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The Trilemma of a Monetary Union: Another Impossible Trinity

A monetary union among autonomous countries cannot simultaneously maintain an independent monetary policy, national fiscal sovereignty and a no-bailout clause. These three features make up an impossible trinity, and attempts to preserve all three concurrently will ultimately end in failure. In order to save EMU, one of these three must be abandoned.

A monetary union is the common endeavour of a number of autonomous countries. It is not surprising, therefore, that it is difficult to avoid failures in coordination among these countries. Moreover, from an economic perspective, cooperation is a club good which is prone to the deficiencies of such goods. The crisis of sovereign debt in the eurozone as well as macroeconomic imbalances with regard to foreign trade[1] within the EMU are the most recent signs of such deficiencies. In this paper, we shall argue that there is a fundamental aspect which makes a monetary union impossible which has not yet been taken sufficiently into account: it is the impossibility of upholding at one and the same time an independent monetary policy, national fiscal sovereignty and a no-bailout clause. Although there is a lot of political lip service promising a closer union in Europe or even the United States of Europe, fiscal and economic reality prove otherwise. If this new "inconsistent triad", also called the new "impossible trinity", is acknowledged, a feasible solution can be identified more clearly than by ignoring its existence.

The rest of the paper is structured as follows: starting with the classical impossible trinity of fixed exchange rates, we then explain the economic mechanics of the impossible trinity of a monetary union along with its characteristics. The impossible trinity of a monetary union is then applied to the most recent EU policies during the debt crisis. Finally, we evaluate two remaining solutions for the debt crisis, namely the expulsion of a country from the EMU and the enacting of enforceable strict rules for sovereign default within the EMU.

The Classical Impossible Trinity of Fixed Exchange Rates

In philosophy, an inconsistent triad consists of three contentions which might be true independently, but only two of which can actually be true at the same time.[2] In economics, such an inconsistent triad is often called an impossible trinity.[3] A well-known impossible trinity (shown in Figure 1 below) is the situation countries face with fixed exchange rates[4]: an independent monetary policy, free movement of capital and fixed exchange rates cannot coexist. According to Issing[5], this "impossibility theorem" has been "reinvented" several times and is sometimes dubbed the "uneasy triangle" or the "holy trinity".[6]

The mechanics of this trinity are quite simple: a country can only manipulate two of the three constituents of the trinity; it can fix its exchange rate and maintain an independent monetary policy as long as it maintains control over capital flows. Otherwise, arbitrage possibilities between domestic and foreign interest rates will arise, leading to larger capital inflows, which would inflate the quantity of money in circulation domestically.

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1 See Deutsche Bundesbank: Zur Problematik makroökonomischer Ungleichgewichte im Euro-Raum, Monatsbericht Juli 2010, pp. 17-40, and T. Pusch, M. Gruševaja: Leistungsbilanzungleichgewichte in der EU – Herausforderung für die Fiskalpolitik?, in: Wirtschaftsdienst, Vol. 91, No. 7, 2011, pp. 465-471.

2 See M.R. Cohen, E. Nagel: An Introduction to Logic and Scientific Method, New York 1934, Harcourt, Brance and Company, pp. 91 ff.

3 See, for instance, M. Pak-Hung: Impossible Trinity, Capital Flow Market and Financial Stability, in: Kyklos, Vol. 62, No. 4, 2009, pp. 611-618.

4 See, for instance, G. Gandolfo: International finance and open-economy macroeconomics, Heidelberg, New York 2001, Springer Verlag.

5 O. Issing: Europe's hard fix: the Euro area, in: International Economics and Economic Policy, December 2006, Vol. 3, No. 3-4, pp. 181-196.

