quedar resolta amb un discurs el 26 de juliol de 2012, en el pijor de la crisi, del President del Banc Central Europeu, Mario Draghi, que es va convertir en 'el salvador de l'euro'. En aquest discurs va declarar: 'Within our mandate, the ECB is ready to do whatever it takes to preserve the euro. And believe me, it will be enough' (A l'empara del nostre mandat, el BCE està preparat per a fer tot el que calgui per a preservar l'euro. I creieu-me: serà suficient.)

Una interpretació és que el discurs va representar una renúncia a la independència de la política monetària per a salvar la unió monetària: el banc central va acabar comprant deute públic dels membres, acomodant així polítiques fiscals nacionals que van generar un deute públic excessiu.

El manteniment d'una clàusula de no rescat comporta que hi puguin coexistir diferents taxes d'interès en la unió, ja que tant la política monetària comuna com les polítiques fiscals nacionals incidiran sobre la taxa d'interès del deute públic de cada membre. En concret, el grau d'expansivitat de la política fiscal nacional incidirà sobre la percepció de risc dels inversors sobre el deute públic, de manera que membres amb polítiques fiscals més expansives (o dèficits públics més grans) hagin d'assumir primes de risc superiors.

Beck, Hanno; Aloys Prinz (2012): "The trilemma of a monetary union: Another impossible trinity", *Intereconomics*, DOI: 10.1007/s10272-012-0404-0.

5. El dilema de la regulació bancària (King, 2019)

King considera que els reguladors de l'activitat bancària s'enfronten a una versió del dilema de l'innovador de Clayton Christensen (1997). Segons el dilema de l'innovador, les empreses d'èxit esdevenen presoneres de productes i pràctiques que funcionen prou bé com per a abandonar-les o canviar-les, i això les fa més vulnerables a l'efecte disruptor de noves tecnologies, productes o pràctiques.

King (2019, p. 65) al·lega que els reguladors financers s'enfronten a un dilema similar. Els agents reguladors segueixen, potser excessivament, tradicions regulatòries construïdes sobre la base d'una dilatada, i sovint traumàtica, experiència regulatòria i això no els prepara per a enfrontar-se, o anticipar-se, a una realitat canviant.

El marc regulador està preparat per a evitar riscos, ser reflexiu (per tant, ni àgil ni ràpid) i previsible (per tant, creador de certes però relativament inflexible). El resultat és que el sistema regulador es dissenya amb la missió principal de detectar i neutralitzar riscos del sistema financer, no de promoure o anticipar-se a canvis del sistema.

Com en el cas del dilema de l'innovador, els trets que han fet èxits el marc regulador es tornen factors que promouen riscos, atès que la capacitat de canvi del marc regulador esdevé inadequada per a adreçar la velocitat amb què es produeixen canvis en el sistema financer. En general, les lliçons i pràctiques del passat no preparen els reguladors a entendre i enfrontar-se a noves tecnologies. El dilema dels reguladors és actuar de manera que no proliferin riscos per al sistema financer però sense reduir els beneficis derivats de noves tecnologies, pràctiques o serveis. Segons King, a la llarga, el pitjor risc per al sistema financer és una mala regulació (una que no eviti riscos o que obstaculitzi la innovació beneficiosa per al funcionament del sistema).

“Any regulator that thinks they can successfully regulate Bitcoin almost certainly doesn't understand the phenomenon. You can't stop Bitcoin any more than you can stop the internet from working today (...) The reality is that Bitcoin has a design problem that prevents it from being the first truly digital, global currency—and that is the current trend of hoarding Bitcoin and speculating around its possible future value (...) If a regulator inhibits cryptocurrency models or blockchain deployment, by necessity their economies will start to slow.” King (2019, pp. 68-69)

King, Brett (2019): *Bank 4.0. Banking everywhere, never at a bank*, John Wiley.

