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Geographies of Monetary Economy and the European economic crisis

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Geographies of Monetary Economy and the European economic crisis

Abstract

The paper deals with the geographies of the European economic crisis that had its origins in the global financial crisis of 2008-09. The crisis pushed many European economies into a deep recession and caused a mass unemployment in many countries. The crisis is analysed in a monetary economy framework that builds upon the post-Keynesian economic theories such as the monetary theory of production and the chartalist theory of money. These theories focus on the operational realities of banking, credit creation and finance as well as processes of production, income creation and government spending. Hence, the theoretical framework constructed in the paper provides a comprehensive analytical tool for examining relationships between money, finance and production, the key elements of the monetary economy.

It is argued in the paper that the monetary economy perspective has a lot to offer for the geographical analysis of the economic crises and the contemporary economic system in general. In other words, it is argued that economists and economic geographers need to pay more attention to the central dynamics of monetary economy. The geographical investigation of the commanding processes of monetary economy conducted in the paper brings up the essential dynamics behind the European economic crisis. The analysis will be focused on the processes that turned the financial crisis into a recession of real economy. In addition, a brief look is taken at the anatomy of the European sovereign debt crisis. The empirical analysis shows that the geographical differences in demand structures, in the liquidity preferences of different economic actors and in the basic institutional structures of monetary economy were essential elements of the crisis.

The first conclusion of the paper is that the European economic crisis was a characteristic crisis of monetary economy where money and monetary conditions affect motives and decisions of the economic actors. The second conclusion is that the geographical perspective is necessary in order to expose the central dynamics of the crisis and dynamics of monetary economy in general. Therefore, the theoretical framework constructed in the paper should be utilized more widely in the geographical analysis of contemporary economic system in the future.

Keywords: Financial crisis, Economic crisis, Monetary economy, Regional development

JEL: G01, R00, E59

Introduction

The European economic crisis was set in motion in 2008 when the global financial markets were suddenly paralyzed by the collapse of the Lehmann Brothers investment bank. European economy started to falter as the financial turmoil spread to global financial markets triggering a panic among the investors and commercial banks worldwide. As financial actors lost trust in each other the lending was seized and investment plans were postponed. The credit crunch began to have impact also on the real economy. It became evident that in the contemporary economic system the processes of the financial sphere are inextricably linked to the processes of production and exchange.

As the economic activity in the private sector stagnated, European governments and the European Central Bank (ECB) made efforts to stimulate the economy. Central bank provided more liquidity to the banking system and lowered interest rates while governments increased public investments and deficit spending in general. In the end of 2009 some evidence of recovery of the European economy could be seen as recession ended in many countries and national economies were growing again after few quarters of economic downturn. Unfortunately, the celebrations were still premature. The second phase of the European economic crisis - the euro crisis - was already waiting around the corner.

The euro crisis came to a head in the beginning of 2010 as lenders in the sovereign debt market became increasingly concerned over the debt paying capacity of the five euro area states. The so called PIIGS states (Portugal, Ireland, Italy, Greece and Spain) that were pushed into a deep recession by the global financial crisis all suffered from huge public sector deficits and their outstanding government debt was growing rapidly. In this situation lenders began to demand higher yields on government debt seeing the insolvency risk of the PIIGS states rising. In consequence, the euro states in question were not able to acquire finance from financial markets at reasonable conditions in proportion to their debt burden.

As the PIIGS states tried to correspond to their financing problems by austerity programs launched to convince the investors and other euro area states - that became emergency lenders for PIIGS - from their future paying capacity, the economic growth started to decline and in beginning of 2012 all of the PIIGS countries and many other European economies slid back into recession.

The uncertainty started to gain ground also in the financial markets and the especially in the European banking system where liquidity problems started to cumulate. This development forced European central bank to implement extensive monetary policy measures that however provided only short-term relief for European banking system and economy. In summer 2012 the European economic crisis continues for a fourth year with stalled economic growth, growing unemployment, government finance problems and liquidity squeeze in the banking system.

The previous straightforward narrative of the European economic crisis already reveals that the crisis had regionally uneven impacts. While some European economies sled into a deep depression others managed to get back on their pre-crisis growth path rather quickly. While in some economies the unemployment rate skyrocketed in others the unemployment rate was already in 2010 lower than before the crisis. Also government finance problems actualised

only in some of the euro states while others have in fact enjoyed decreasing financial costs. Furthermore, the crisis and the subsequent recession have had also locally uneven impacts (e.g. Martin 2011). Thus, the European economic crisis has reshaped considerably the geography of the European economy.

Therefore, it is argued in this article that the European economic crisis should be interpreted as a compilation of numerous regional crises with peculiar dynamics. Hence, the aim of the article is to analyse these dynamics and regional institutional settings and to find out why different regions in Europe were affected differently by the crisis. In addition, it is argued that in order to understand the processes behind the European economic crisis it is necessary to pay attention to the central dynamics of monetary economy. It is argued that certain economic theories – previously rarely employed by economic geographers and geographical economists – can provide a solid basis for the spatial analysis of the European economic crisis.