6 For empirical research on this trinity see e.g. J.C. Bluedorn, C. Bowdler: The Empirics of International Monetary Transmission: Identification and the Impossible Trinity, in: Journal of Money, Credit and Banking, Vol. 42, No. 4, June 2010, pp. 679-713; J. Miniane, J.H. Rogers: Capital Controls and the International Transmission of U.S. Money Shocks, in: Journal of Money, Credit, and Banking, Vol. 39, No. 4, 2007, pp. 1003–1035; A.K. Rose: Explaining Exchange Rate Volatility: An Empirical Analysis of "The Holy Trinity" of Monetary Independence, Fixed Exchange Rates, and Capital Mobility, in: Journal of International Money and Finance, Vol. 15, No. 6, 1996, pp. 925-945.

Figure 1
The Classical Impossible Trinity of Fixed Exchange Rates

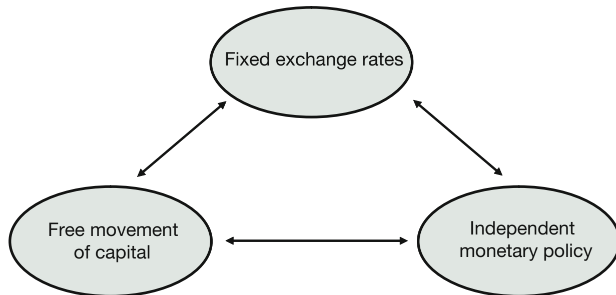
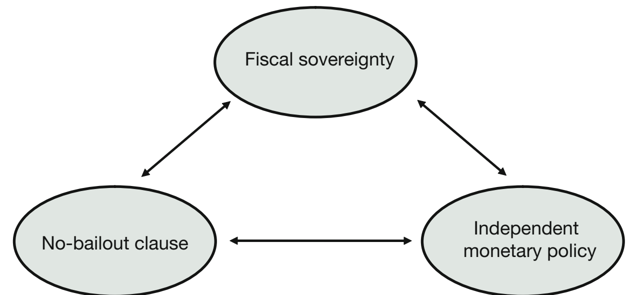


Figure 2
The Impossible Trinity of a Monetary Union



If a country maintains both free movement of capital and monetary autonomy, it will be unable to fix its exchange rate as arbitrage opportunities will exert pressure on the exchange rate. The same reasoning applies to the last possibility, i.e. when a country maintains a fixed exchange rate in combination with monetary autonomy; under these circumstances it has no choice but to restrict the flow of capital.

The Trinity Mechanics of a Monetary Union

The impossible trinity described above becomes obsolete when countries join a monetary union. By definition, there are no exchange rates in a monetary union, and restrictions on the free movement of capital are no longer feasible since the free movement of capital in the monetary union is one of the four so-called fundamental freedoms of a common market. Another important prerequisite of the monetary union is the claim that no member of the EMU shall default on its sovereign debt. The rationale behind this claim is the fear of a breakdown of the financial system as many banks are large-scale creditors of European governments, so that a sovereign default would be a serious burden on their balance sheets, with the credible threat of triggering a Lehman-moment in European financial markets. With this setting, it is possible to identify the key elements of a new impossible trinity as depicted in Figure 2.

In Figure 2 the key elements of the new impossible trinity are as follows:

- The first element is fiscal sovereignty, i.e. the ability to choose the level of debt and the size of the current budget deficit exclusively on a national level, i.e. without any restrictions from outside the state.

- The second element is the independent monetary policy of a supranational central bank within the monetary union. As a consequence, countries cannot accommodate their fiscal policy with an adequate monetary policy. In a sense, monetary policy in a currency union is a one-size-fits-all approach. Moreover, European monetary policy is by contract constrained to focus on price level stability. In particular, monetary policy may not finance public debt by printing money (Article 123 of the Treaty on the Functioning of the European Union).

- The third element is the commitment not to bail out heavily indebted member countries of the union (Article 125 of the Treaty on the Functioning of the European Union). A no-bailout clause implies that there will be different interest rates paid on sovereign debt within the monetary union as a consequence of the risks these debts provide for the respective investors. As long as the bond markets assume that there will be no bailout whatsoever, they will demand different risk premiums according to country-specific risks.