6. A policy dilemma for central banks

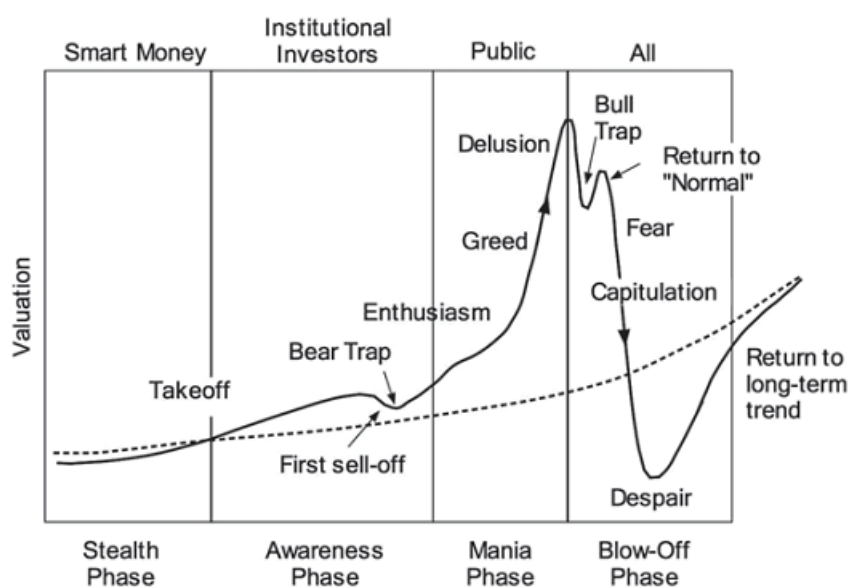
Central banks face a policy dilemma in a booming/bubble economy: action vs inaction. Suppose borrowing and spending is considered excessive, with indebtedness growing alarmingly and the typical economic agent being reluctant to save. There are two options.

- Option 1: puncture the bubble. The typical measure to try to discourage borrowing and spending is to raise the interest rate. But this rise may result in a sharp contraction in economic activity. In this case, borrowing and spending appears insufficient.
- Option 2: let the boom continue and the bubble burst. If no policy is adopted to control or regulate the high levels of borrowing and spending, a worse contraction may occur when it is realized that the levels of borrowing and spending can no longer be sustained.

Financial activities were liberalized during the 1970s and 1980s. The liberalization transferred the control of the financial sector from the public to the private sector by removing controls over financial flows. The financial liberalization allowed the accumulation and international circulation of large amounts of money and also permitted interest rates to be established in the

financial sector itself without substantial public interference. The empirical evidence makes the following sequence appear plausible:

financial deregulation → free mobility of capital and no credit control → debt increase everywhere (by governments, firms, households...) → threat to financial stability → financial crises.



Stylized stages of a boom, bubble, bust, and recovery

Rapp, Donald (2015): *Bubbles, booms, and busts: The rise and fall of financial assets*, p. 19

7. A paradox of dominance?

If the global contest for dominance is a zero-sum game, then the resources used by the rising powers are no longer available to the lead states to maintain or expand their dominance. In fact, the economic system created by the dominant powers is used by the challengers to rise: when the profit opportunities become scarce in the lead economies, it becomes an attractive option to invest abroad and that helps less developed economies to develop and close the gap with the richer economies. As it is cheaper to produce in poorer economies, these economies could develop easier and faster by selling their production in the leading economies. Hence, the initial leadership of some economies is accompanied by convergence of the rest of economies.