The post-Keynesian theories of money, finance and production seem to be extremely useful in explaining the regional differences in economic development before, during and after the crisis. The theories of monetary economy, for example the monetary theory of production (e.g. Dillard 1980; Graziani 2003) and the chartalist theory of money (e.g. Wray 1998; Bell 2001) constitute the framework that is employed in the economic geographical analysis of the European economic crisis. Although the presented analysis remain somewhat cursory due to space limit, it brings forth some interesting and hopefully also novel observations on the impacts that global financial crisis had on European economies. This will portray the additional value that the monetary economy perspective can provide for geographical analysis of economic crises and contemporary economic system in general.

Before empirical analysis, a theoretical framework of monetary economy is constructed in the next two sections of the article. In these sections it is described how essential theories of post-Keynesian thought can be employed in the analysis of the European economic crisis and how these theories provide a real resource for economic geographers and geographical economists.

Monetary economy perspective

The European economic crisis can be seen as a typical crisis of the contemporary monetary economy. In the monetary economy, money is the central institution that determines almost all of the economic processes. As Keynes (1973, 408-9) argued, we have an economic system “in which money plays a part of its own and affects motives and decisions and is, in short, one of the operative factors in the situation, so that the course of events cannot be predicted, either in the long period or in the short, without a knowledge of the behaviour of money between the first state and the last.” That is, all economic actors evaluate their economic decisions, be they related with production, investment or consumption, in terms of money.

Keynes emphasized that “a monetary economy” differs considerably from the “real-exchange economy” presented in the classical and mainstream economic theory where money is not allowed “to enter into motives or decisions”. Paul Davidson (1973) has remarked that in the present-day society the great majority of contractual agreements¹ are denominated in money units. This is one of the most important mechanisms of monetary economy that fosters the

¹ Contracts are important because they allow people to “permit the sharing of some of the burdens of uncertainty between the contracting parties” (Davidson 1973).

role of money in the individual decision-making. People need money to operate in the current society. They need money to settle with other people. Moreover, because of the fundamental uncertainty of future events, people have incentive to save money for future needs. The more you have money the less you have to be concerned about the future. Hence, the sensible response for an individual is to hedge against the unpredictable future by accumulating money or some other liquid resources (Davidson 1996).

This gives us one explanation for why the accumulation of money has become one of the most important objectives in the contemporary economic system². Hence, also the processes of production and exchange are determined by the individual's quest for money. Dudley Dillard (1987) has pointed out that production in the capitalist system is always monetary production. Producers are actually producing and realizing money values (Dillard 1987, 1625). That is, producers are not satisfied until they have made the final sales and converted produced commodities into money. The peculiar aspect is, however, that the production process does not just end to money but it also begins from money. Before anything can be produced the capital equipment, materials and most importantly the labor must be purchased. And in monetary economy you need money to purchase anything. Money is essential in the contemporary economy just because it determines all economic processes from production to the processes of exchange and circulation (Bortis 2009).

Thus, in order to understand and to explain the economic processes, for example those related to the European economic crisis, we need to give attention to the institution of money and to the monetary system in general. We need to understand what money is and how it comes to exist. We also need to be familiar with the institutions that are involved in creation, circulation and destruction of money, particularly with the banking system. Furthermore, we need to comprehend how exactly money relates to the economic decision making and delineates the motives of economic actors in different situations.

As many economists and economic writers have remarked, our economic system is a credit money system (Mitchell Innes 1914, Schumpeter 1954, Heinsohn & Steiger 1983, Parguez & Seccareccia 2000). In other words, all money in the contemporary economic system is credit. To be exact, money is a sign of a debtor-creditor relationship or a token (Graziani 2003). Hence, money is always at the same time an asset and a liability. In the current economic system the creation of money is conducted by the banking system. Money comes into existence when banks provide loans for different economic actors and it disappears when the loans are paid back. When a bank makes a loan, it at the same time debits and credits the account of its customer. Hence, deposit (bank money) is created as well as a debt liability. This represents the *credit-purveying function* of bank.

Banks have also other important function in monetary economy. When the customer of the bank who has previously received a loan from the bank makes a payment to another economic agent to purchase something, the bank debits his account and credits the account of the seller. This way the debt between the buyer and the seller that arose in the exchange process is settled and no debt or credit remains pending between these two agents (Graziani 1998, 60-61). The buyer is now a debtor and the seller is a creditor of the bank and the initial debtor-creditor relationship is transformed. In this case the previously created money

² Thorstein Veblen (1973) has argued that the urge for monetary accumulation of individuals is connected to deeper social hierarchies and to the power relations between the individuals and social classes.

functions as *a means of payment* and guarantees the payment finality between the two agents. This triangular transaction portrays the *money-purveying function* of bank³.

If all money is credit, initially created and further circulated in the banking system and the aim of every economic agent in monetary economy is to accumulate money and if money is already needed to purchase the means of production, it implicates that processes of production are inseparable from the processes of banking. Indeed, in the core of the monetary economy are the dynamics of credit creation and monetary circulation that are interconnected with the dynamics of production and exchange. Let us next investigate how exactly production relates to the credit creation and to the circulation of money in the contemporary economic system.