How are these elements related to one another? First, the relationship between fiscal sovereignty and a no-bailout clause is obvious: if the regulatory framework of the monetary union contains a bailout clause, there will be a certain potential for moral hazard, i.e. countries accumulating large amounts of sovereign debt, expecting that they will be bailed out by the union. Such behaviour will sooner or later surely destroy the foundation of the monetary union. As a consequence, a bailout clause requires restrictions on national sovereignty with respect to the budget which, in turn, means a loss of fiscal sovereignty. On the other hand, as long as there is a no-bailout rule which is strictly enforced no matter what happens, national fiscal sovereignty can be guaranteed. Put differently, it is impossible to ensure national fiscal sovereignty without a strictly enforced no-bailout clause.

What about the relationship between fiscal sovereignty and supranational monetary policy? As has been learnt from the recent sovereign debt crisis, monetary policy simply has no other option but to act as a lender of last resort

if a country is on the verge of default and the monetary union is to be saved. As a consequence, the central bank buys sovereign debt by printing money, contrary to the rules of its statutes. Fiscal policy tends, then, to have monetary policy in tow. As long as monetary policy accommodates fiscal policy, countries retain their fiscal sovereignty at the cost of the loss of independent monetary policy. If the central bank refused to accommodate fiscal policy, bond markets would impose a ceiling on sovereign debt. Furthermore, if the central bank increased interest rates, the costs of public debt would increase too. This policy would further reduce the ability of highly indebted governments to serve their debts. Moreover, a supranational monetary policy also implies that national governments can no longer employ monetary policy as part of national Keynesian policies, i.e. as a device to accommodate national fiscal policy.

What about the relationship between a no-bailout clause and a single monetary policy? Firstly, as a consequence of a no-bailout clause there will be different interest rates throughout the common currency area, because interest rates are determined not only by monetary policy but by fiscal policy, too. In other words, national debt is priced with national risk premiums according to the states' fiscal stances. Secondly, a bailout would destroy fiscal discipline, thereby increasing the pressure on the central bank to buy government bonds of highly indebted member countries in order to fund the public debt of these countries on the brink of bankruptcy.

A New Impossible Trinity

With these thoughts in mind, the mechanics of the new inconsistent triad work as follows:

Scenario #1: Fiscal sovereignty combined with independent monetary policy. Countries retain their fiscal sovereignty and do not have direct influence on monetary policy; the central bank will not act as a fiscal lender of last resort. Therefore, countries might deliberately increase their debt burden but the central bank will not accommodate the debts. With a strictly enforced no-bailout clause, highly indebted countries are prone to sovereign default as a price for their fiscal instability. However, if a sovereign default is politically unacceptable in the union and if independent monetary policy is still to be maintained, there is no other option but to bail out the respective country. With fiscal sovereignty and independent monetary policy, a no-bailout clause is simply not reliable. Consequently, capital markets will not charge country-specific risk premiums, which may tempt and enable countries to increase their sovereign debt without paying for the increased risk – as happened within EMU.

Scenario #2: Fiscal sovereignty plus no-bailout clause. If countries retain their fiscal sovereignty and the no-bailout clause is strictly enforced, the central bank will be in charge of saving the monetary union by rescuing the respective overindebted country. Hence, monetary policy loses its independence. National fiscal sovereignty (of which the lack of rules for sovereign default is an integral part) paves the way to a monetary hell: with a strictly applied no-bailout clause and national fiscal sovereignty, countries are free to pile up as much debt as they want politically without the threat of default. The only "solution" to the debt problem consists, then, of a monetary bailout. Put differently, monetary policy is forced to accommodate national fiscal policies and loses its independence.

Scenario #3: Independent monetary policy plus no-bailout clause. With independent monetary policy and a strictly applied no-bailout clause, union member countries have to be forced to limit their sovereign debt to sustainable levels because otherwise – as shown above – either monetary policy will be forced to accommodate national fiscal policy or the no-bailout clause cannot be applied. Any credible no-bailout clause in combination with the promise of the central bank's independent monetary policy requires the strict limitation of sovereign debt, i.e. the loss of fiscal sovereignty.