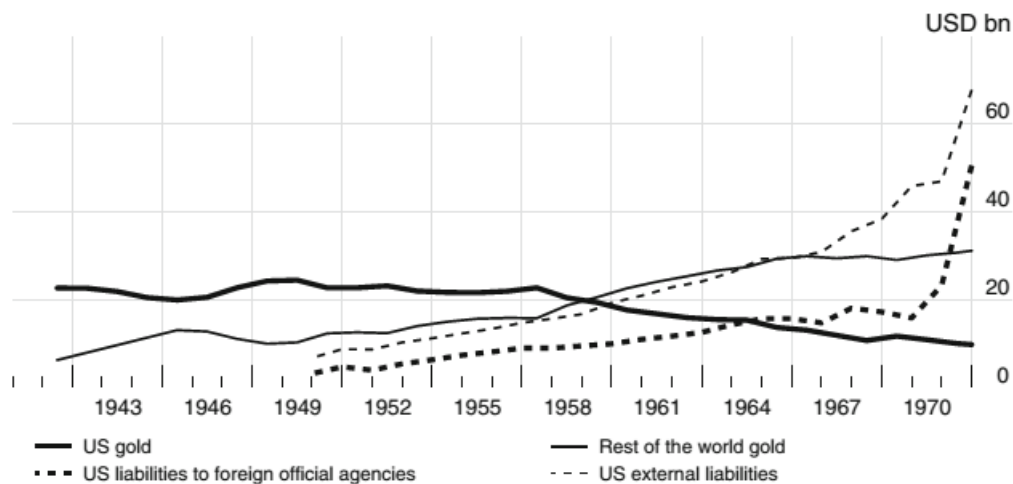
- “The paradox of power for the USA is therefore that the very economic system that has propelled it on to the world stage also contains within it the potential seeds of its own destruction.” Glenn (2016, p. 2)

8. The Triffin dilemma (Robert Triffin, 1960)

Triffin predicted the end of the Bretton Woods system, which relied on the credibility of the commitment of the convertibility of dollars into gold. Triffin argued that the system faced a dilemma.

- On the one hand, to meet the international liquidity needs (which were growing with an expansionary world economy), a sufficient amount of dollars should circulate; that is, foreign dollar balances should increase.
- But, on the other, a large and growing proportion of foreign dollar balances with respect to US gold reserves endangers the credibility of the convertibility commitment. Hence, if the US international liabilities grow too slowly, global trade is restrained and deflation may ensue; but if the US international liabilities grow too much (to satisfy the demands of a

growing international trade), the dollar would lose value against gold and a run on the US gold stock will precipitate the downfall of the system. The chart below illustrates how the Bretton Woods system broke down.



9. The safe assets dilemma: A new Triffin dilemma?

The Triffin dilemma was the discovery that the unbalanced growth of certain macrofinancial magnitudes could generate systemic instability. The safe assets dilemma would provide another instance of this principle of instability fuelled by unsustainable growth.

Specifically, the Triffin dilemma highlights the possibility that the global demand for a stock (US international liabilities) would outgrow the US official holdings of another stock (gold). The safe assets dilemma points out another financial trouble: the possibility that the global demand for another stock (US Treasury liabilities) would outgrow a flow (the US GDP), a flow that provides the taxes needed to service the Treasury's debt.

10. A Triffin general dilemma

Tommaso Padoa-Schioppa suggested in 2010 a 'Triffin general dilemma': "the stability requirements of the system as a whole are inconsistent with the pursuit of economic and monetary policy forged solely on the basis of domestic rationales in all monetary regimes devoid of some form of supranationality." In particular, as during the Bretton Woods era, the US monetary policy strongly influences global monetary conditions; yet, this policy is conducted without taking into account its international repercussions. In general, the US use its privileged economic status to its own advantage, letting the rest bear the costs of the collateral effects the US decisions cause abroad (the global financial crisis, started in mid-2007 in the US, could be a case at hand; the collapse of the Bretton Woods system, another).

11. A Triffin general dilemma

"Many economists and government officials have concluded that the unipolar, dollar-based monetary system is seriously flawed. Belgian-American economist Robert Triffin pointed out in the 1960s that an international monetary system based on the currency of one country cannot sustainably deliver both liquidity and confidence. More specifically, the continuous growth of the world economy demands a steady stream of dollars, which requires the US to run balance-of-payments deficits. However, excessive US deficits erode people's confidence in the dollar's value (convertible into gold at a fixed

price). This inherent conflict between the dollar's role as the world's reserve currency and the declining confidence in the dollar in the postwar international monetary system is called the Triffin dilemma. Though the Triffin dilemma was directed against the Bretton Woods monetary system, it remains valid for today's international monetary system. The modern version posits that the massive amount of dollars created by the US authorities to satisfy world demand is inconsistent with people's confidence in the dollar's value (convertible into a fixed basket of US goods and services). Here arises the question of why the dollar remains the preeminent currency in the international monetary system despite the relative American economic decline and the obvious flaw of dollar hegemony. Eichengreen provides a simple but compelling answer: 'The dollar's dominance was supported by a lack of alternatives.'"