When a producer or a firm is planning to start production or to invest it calculates carefully on what conditions it is able to make monetary profits in the short term and in the long term (see e.g. Kalecki 1937). Hence, all production and investment decisions in monetary economy are based on the future expectations. On the cost side firms have to calculate in the expected fixed costs and variable costs of production as well as the financial costs. If these costs top the expected revenue from final sales and other business activities, the production or investment decision is usually negative. As the aim of a firm is to make profits and to accumulate monetary wealth at least in longer period of time which means in practice that it strives for becoming a creditor within the banking system, the decision makers of the firm must have a confidence that this really is possible in the future before decision to start production is made.

After the positive decision, the firm starts looking for funding to realize production. As already mentioned, in monetary economy almost all resources of production are available only against money which means that in order to start production firm needs to have a sufficient amount of means of payment to purchase the needed resources. In principle there are three channels for the firm to acquire the required funds. Firstly, the firm can use the funds saved from earlier profits, that is, its money reserves. Secondly, the firm can gather funds from investors by issuing equities or bonds. Thirdly, the firm can borrow the funds from commercial banks. In the first two cases firm finances its activities with credit money generated earlier that is transferred to it by the banking sector. Hence, bank purveys money for the firm. In the third case a new loan and hence new credit money is created and bank purveys credit for the firm.

Usually the own funds of the firm are not sufficient to cover all production or investment costs so external funding is needed. Hence, firm has to convince also investors or commercial banks for the profitability of the production plan. If investors are doubtful over the plan, they might raise the price of the funds as they demand higher reward for higher risk. This will alter the calculations of the firm as expected financial costs rise. If the producer and the financier manage to find an agreement and the firm gets the desired funds, it is able to start production or to invest. Thus, we notice here that in monetary economy the decision to finance production is as important as the decision to produce. We also see that money is anything else but neutral in relation to production as both the creation of money and the circulation of money are inseparable from the process of production⁴.

³ The conceptual separation in question, that is, between the money-purveying and credit-purveying function of bank was made by Keynes in the end of 1920s when he was preparing the *Treatise of Money* (see Keynes 1973b, p. 91).

⁴ In mainstream economics money is considered to be neutral which means that production and exchange are ultimately independent of money. Hence, the growth of money stock means at least in the long run higher inflation as the growing

Therefore, to understand and to explain the dynamics of production it is compulsory to investigate, how the decisions to finance develop. Thus, we should be familiar with the lending procedures of banks and the motives of the investors. By following the post-Keynesian view of endogenous money we are able to formulate a sufficient vision of how lending and credit creation in the contemporary monetary economy actually happens. The theory of endogenous money states that money supply in the contemporary economy is always credit driven and demand determined (Moore 1988).

The operational realities of banking have shown that if central banks are to ensure the liquidity of financial system which is of course their ultimate responsibility, they will always supply the reserves needed by the commercial banks and thus expand monetary base (e.g. Kaldor 1982, Moore 1989). Hence, the creation of credit money precedes the expansion of monetary base which is thus determined endogenously⁵.

However, central bank can define the price of the reserves exogenously. The interest rate is the main policy tool for a modern central bank. If central bank raises the interest rate of reserves also commercial banks need to raise their lending rates. This of course raises the financial costs of the firm planning to invest or to produce. If financial costs are in the new situation so high, that the firm decides to postpone the production and investment or give them away completely, the demand for credit money decreases and growth of money stock declines⁶.

It is important to understand, that although commercial banks are not restricted to provide loans by the central bank policies, banks do not accommodate all demand for credit⁷. As described above, banks carefully evaluate the creditworthiness of their customers and the possibilities of their investment plans to succeed. After the so called credit-rationing some customers are left without loans as banks choose not to lend (Lavoie 1996). Thus, the supply of money is determined by the demand coming from the customers that banks evaluate to be creditworthy. Still, banks are able to set the price and quantity of the loans (Moore 1988).

In addition, there are other exogenous restrictions for credit supply of commercial banks. The so called capital requirements that are operationalised internationally determine how much capital banks and other depository institutions are required have on their balance sheet for a certain level of assets. The capital requirements are employed to guarantee that credit

purchasing power of economic actors cannot be compensated with growing stock of commodities. In reality economy works seldom at full-capacity which means that new money flows can expand production and investments and hence the stock of commodities, that is, the real supply. Thus, accelerating inflation is not inevitable outcome of money supply growth, although growing aggregate demand is always somewhat inflationary.

⁵ This means that contrary to common understanding and the view of mainstream economics the supply of credit money is not explicitly controlled by the central bank through the money multiplier. The standard story goes as follows. Central bank exogenously determines the money base which determines the money stock, that is, the amount of credit money in the economy. The bigger is the money stock the more there is inflation pressures in the economy. Hence, if the primary policy of the central bank is inflation targeting it should, following the mainstream theory, adjust the size of money base to a optimum, that is, a non-inflationary level.

⁶ The monetary policy aspects of monetary economy are investigated more closely in the next sub-section.

⁷ Post-Keynesian authors have been discussing this issue for some time. The controversy between horizontalism and structuralism has concentrated on the accommodation of reserve requirements and historical development of banking. Horizontalist such as Moore, Lavoie and Rochon claim, that modern central banks have always accommodated the reserve requirements. In this article the horizontalist view is followed.

purveying institutions are not financing investments that increase the risk of default and that they have enough capital to sustain possible operating losses. However, as the latest experience has taught us, capital requirements have not been able to limit lending as financial institutions have employed different kinds of asset management protocols and securitization in order to get round the constraints on credit supply (see Wray 2008b; Tymoigne 2009).