EMU Policies and the New Impossible Trinity

This new impossible trinity supports the conclusion that the most fundamental mistake in the construction of the European monetary union is the retention of national fiscal sovereignty. With fiscal sovereignty, it is simply impossible to strictly enforce the no-bailout clause and at the same time to retain a fiscally independent monetary policy. The financial markets quickly recognised this and charged the same interest rate for lending money to all member states of the union. Risk premiums for sovereign debt disappeared during the so-called convergence process – markets charged no risk premium for government bonds of countries with a higher default risk, which enabled national governments to increase public debt without being punished by higher interest rates. As neither interest rate spreads nor institutional debt brakes (besides a politically attenuated Stability and Growth Pact) restricted fiscal policy, public debt increased across all member countries. Eventually, the European monetary union found itself stuck in a debt trap and on the verge of disruption.

Somewhat ironically, it was the reaction of the capital markets which proved that the EMU was actually trapped in the new impossible trinity. Politically welcomed and praised as a sign of unity and convergence, it was more a signal of fiscal and monetary distress to come. Since a

bailout by the union or by the central bank was tacitly assumed by the markets, the mess and turmoil in the European financial markets began at the moment when politicians decided that there should be no bailout (as pointed out by Cochrane with respect to the US government's decision not to bail out Lehman after having already bailed out Bear Stearns[7]). Not surprisingly, the only credible answer to these problems was the launching by the European Union of a permanent rescue funding programme, the European Financial Stability Facility (EFSF), which will become permanent as the European Stability Mechanism (ESM). Moreover, since the political process to ratify the new instruments takes a long time in Europe, the European Central Bank was forced to provide "quantitative easing" by buying sovereign bonds. The ESM is intended to provide emergency funding to heavily overindebted governments, but financial assistance is only intended to be provided on the basis of conditionality and debt sustainability. As a third measure, the union introduced the Euro-Plus Pact, later called the Pact for the Euro, in which the member states of the European Union commit themselves to improving their economic competitiveness and their public finances via political reforms.

What can be said about the effectiveness of these policies – how do they relate to the new impossible trinity? An overview is given in Figure 3.

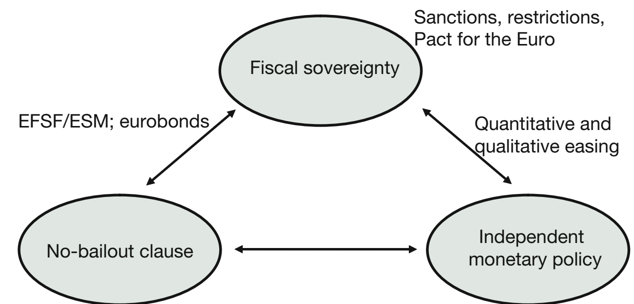
The EFSF/ESM tries to solve the problem of the impossible trinity by bailing out overindebted countries and at the same time imposing fiscal discipline on insolvent states, i.e. by restricting their fiscal autonomy. It violates the no-bailout rule and restricts the fiscal sovereignty of the government at the same time. This is due to the fact that the states covered by the EFSF/EMS are already insolvent. To prevent insolvency and to enforce fiscal sustainability, EMU policy has to switch from bailouts to a restriction of national fiscal sovereignty. As a consequence of the new impossible trinity, the no-bailout rule will not be plausible unless fiscal sustainability is enforced via a loss of fiscal sovereignty, i.e. if bailouts become unnecessary. It seems there is no other way to eliminate moral hazard concerning public debt and to promote economic reforms.[8]

7 See J. Cochrane: Lessons from the Financial Crisis, in: Regulation, Winter 2009-2010, pp. 34-37.

8 It seems that despite heavy pressure from the European Union, the IMF and the European Commission, the Greek government is unable to promote structural reforms, as reported by T. Michas: The Reality of Greece's Reforms, in: The Wall Street Journal Europe, 20 September, 2011, p. 17.