12. EU crisis: a constitutional culture trilemma

"There are three paths to constitutionalism in the modern world. Under the first, revolutionary outsiders use the constitution to commit their new regime to the principles proclaimed during their previous struggle. India, South Africa, Italy and France have followed this path. Under the second, establishment insiders use the constitution to make strategic concessions to disrupt revolutionary movements before they can gain power. Britain provides paradigmatic examples. Under the third, ordinary citizens remain passive while political and social elites construct a new constitution. Spain, Japan and Germany provide variations on this theme. Different paths generate different legitimation problems, but the EU confronts a special difficulty. Since its members emerge out of three divergent pathways, they disagree about the nature of the union's constitutional problem, not merely its solution. Thus the EU confronts a cultural, not merely an economic, crisis."

Ackerman, Bruce (2015): "Three paths to constitutionalism - and the crisis of the European Union", *British Journal of Political Science* 45(4), 705-714.

13. The dollar in the international monetary system

The international monetary system is currently characterized by a centre (developed countries) and periphery that uses as reserves assets from the centre. The viability of this system depends on its participants to obtain from it what they want or need. Jeanne (2012) identifies three necessary conditions for the viability:

- the centre must provide liquid and safe assets;
- in a sufficient amount to meet the international demand; and
- providing a satisfactory return (global stable store of value).

The US has been so far playing a central role in the international monetary system: the US dollar is still the global reserve currency, which means that most countries choose to keep US dollars as a form of saving and to use US dollars in international trade. Will it continue to do so and for long? The 2008 financial crisis questioned the safety and liquidity of US assets. It is not clear whether the US economy will be strong enough to meet a rising demand for international liquidity. And the decisions by the US authorities on the return on the dollar (the US interest rate) are solely based on domestic considerations and do not take into account whether the decisions ensure that the dollar remains an international stable store of value. Despite all this, it does not appear likely that, in the near future, the international monetary system will become more multipolar (with the central role of the dollar shared with other currencies, like the euro or the renminbi, or replaced by the IMF's Special Drawing Rights).

Jeanne, Olivier (2012): "The dollar and its discontents", *Journal of International Money and Finance* 31, 1976-1989.

14. Attributes of an international reserve currency (Eichengreen, 2013)

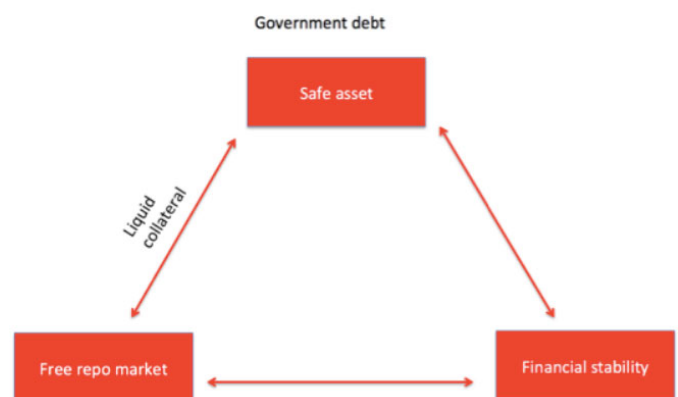
A currency must possess three attributes to be internationally adopted in commercial and financial international transactions and held as reserve by central banks and governments.