Therefore, the credit rationing of credit institutions seems to be the most important determinant of the finance of investment and production. Besides the evaluation of the particular investment or production plan of a firm banks also evaluate the future development of interest rates, development of economy-wide profits and the growth prospects of economy in general (Rochon 1999). Of course these evaluations are made under fundamental uncertainty which reflects to the decision-making process (see Davidson 1991; Dequesh 2000; Dunn 2001). As Keynes would have phrased it, banks “simply do not know” how the future will turn out to be (see Keynes 1936, 114-115). Thus, accurate risk calculations are not possible for lenders and ultimately all the lending decisions are guided by the uncertain future expectations, that is, the Keynesian “animal spirits”.

Some post-Keynesians have employed the theory of liquidity preference to explain the changes in the banks’ willingness to lend (e.g Lavoie 1984, Rochon 2001). If banks become pessimistic on the economic growth prospects and evaluate that profit rates will fall in the future, their liquidity preference increases. As this happens, banks curtail lending to businesses as they assess diminishing proportion of firms to be creditworthy customers in the forthcoming economic situation. That is, banks start to fear that growing share of their customers will turn out to be insolvent which will cause them credit losses and thus cut their profitability. After all, also banks are first and foremost profit seeking institutions.

If banks become pessimistic on future, also the ability of firms to produce and invest will be affected. The same goes with investors that use previously accumulated money resources to finance firms. If investors anticipate shrinking profit lines in the sphere of production, they will also cut down the financing of firms and reduce direct investments (see Davidson 1986). Investors start also looking for more liquid investment opportunities that are usually found in financial markets. Hence, for investors the increased liquidity preference stands literally for a shift towards more liquid assets which always means hard times for firms seeking for long-term financing.

We have noticed that the changes in liquidity preference and the amount of investment possibilities alternative to investment on production determine the realization of production plans. The last task for monetary economy of production is to shed light on how the expectations of producers and financiers actually develop. We have already observed that in monetary economy the guiding motive of different economic actors is to accumulate monetary wealth. Hence, economic actors are always comparing their current revenues and expenditures and hoping the former to exceed the latter. If succeed, the firms are able to make profits or households to save.

If the firms are able to make profits today after validating their maturing financial commitments they became more confident and believe that the same is possible also in the future. Thus, today’s profits affect today’s view of future profits (Minsky 1985, 12). Moreover, as firms decide to invest and banks decide to finance investments the aggregate demand of the economy is increased which raises the profit level of the economy and thus help debtors

to validate their debts (Minsky 1985, 12-3). This further raises the confidence of firms, banks and investors and new investment and production plans will be realized as firms are willing to produce and to invest and banks and investors to finance.

But as profit and debt-validation process are linked this way there is always a great downward risk in the markets of monetary economy. The positive atmosphere usually induces miscalculations and a growing share of the investment projects start to fail. This will eventually bring the profit level of the economy down which affects on the expectations both firms and financiers. Although majority of the firms are still able “to meet outflow of cash required by the firms’s debt structure, plus a profit” with their inflows, the shrinking profitability makes also them more cautious (Minsky 1985, 11). By reducing and downscaling their investment firms actually make their situation worse as cutting investment means cutting profits at macro level. However, as Kalecki (1967) has pointed out capitalists do not “invest as a class” and thus cannot coordinate profit increasing investment strategies when needed.

As Lavoie (1984) has argued also commercial banks act similarly to that of firms and move to the same direction when a change takes place in their liquidity preferences and “bankers begin losing some of their high ‘animal spirits’”. Banks start to restrain the creation of credit money, although they are aware of the fact that this will harm the economy (Lavoie 1984, p.791). Usually banks change their behavior and curtail lending precisely at the same moment that firms need more credit to refinance their old loans given the profit squeeze. This will further strengthen the downward spiral in the economy. The aggregate demand will be affected not only by the decreasing demand but also by the decreasing supply for credit as commercial banks see lesser proportion of firms creditworthy. In the European economic crisis these kinds of processes played seemingly important role.

In the contemporary economic system private investments do not, however, determine alone the profit level of the economy. If we investigate the matter from the perspective of a single open economy we find two other flows that affect to the development of profits. They are deficit spending of the government and the current account surplus which also affect positively on the level of aggregate demand (see Wray 2008a; Fullwiler & Wray 2010). Hence, if the profits of the economy start to decline due to decrease in private investments there are two channels that can compensate this decline and thus boost confidence in economy. Of course, the government deficit spending is more important because it can be activated on demand and thus through economic policies the confidence can be restored as growing aggregate spending raises profits. The issue of government spending will be discussed in detail in the next chapter where the chartalist theory of money is introduced.

The micro level analysis of the monetary economy has shown that in our current economic system money and more accurately monetary transactions or money flows determine decisions of economic agents and therefore almost all economic processes are somehow connected with money. The profit seeking of economic actors in the fundamentally uncertain environment is the central mechanism of the monetary economy that also affects to the creation and destruction of money and usually leads to the boom and bust cycles of economy.