Figure 3

EU Policies and the New Impossible Trinity



Similar reasoning applies to the idea of eurobonds.[9] Shared debt securities of the EMU members are intended to lower borrowing costs for the debt-laden GIIPS nations of Greece, Ireland, Italy, Portugal and Spain. The rationale of these bonds is to remove interest-rate spreads, eliminating country-specific risk premiums. This would enable de facto insolvent countries to tap capital markets. As the debt issued via eurobonds would be guaranteed collectively by all euro member countries, the risk of a default would also be spread to all member countries. This is clearly a violation of the no-bailout rule. Eurobonds might buy time for the nearly insolvent countries but at the cost of unlimited moral hazard until national fiscal sovereignty is restricted, as implied by the new impossible trinity.

The Pact for the Euro tries to impose constraints on the fiscal autonomy of the EMU members. If this pact enforced fiscal discipline, the no-bailout clause could hold and monetary policy would remain independent, as stated in the new impossible triad.

Quantitative and qualitative easing by the European Central Bank apparently violates the claim of independent monetary policy, as the intention of this policy is clearly to prevent overindebted countries from defaulting. In Italy's case, the ECB demanded more fiscal austerity from Italy before buying Italian bonds to reduce the interest rates Italy has to pay on international capital markets. This is an attempt to restrict fiscal sovereignty, as required by the new inconsistency triad.

The Impossible Trinity: Two Solutions

There is obviously no chance to escape the logic of the new impossible trinity. The outlook for an EMU that does not take account of this is bleak: a monetary policy that is

9 For a more detailed discussion see H. Beck, D. Dirk: Eurobonds – Wunderwaffe oder Sprengsatz für die EU?, in: Wirtschaftsdienst, Vol. 91, No. 10, October 2011, pp. 717-723.

a slave to fiscal policy will almost certainly lead to inflation. Nor will a permanent bailout be feasible. Most frightening, however, is that EU member states are not keen to give up their fiscal sovereignty. From the logic of the new impossible trinity, this situation is unsustainable. This leaves the EMU with two tough choices: either overindebted countries have to leave the EMU or strict rules for an enforceable sovereign default have to be enacted.

To expel an overindebted country from the EMU is legally impossible at the moment; if it were possible, the default of the respective country would have negative consequences for banks, corporations, etc. Expelling a country from the EMU does not seem to be an immediate and viable solution to the debt problem, although it might enhance the economic competitiveness of the respective country.

The second option, a default within the EMU, implies problems with the international banking system, especially for those institutions holding sovereign bonds of the defaulting country. However, it is easier and cheaper to save the banking system than insolvent countries. Moreover, in the longer term investors will put pressure on highly indebted countries at a much earlier point in time via higher interest rates. This may lead to the kind of fiscal discipline international treaties are unable to promote, or so it seems.

Conclusion

In this paper, we argue that a fundamental impossible trinity exists within a monetary union: an independent monetary policy, national fiscal sovereignty and a no-bailout clause cannot coexist at the same time. Recognising this, it becomes immediately clear why the financial markets reacted with turmoil as European policy attempted to apply the no-bailout clause. The reason is that such a clause is not feasible when combined with independent monetary policy and national fiscal sovereignty. Although the investors in financial markets were obviously aware of this, it came as a surprise to politicians. Ignoring this impossible trinity of a monetary union will lead to its destruction, sooner or later. To save the monetary union, one of the three principles has to be abandoned. The most probable candidate for this might be national fiscal sovereignty. However, the fate of the former Stability and Growth Pact shows very clearly that the national European states are unwilling to have their fiscal sovereignty restricted. As a consequence, the no-bailout clause must be abandoned. The only credible rule to signal the abolition of the no-bailout clause is the enactment of a binding and enforceable strict rule for sovereign default.[10]

10 See H. Beck, D. Wentzel: Ordnungspolitische Überlegungen zu einer Insolvenzordnung für Staaten, in: ORDO Jahrbuch für die Ordnung von Wirtschaft und Gesellschaft, Vol. 62, 2011, pp. 71-100.