- Scale: the country that issues the currency must conduct a sufficiently large amount of transactions with the rest of the world.
- Stability: the currency's users must believe that the value of the currency is sufficiently stable for the currency to perform well the functions of medium of exchange and deposit of value.
- Liquidity: financial assets denominated in the currency are available in sufficient quantities to be sold and bought, without the currency's value being significantly affected.

The country whose currency becomes internationalized must develop an economy which is significantly open and integrated with the rest of the world (open capital account), a reputation for financial (economic, political) stability and liquid markets in dollar-denominated assets.

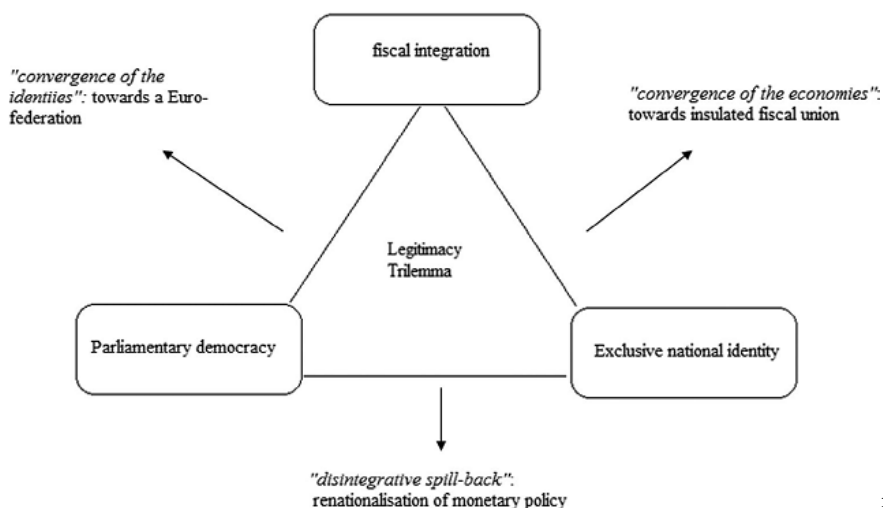
15. The repo trinity

The repo trinity is the expression of the accepted view among central bankers that financial stability demands liquid government bond markets and liberalized repo markets. After the 2008 financial crisis, free repo markets are presumed subject to cycles of leverage, fire sales and elusive liquidity. Central banks appear to accept that financial stability requires providing liquidity in repo markets in times of stress instead of providing that liquidity to banks.



Daniela Gabor (2016): "The (impossible) repo trinity: the political economy of repo markets", *Review of International Political Economy*.

16. Economic integration and a legitimacy trilemma



"...the lack of shared European identity generates a major issue: either we decide to proceed in securing the EMU with fiscal integration giving up any claim of democratic control over it, thus creating a purely inter-governmental (output-legitimised) fiscal union; or we decide to maintain democracy at the national level, avoiding fiscal integration, and therefore receding from the monetary integration. In

other words, the EU is facing a true governance trilemma (...) We can preserve democratic decision-making, the monetary union, and exclusive national identity, but only two of these features at a time (...) In fact, democratic decision making and fiscal integration are consistent, but this would require the creation of a European Parliament that is enabled to deal with fiscal and economic policy. This would be in contrast with an exclusive national identity, which assumes that fiscal policy cannot be the object of democratic decision making outside the demos because of its redistributive implications. Similarly, we could maintain an exclusive national identity and proceed towards fiscal integration at the condition that any decision on fiscal and economic policy that is undertaken in the newly established fiscal union is taken by consensus of governments, thus removing democratic decision making from controlling these policies. Finally, we could maintain an exclusive national identity and a majority-voting control over fiscal and economic policies, only if these are not integrated at the EU level."