At the macro level the monetary flows arising from the decisions of economic actors form the aggregate demand of the economy and contribute to the financial balances of different actors, sectors and regions. The empirical analysis of the spatial aspects of the European economic

crisis conducted in this article will tackle these issues and show using the data on monetary flows and stocks how the regional changes in aggregate demand and financial balances contributed to the crisis. In addition, the institutional differences between European regions will be analysed to show that they were main contributor to the euro crisis which prolonged the European economic crisis. The most important institutional factor behind the euro crisis was that the euro states had given away the right to issue currency which altered the structures of government finance substantially. This will be illustrated in the next chapter of the article where the theoretical framework introduced in this chapter will be broadened with the chartalist theory of money.

State, money and government spending

In the previous chapter we have portrayed how firms contribute to the aggregate demand by investing and borrowing money. Of course, also households and governments can act similar way. The spending of a household or government can also be financed by own reserves, by reserves owned by other economic actors or by new loans. Thus, in the monetary economy aggregate demand and money flows cannot exist without monetized debt relationship between two economic agents. For every financial asset there is always a corresponding liability. Because other sector's deficit is always surplus of other sector for example the deficit spending of the government can foster the profitability of firms by increasing their incoming money flows.

Hence, the deficit spending of government is a positive thing for other actors in the economy because it means that they are able to accumulate financial surpluses. In the economic downturn where the confidence of consumers and investors decline, government is usually the only economic agent willing to invest and create new monetary flows and aggregate demand to the economy. Therefore, the fiscal policies and economic activities of government are essential for the stability of monetary economy. Usually in monetary economy state has few limitations on fiscal policies, investment and spending. This is because in the end of the day it is the state that organizes the economy by governing the most important institution of monetary economy, that is, the government currency. The power to issue currency - the ultimate financial reserve - actually gives state the power to practice monetary and financial policies and to control the development of monetary economy more widely. Because in the European economic crisis the power of the states to stimulate economy by deficit spending has turned out to be restricted, these issues should be investigated more closely.

We have earlier defined money as a credit relationship and illustrated briefly how money is created and also destructed in the banking system. We have also portrayed the means of payment function of money and followed the endogenous money view which states that the supply of credit money is ultimately determined by commercial banks' willing to lend. However, when illustrating the operations of lending it was remarked that although the monetary authority cannot exogenously determine the amount of credit money in the economy it can set autonomously the interest rate of the reserves or central bank money. As central bank money or currency is demanded by all economic actors from commercial banks, to firms and households, the monetary authority has a remarkable power in the economy. In order to understand the dynamics behind modern central banking and monetary policies, it is first necessary to recognize the hierarchy of money in the contemporary economic system (see Bell 2001).

The chartalist theory of money concentrates on the money hierarchies in monetary economy (e.g. Foley 1989; Wray 1990). As already noticed, in the current economic system commercial banks can create money *ex nihilo*. Actually, as money is a promise to pay in the future, that is, an IOU, it can be created by anyone. But all money is not accepted as a means of payment similarly. Typically a commitment to pay in the future made by an individual is viable only inside the community where she is known and trusted. Hence, nobody is willing to accept liability of a stranger as a means of payment. The demand for individual debt agreements in the society is always limited.

Everyday experience tells us, however, that in modern monetary economies there is one particular money that is widely accepted and can be used as a means of payment in almost every transaction. That is the government currency, usually in a form of a bank note. Of course there are quite explicit spatial limits for the acceptability of a certain currency. Usually national currency is a viable means of payment only inside the borders of a nation state. It is exactly this observation which will lead us to the foundations of chartalist theory of money.

Authors of the chartalist school of thought have emphasised that state money has top position in the money hierarchy just because people are always willing to settle other kinds of debt commitments with state money. Following the state money theory of Friedrich Knapp (1973) chartalists have argued that what gives state money this peculiar position is the power of the state to demand payments from its citizens and the power of the state to declare the unit in which these liabilities are denominated (Bell, 2001; Tcherneva, 2006). Thus, state money is the only means of payment accepted by the state. As all citizens are subject to taxation and need state money to pay fines and other public fees there is a society-wide demand for the state money. This makes state money the general means of payment and also the *unit of account* for all other monies, for example the credit money created by commercial banks.

Because state money is a standard of unit of account we do not usually make difference between different bank monies in every day life. As a matter of fact most people do not even recognize that there are constantly several different bank monies in circulation in contemporary monetary economy. For example, deposits in commercial bank are liabilities of that particular bank and are not accepted as a means of payment in other banks. This means that also commercial banks need to settle their payments with state money (see Rossi 2007, 67-78; Rochon and Rossi 2004). In modern economic system state money is supplied for them by the central bank that operates in the system as a bank of the banks.

Hence, the power of the monetary authority or central bank to control the monetary conditions depends actually on the power of the state to claim payments from every citizen and legal entity operating within the borders of a nation state. Because central bank is the only institution that issues state currency, all other economic actors are dependent on it. As mentioned earlier, in the modern setting of central banking the most important policy tool of monetary authorities is the interest rate. As the interest rate on central bank money serves as a basis for the market interest rates, central bank can manage the demand of credit by raising or lowering interest rate of reserves. To control the interest rate central bank can pursue different kinds of operational procedures (see Fullwiler 2006; Lavoie 2010).