Francesco Nicoli (2017): "Democratic legitimacy in the era of fiscal integration," *Journal of European Integration* 39(4), 389-404

17. Optimum currency area puzzle

"The theory of optimum currency areas, suggesting the redrawing of currency areas across countries or splitting of national money into several currencies, is at odds with the one-money-one-country pattern that has dominated monetary history for 26 centuries. This paper puts forward an equilibrium approach which, by stressing the influence of the border effect on intranational adjustment, solves the puzzle and analyzes the closely related issue of the viability of monetary unions and regional specialization (...) In a world of continuous change, tailoring currency areas to one inbuilt characteristic, as the received view prescribes, would at best answer just one type of imbalance. Likewise, redesigning currency areas in order to avoid asymmetric shocks would not do because the adjustment problem would emerge again in the new setting: under ever-mutating circumstances, a once-and-for-all policy is illusory."

"When we look at the factors that actually determinate the domains of different monies, we find that they are not the economic considerations suggested by the theory of optimum currency areas, as first discussed by Mundell, Kenen, and McKinnon 30 years ago. They are, rather, political. In particular, virtually all of the world's nations assert and express their sovereign authority by maintaining a distinct national money and protecting its use within their respective jurisdictions. Money is like a flag; each country has to have its own." (Michael Mussa 1995)

Cesarano, Filippo (2013): "The optimum currency area puzzle", *Int Adv Econ Res* DOI 10.1007/s11294-013-9404-5.

Mussa, Michael (1995): "One money for how many?" In P. B. Kenen; ed.: *Understanding interdependence: The macroeconomics of the open economy*, Princeton University Press, pp. 98-104.

Obstfeld, Maurice; Rogoff, K. (2001): "The six major puzzles in international macroeconomics: Is there a common cause?", In B. S. Bernanke; K. Rogoff; eds.: *NBER Macroeconomics Annual 2000*, volume 15, MIT Press, pp. 339-412.

18. The China paradox

"Since Mao's demise, China has given birth to *the China paradox*, which has proved so far to be a winning formula. China's hybrid developmental model has worked well since the forces of change, of entrepreneurialism, of innovation have enjoyed a productive equilibrium with the ruling CCP, which, while not abandoning its autocratic instincts, has displayed remarkable pragmatism in leading the economic reforms. Incompatible forces unexpectedly became mutually supportive and aligned. Hence, *the China paradox* (...) The fundamental goal of the CCP is to stay in power. When we acknowledge that simple but core fact, then China is less puzzling. Things fall into place. People ask why a ruling

autocratic communist party would provide the business class room to grow. The answer is that wealth creation underpins the longevity of CCP rule. What seems a paradox is perfectly logical.”

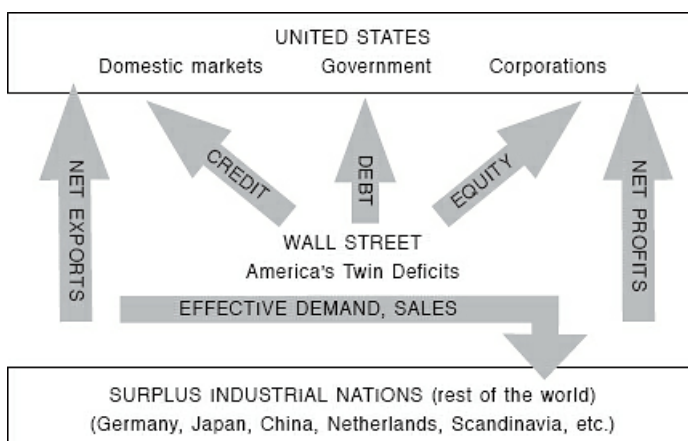
“The China paradox emerged as a hybrid model with a mixture of spontaneous economic activity and bureaucratic guidance (...) While the China paradox proved successful in kick-starting the economy, there has been a heavy cost to this model, resulting in China actually turning out to be an underperformer. Unbridled development has left China with a serious hangover. Unprecedented wealth creation is a mixed blessing since it opened the door to corruption on a grand scale that amounts to nationwide kleptocracy. While hundreds of millions of Chinese have indeed been pulled out of (or have pulled themselves out of) poverty, much of the wealth has gone missing, siphoned off into the families of top leaders, salted away in real estate in London or New York (...) But the risks all track back to the CCP (...) Having reaped the benefits of the reforms, the CCP is revealing its longer-term vision on how it plans to rule. Its goal is to restore more of its central authority and play a stronger coordinating role in the economy.”