Of course, central bank can choose from great variety of different macro policy goals which determine also the interest rate policies. If central bank emphasises price stability as its main policy goal, it usually keeps interest rate higher than a central bank that has full employment

as a main policy goal (see e.g. Palley 2006; Rochon & Setterfield, 2007). Central bank can also commit itself to the exchange rate policies which usually relate to the foreign sector dynamics. In addition, central bank can control monetary conditions by constraining lending for example with capital and other asset requirements (Palley 2004).

The monopoly to issue generally accepted means of payment gives state not just the power to practice monetary policies but also the power to pursue expansive fiscal policies. As chartalist authors have illustrated sovereign governments can always spend by issuing their own currency and there are no operational constraints on their ability to spend (Wray 1998, Bell 2000, Nersisyan and Wray 2010). Sovereign governments need not to sell government bonds or to tax before spending as they spend by simply crediting bank accounts. Taxing and bond selling would not even be possible before government has emitted or issued state money and supplied it to the public as we remember that the only way to discharge tax liabilities and settle payments with government was to pay with state currency.

In contemporary monetary system these operational facts are somewhat hidden because governments are not allowed to borrow directly from the central bank. The money issuing that follows from the government spending is usually neutralized immediately with government bond sale which veils the money creating operation altogether. What actually happens there is a displacement of central bank money with interest bearing government bonds (Bell & Wray 2002-3; Fullwiler 2005). Another important mechanism that blurs the operational reality of government spending is the convention to balance government budget which means that government taxes equal government spending at some period of time. This principle has become so strong and so widely occupied in fiscal policies that people usually understand taxes to ultimately finance government spending. In reality taxation follows spending and is means to absorb state money from the economy and to curb the spending power of the public (e.g. Parguez 2002).

Thus, if government has in practice unlimited spending power, there are substantially less restrictions for fiscal policies than is usually thought. Eventually it is a political question, how extensive fiscal measures the government chooses to employ. Like in the case on monetary policies also fiscal policies are ultimately determined by the economic policy goals. If government chooses some functional goals like that of a full employment and stable inflation path the policy outcome will be considerably different compared to that of policy led by balanced budget target (see Lerner, 1943; Wray, 2003; Mitchell & Mueyken, 2008). The differences are ever bigger in the times of economic downturn when the confidence of private sector is low and aggregate demand is shrinking. As private sector postpones investments and new production the government spending is needed to compensate the decline in aggregate demand. The monetary flows are needed to cut the profit squeeze and bring back the confidence in economy.

Of course, there can be also institutional limits for government spending. As already mentioned a direct central bank lending is prohibited in many countries which forces government to sell bonds every time it expands its spending. If government has gave up its right to issue currency which is the case in the euro zone or if it has pegged its currency to some foreign currency it at the same time has given up on its economic sovereignty. Thus, the spatial differences on the institutional setting of government spending and currency issuing are essential in explaining the regional economic development and should be investigated

closely in order to understand the dynamics of European economic crisis. These differences will be analysed in the next chapter of the article.

European economic crisis - geographical monetary economy perspective

The European economic crisis followed the meltdown of the US subprime market and the subsequent turmoil of global financial markets⁸. When the confidence in the financial markets collapsed after the bankruptcy of Lehman Brothers investment bank, the economic activity sunk globally. The basic dynamics of monetary economy described in the preceding chapters turned rapidly the prolonged investment boom to a recession as uncertainty spread from the financial markets to the real economy.

As the liquidity preferences of investors and commercial banks began to rise suddenly also real investment was sliced and the aggregate demand decreased considerably. With receding monetary flows, the uncertainty spread wider into the economy and unemployment began to rise. Also households started to cut spending and increase saving which further slashed aggregate demand. Finally almost all decisions of economic actors contributed negatively to the economic activity and the recession became more severe.

Although these processes took place in every European economy, the regional differences on their impacts were substantial. In some economies the credit crunch led to major drop of the aggregate demand while in others the effects remained only modest. When governments started to stimulate aggregate demand with fiscal policies and deficit spending, the institutional setting of government finance set different kinds of restrictions to different economies. Hence, the processes of European economic crisis became even more divergent regionally.

By investigating the pre-crisis demand structures and the institutional setting of government finance of five different European economies we will be able to analyse, why the European economic crisis had divergent impacts on different economies. The analysis will show that those economies that had own currency with floating exchange rate and/or permanent current account surpluses managed the crisis much better than economies with current account deficits and no direct control to their currency.

The economies selected to the investigation are United Kingdom, Sweden, Germany, Spain and Greece. These economies differ considerably from each other when it comes to the institutional setting of monetary system and demand structures. These differences have been presented in table 1.

Table 1.

	Own currency	Current account surplus	High level of private debt	High level of public debt
United Kingdom	X		X	
Sweden	X	X	X	
Germany		X		
Spain			X	
Greece				X

⁸ The dynamics of Global financial crisis have been analysed broadly during last three years in many studies (e.g. Wray 2009, Bibow 2009).

From the five economies in investigation three are members of European economic and monetary union and hence users of common euro currency. Sweden and United Kingdom still operate with their own currencies although both are members of European Union.