Clifford, Paul G. (2017): *The China paradox: At the front line of economic transformation*, de Gruyter.

19. Varoufakis’s global minotaur hypothesis

“I might have called this book *The Global Vacuum Cleaner*, a term that captures quite well the main feature of the second post-war phase that began in 1971 with an audacious strategic decision by the US authorities: instead of reducing the twin deficits that had been building up in the late 1960s (the budget deficit of the US government and the trade deficit of the American economy), America’s top policy makers decided to increase both deficits liberally and intentionally. And who would pay for the red ink? Simple: the rest of the world! How? By means of a permanent tsunami of capital that rushed ceaselessly across the two great oceans to finance America’s twin deficits. The twin deficits of the US economy thus operated for decades like a giant vacuum cleaner, absorbing other people’s surplus goods and capital (...) it did give rise to something resembling global balance: an international system of rapidly accelerating asymmetrical financial and trade flows capable of creating a semblance of stability and steady growth. Powered by America’s twin deficits, the world’s leading surplus economies (e.g. Germany, Japan and, later, China) kept churning out goods that Americans gobbled up. Almost 70 per cent of the profits made globally by these countries were then transferred back to the United States, in the form of capital flows to Wall Street. And what did Wall Street do with them? It instantly turned these capital inflows into direct investments, shares, new financial instruments, new and old forms of loans and, last but not least, a ‘nice little earner’ for the bankers themselves. Through this prism, everything seems to make more sense: the rise of financialization, the triumph of greed, the retreat of regulators, the domination of the Anglo-Celtic growth model (...) The role of the beast was played by America’s twin deficits, and the tribute took the form of incoming goods and capital.”

“Central to this global surplus recycling mechanism (GSRM), which I have likened to a Global Minotaur, were the two gargantuan deficits of the United States: the *trade deficit* and the federal government *budget deficit*. Without them, the book argues, the global circular flow of goods and capital (see diagram below) would not have ‘closed’, destabilizing the global economy. This recycling system broke down because Wall Street took advantage of its central position in it to build colossal pyramids of private money on the back of the net profits flowing into the United States from the rest of the world. The process of *private money* minting by Wall Street’s banks, also known as *financialisation*, added much energy to the recycling scheme, as it oozed oodles of new financial vitality, thus fuelling an ever-



accelerating level of demand within the United States, in Europe (whose banks soon jumped onto the private money-minting bandwagon) and Asia. Alas, it also brought about its demise.”

“In conclusion, a crystal clear picture is emerging: the Crisis did not alter the deficit position of the United States. The federal budget deficit more or less doubled while America’s trade deficit, after an initial fall, stabilised at the same level. *However, the US deficits are no longer capable of maintaining the mechanism that keeps the global flows of goods and profits balanced at a planetary level*. Whereas until 2008 America was able to draw into the country mountains of net imports of goods, and a similar volume of capital flows (so that the two balanced out), this is no longer happening post-2008. American markets are sucking 24 per cent fewer net imports (thus generating only 66 per cent of the demand that the rest of the world was used to before the Crash) and are attracting into the American private sector 57% less capital than they would have had Wall Street not collapsed in 2008.

In short, of the mighty Global Minotaur, the only reminder that remains is the still accelerating flow of foreign capital into America’s public debt (...), evidence that the world is in disarray and money is desperately seeking safe haven in the bosom of the reserve currency in this age of tumult. But as long as the Rest of the World is reducing its injection of capital into America’s corporate sector and real estate, while America is reducing its imports of their net exports, we can be certain that the beast is dead and nothing has taken its place with a capacity to re-start the essential process of surplus recycling.”

“Europe is disintegrating because its architecture was simply not sound enough to sustain the shockwaves caused by our Minotaur’s death throes (...) For two years now, the German public has become convinced that Germany has escaped the worst of the Crisis because of the German people’s virtuous embracing of thriftiness and hard work; in contrast to the spendthrift Southerners, who, like the fickle grasshopper, made no provision for when the winds of finance would turn cold and nasty. This mindset goes hand in hand with a moral righteousness which implants into good people’s hearts and minds a penchant for exacting punishment on the grasshoppers – even if punishing them also punishes themselves (to some extent). It also goes hand in hand with a radical misunderstanding of what kept the eurozone healthy and Germany in surplus prior to 2008: that is, the Global Minotaur whose demand-generation antics were for decades allowing countries like Germany and the Netherlands to remain net exporters of capital and consumer goods within and without the eurozone (while importing US-sourced demand for their goods from the eurozone’s periphery).

Interestingly, one of the great secrets of the post-2008 period is that the Minotaur’s death adversely affected aggregate demand in the eurozone’s surplus countries (Germany, the Netherlands, Austria and Finland) *more* than it did the deficit member states (like Italy, Spain, Ireland, Portugal and Greece).”

“To recap, the Minotaur’s surplus recycling was essential to the maintenance of the eurozone’s faulty edifice. Once it vanished from the scene, the European common currency area would either be redesigned or it would enter a long, painful period of disintegration. An unwillingness by the surplus countries to accept that, in the post-Minotaur world, some other form of surplus recycling is necessary (and that some of their own surpluses must also be subject to such recycling) is the reason why Europe is looking like a case of alchemy-in-reverse: for whereas the alchemist strove to turn lead into gold, Europe’s reverse alchemists began with gold (an integration project that was the pride of its elites) but will soon end up with the institutional equivalent of lead.”

Varoufakis, Yanis (2015): *The global minotaur: America, Europe and the future of the global economy*, Zed Books.

20. El trilema del diner digital del banc central

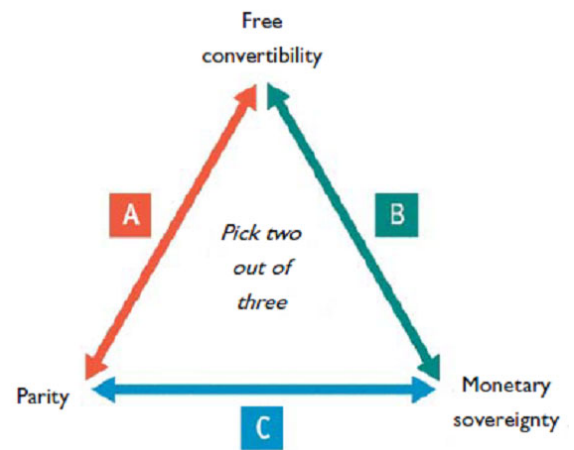
“ The conventional trilemma illustrates the relations between a domestic and a foreign money creator in the form of two different central banks. Our trilemma illustrates the relations between two domestic money creators in the form of the central bank and the commercial banking sector (...)

- The conventional policy objective of exchange rate management between two currencies translates into the domestic policy objective of securing financial stability by maintaining parity between commercial bank money on the one hand and CBDC and cash on the other.

- The conventional policy objective of monetary autonomy in decisions on central bank interest rates translates into monetary sovereignty, which is the prerogative of the monetary authorities to use CBDC not only as a monetary policy tool to support commercial bank credit creation but also as a fiscal policy tool to stimulate the general economy. The abandonment of monetary sovereignty means that commercial banks are the primary drivers of money creation.

- The conventional policy objective of free capital mobility translates into free convertibility between commercial bank money and central bank money. We may understand the implementation of CBDC as the introduction of such convertibility. With universal access to the central bank balance sheet, ordinary money users now for the first time have the option to choose between holding electronic money with the central bank or with commercial banks.

The gist of the trilemma is that monetary authorities can only pursue two out of the three policy objectives.”



Bjerg, Ole (2017): “Designing new money. The policy trilemma of central bank digital currency”