Before the European economic crisis only two of the economies had clearly positive current account balances. Between 2004 and 2009 the average current account surplus for Germany was about 6 per cent of GDP and for Sweden almost 8 per cent. The current account deficit of UK was about 2 per cent while in Spain 8 and in Greece 11 per cent of GDP.

As has been described above, in monetary economy the foreign sector is one of the sources for aggregate demand and monetary flows. The other two are domestic private and public sectors. The higher is the gross debt level in these sectors the more have they contributed to the aggregate demand. Because the gross lending and net lending are highly correlated, the high level of gross debt also means that sectors have contributed positively to the financial balances of other sectors. If the private debt level in proportion to GDP is over 200 it is considered to be high in this article. In the case of public debt, the high level of debt is 100 per cent of the GDP.

Before the European economic crisis private debt levels were high in three of the economies in investigation. In Spain the gross debt of the private sector grew fast before the crisis and ran over the limit of 200 per cent of GDP in 2006. In UK the debt level reached the limit in same year and in Sweden year after. In Germany and Greece private debt levels remained much lower. In 2008 the private debt to GDP ratio in Germany and Greece was only 120 per cent.

Only in Greece the government debt to GDP ratio had climbed to 100 per cent before the European economic crisis being 113 per cent in 2008. At the same year the public debt ratios for other four countries were much lower. In Germany the ratio was 67, in Spain 40, in Sweden 39 and in UK 55 per cent. Thus, from our quick examination we see that if the current account balance was positive and/or private debt levels high the government debt remained at low level in proportion to GDP. If economy had current account deficits and low level of private debt, the government debt ratio was considerably higher. These results portray the fact that in monetary economy every financial or monetary transaction is a double-entry bookkeeping action and if one sector or regions gathers assets another sector's or region's liabilities grow. Following the accounting logic every positive transaction has to have a negative counterpart somewhere else.

When the general crisis dynamics of monetary economy were activated in Europe the pre-crisis demand structures and institutional structures of monetary system and finance determined the regional impacts. The credit crunch and the growing uncertainty led to a deep economic recession in Spain and United Kingdom where the growth of private sector debt had been extremely fast during the 2000s. Especially the housing market had boomed in both of these economies and stock of household mortgages had increased considerably in years before the crisis. Also housing investment and construction industry had grown rapidly.

The declining confidence led to the decline in new credit contracts and the stock of private debt started to diminish in both of these economies. As investors and households moved to debt reduction the aggregate demand plunged and the uncertainty in the economy extended. The unemployment began to grow and soon sectors and industries that were not directly

connected with housing sector became affected by the crisis. Many producers had difficulties to renew their maturing loans as commercial banks became more risk averse in their credit policies. When the monetary flows in the economy shrunk it became difficult for many debtors to settle their financial commitments as their own incoming monetary flows were sliced. The permanent current account deficits made the situation even worse in Spain and UK as there were constantly more outgoing than incoming monetary flows in the economy.

The private sector debt reduction and slowing economic activity elevated the role of the government in the economy as the so called automatic stabilizers activated. When unemployment started to rise, the tax revenue decreased and government expenditure such as social benefits increased. In 2008 and 2009 governments also pursued stimulating fiscal policies such as public investments on infrastructure, financial help for small business and tax cuts in order to boost the economy back on its growth path. As a consequence the public deficits spread and the level of government debt started to grow rapidly in both of these countries.

The fiscal stimulus helped to pull the economies of Spain and UK out of the recession, but the private sector debt reduction was still on process. Hence, the growth period ended just about when the impacts of fiscal actions came to an end. In 2011 both of the economies slid back to the recession. This time governments refused to stimulate the economy as the government debt levels were seen already too high. In Spain the large deficits and growing public debt burden had generated real financial problems as the government bond yields rose to extremely high levels. In the UK however the financial costs were not the problem and the decisions made by the government to withdraw from fiscal stimulus based more on the political stance taken by the conservative government.

The differences in the government bond yields between Spain and UK were due to institutional setting of government finance and currency system. Although the economic situation in these countries was more or less similar, the growing fiscal deficits caused financial problems only for Spain which had given away its own currency when joining the EMU in the beginning of 2000s. Thus, the actors in the government bond markets assumed that in the case of insolvency there would be no backdoor for Spain government to gather the needed financial reserves, that is, euro currency. As the European central bank is an autonomous and independent actor with no obligation to help euro states in solvency problems, the risk that the debts will remain to be settled is genuine.

In the case of UK there is always a possibility to gather the needed reserves directly from the bank of England which still is an organic part of the state. In other words, it would be highly unlikely that the board of the Bank of England would decide to force the state in to the bankruptcy if it had problems to gather the needed reserves from the private sector by borrowing or by taxing. This is why the financial costs of UK have remained low and actual necessity to withdraw from fiscal stimulus has not developed (see De Grauwe 2011).

The economies of Sweden and Germany bounced back from the recession of 2009 quickly. Although the level of private debt was high in Swedish economy the deflationary debt reduction processes that took place in UK and Spain did not produce long-lasting negative effects to the economy. The main reason for this was the favourable development of export demand and the positive current account balance. Thus, the aggregate demand grew rapidly and domestic sectors were able to accumulate net financial wealth already in 2010. The own

currency and the declining exchange rate boosted the competitiveness of Swedish economy and helped Swedish export sector firms to get most out of the recovering aggregate demand of European and world economy. As a consequence the growth of private economy was strong and government deficits and government debt ratio remained low. Hence, the financial problems of government became no issue in the Swedish economy.

Also the German economy had rested on the current account surpluses and export-led growth regime before the European economic crisis. As the private debt levels were low the impacts of the crisis came to the economy through the export sector. In 2009 the economy shrunk over 5 per cent from the previous year mostly due to decline of export demand. When demand conditions improved the German firms were able to get back on their pre-crisis activity levels instantly. The price competitiveness of German export sector based mainly on the modest cost level of production and not that much on the devaluation of the euro currency. Although also gross government debt levels increased in Germany during the crisis the yields on government bonds did not rise. The permanent current account surpluses have convinced investors on the state's ability to pay and although Germany has also given away the control of its currency to the European central bank, the government finance problems have not arisen. As a matter of fact the financial costs of the state have declined to historically low levels.

The development of the Greek economy has been somewhat the mirror image of the German economy. The large current account deficits already before the crisis impaired the financial balances of domestic economic actors and contributed negatively to the aggregate demand of the economy. In Greece the public sector had supported the economy and the private sector debt ratios were considerably lower than elsewhere in European economy. As global financial crisis caused the credit crunch in the European economy and the aggregate demand started to diminish causing a deep recession, the Greek government debt burden grew rapidly.

The situation got worse when investors in the government bond market started to question the solvency of the state in the beginning of 2010. Although the Greek economy would have still needed fiscal stimulus, the government was no more able to finance its spending running short of euro currency. Without currency the state was unable to settle its payments with the commercial banks and other private actors. Even though the Greece government got financial aid from other euro area states, it was forced to cut spending and raise taxes making the demand conditions of the economy even worse. In the shrinking economy the private sector actors are not willing to invest and spend and when government is restricted from fiscal stimulus a vicious circle of monetary economy is created. The saving of the government sector leads to increasing saving of the private sector and finally the deficits turn out much larger than budgeted. The famous "paradox of thrift" will be proven.

The investigation illustrates how the European economic crisis has been regionally divergent. The crisis processes of monetary economy have created different kinds of impacts in different areas and, in point of fact, instead of one crisis there have been several regional crises with particular economic dynamics. These crises can be classified and analysed using the theoretical framework presented in previous chapters of the article that concentrates on the commanding processes and mechanisms of monetary economy.

The common feature for all the regional crises has been the growing uncertainty resulting from the turmoil of the world financial markets which affected real economy through the

banking system. As the liquidity preferences of the banks and investors got higher, new investments and production projects were postponed and producers had difficulties to renew their expiring loans. The decline in investment and production further diminished the aggregate demand and thus the income of the firms and households. Soon firms began to sack their employees and unemployment started to rise. This again enhanced uncertainty in the European economies.

The first responses of governments and central banks to the economic downturn were also somewhat homogenous. European governments were committed to fiscal stimulus and the rebirth of Keynesian politics was declared. Central banks in euro area and other European countries brought the interest rates close to zero and increased the liquidity of the banking system and financial markets in general. The government action had positive effects to the economy and the first recession of the European economic crisis was short-lived. However, the crisis processes of monetary economy were still in action as private economy was too weak to support economic growth in European economy. As described in this chapter the regional elements of the crisis started to show clearly on the second round of the crisis.

In those economies where the growth of the aggregate demand was before the crisis highly dependent on the private sector, for example Spain and UK, the fiscal stimulus would be still needed in order to put the economy back on the growth track. Without sufficient monetary flows the confidence of firms and households will not recover and investment and consumption of private actors will remain too low to change the course of the economy. However, the political and institutional factors are at the moment restrictive to the active demand management policies. The same goes with the economies that were already before the crisis dependent on government deficit spending.

Only those economies that have been able to keep their current account balances on surplus have survived the crisis without major complications. However, the surpluses of these economies has meant deficits for other economies as in monetary economy every asset has a corresponding liability. Thus, for example the success of German economic policies has made the economic situation worse in the euro area countries of southern Europe. The unbalanced monetary flows between different regions in Europe have played a central role in the European economic crisis and made the crisis processes regionally divergent.

Conclusions

The analysis presented in this article has shown that the European economic crisis subsequent to the global financial crisis has been a typical crisis of monetary economy. Building upon the theoretical framework of monetary economy influenced by the post-Keynesian economic and monetary theories the basic dynamics of the crisis have been highlighted.

Furthermore, as the regional crisis dynamics of the European economic were analysed at the macro level and it could be shown that the crisis processes were regionally diverging and that it was the institutional setting of monetary system and the basic dynamics and mechanisms of the monetary economy that made the impacts of the crisis spatially diverse. The economies where the state had lost control to the currency and where current account deficits were permanent were the most vulnerable in front of the major crisis of monetary economy.

The article suggests that the monetary economy perspective should be used more widely in the geographical analysis of European economic crisis and contemporary economic system in. The micro level examinations of the dynamics of monetary economy, for example the changes in liquidity preferences of different economic actors, would provide important information on the crisis and economic development in general.

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