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EU regional policy: its theoretical foundations and their policy conclusions revisited

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Abstract

This paper reconsiders the theoretical foundations of EU regional policy in economics. It begins with a discussion of the line of thought of its prevalent explanation in equilibrium economics which is focusing on market failures as its key underpinning and which is the major toolkit of economists for policy recommendations in this context. Subsequently, this view is contrasted with a non-equilibrium economics perspective on EU regional policy. Based on this, the existence of market failures and the relevance of equilibrium economics for a realistic understanding of and policy advice for EU regional policy are called into question. That is why, a more substantive politico-economic explanation and different policy conclusions for the regional policy of the EU are offered. The paper particularly focuses on the implications of the latter for the European Economic and Monetary Union in light of the persisting financial crisis and the vast economic disparities existing within it. Finally, the non-equilibrium economics perspective on EU regional policy is also animadverted, since market failure thinking still prevails in this branch of economics undermining its own criticism of equilibrium economics.

JEL-Classification: B52, E62, F12, H53, O20, R10

Keywords: circular and cumulative causation, structural funds, non-equilibrium economics, increasing returns, EU regional policy, market failures

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1 Introduction

Economic activity across the European Union (EU) is unevenly distributed going along with widely divergent material living and working conditions of its citizens (see, e.g., Krieger-Boden, Morgenroth and Petrakos 2008; Martin 2005; Martin 2001; Midelfart-Knarvik and Overman 2002; Overman and Puga 2002; Puga 2002). That is why, since its foundation by the Treaty of Rome in 1957 the EU is conducting a regional policy supposed to improve and harmonise these conditions. From the beginning, the main policy instruments to achieve this aim have been the so-called structural funds, which in the expired and actual planning period 2007-2013 and 2014-2020 include the European Regional Development Fund (ERDF), the European Social Fund (ESF) and the European Cohesion Fund (ECF).¹ The EU's regional policy tremendously changed over time from a rather passive and regulative kind to a more and more active and interventionist type of policy (Krieger-Boden 2002, p. 27). Today, it is one of the largest policy fields besides the common agricultural policy with an available budget of €352bn (€347bn) for the planning period 2014-2020 (2007-2013) (European Commission 2014b).

Studying EU regional policy from an economic perspective, its necessity or application is generally legitimated and explained with reference to situations of allocative and distributive market failures within the European single market (see, e.g., Holtzmann 1997, pp. 37-85; Krieger-Boden 2002, pp. 3-5; Molle 2007, pp. 104-105; Schindler 2005, pp. 7-38, 91-130; Vanhove 1999, pp. 1-63).² Most of the economic literature on the theoretical foundations of EU regional policy tries to identify potential market failures within different equilibrium trade, growth and regional economic theories. This aims at the deduction of practical policy conclusions appropriate to tackle such failures. Yet, by construction of these theories as constrained optimisation problems, economic outcomes in space are characterised by a stationary state or the absence of further change (Jovanović 2009, p. 7). Contrastingly, as Berger (2009, pp. 1-2) from an evolutionary-institutional point of view remarks, theories of circular and cumulative causation (CCC) claim that thinking about

¹ The actual structural funds are the ERDF and the ESF, while the ECF is a separate fund aiming at fostering European cohesion (Schöndorf-Haubold 2003, p. 8). All three of them are allotted to the term "structural funds" in this paper because in the literature this clear-cut distinction is seldom found.

² In economics all circumstances in which reality deviates from the model of perfect competition are termed as market failures. These usually include externalities, indivisibilities and market power, incomplete information and adjustment shortcomings (see, e.g., Fritsch 2011, pp. 72-321). All four categories imply politically and normatively unwanted allocative or distributive outcomes of market interactions that should be tackled by state interventions in order to improve the well-being of the members of society.

economic development and interactions in terms of static equilibrium and harmony is not compatible with “the real dynamic and self-reinforcing aspects of economic phenomena.” Exponents of these CCC theories believe that “there is no such thing as a stable equilibrium, neither real nor asymptotical” (Heinrich 2011, p. 528). They rather emphasise conflict, competition, rivalry, struggle, disequilibrium, disharmony and permanent change of the economic conditions in capitalist economies, i.e. forces that drive the economy constantly away from any envisioned equilibrium. The non-existence of an equilibrium implies that market failures, the key underpinning to legitimate EU regional policy interventions in equilibrium economics, do not exist from a non-equilibrium economics point of view. When such economic phenomena occur in reality, they must rather be grasped as systematic and inherent patterns of market economies and not as deviations from a normal and optimal equilibrium case.

Following the non-equilibrium economics rationale, I will argue in this paper, that EU regional policy cannot be explained in terms of market failures like it is common in equilibrium economics. To show the epistemological deficiencies of the equilibrium explanation of EU regional policy and to substantiate that it can only be adequately understood from a non-equilibrium economics perspective, I will discuss and compare both approaches in the first and second part of the paper. In the subsequent third part, I will offer a more realistic politico-economic explanation of EU regional policy. According to that, EU regional policy endogenously sets major conditions of economic competition among labour, capital, land and nation states instead of exogenously counteracting market failures. Since member states always used the structural funds as a subject of negotiation in the different phases of the deepening and enlargement of the EU, as will be shown below, the politico-economic view proves to be much more consistent with the historical development of EU regional policy than the market failure perspective.

The different and arguably more realistic non-equilibrium economics understanding of EU regional policy also leads to other policy conclusions that need to be drawn in order to improve and harmonise the living and working conditions of EU citizens. In light of the large economic disparities and the lasting financial crisis this is of particular importance for the European Economic and Monetary Union (EMU), as its perpetuation requires a certain degree of economic homogeneity (Martin 2001, pp. 54-58). The different policy implications on which non-equilibrium approaches are generally completely silent will also be discussed in the third part of the paper. Finally, however, I will criticise in the conclusion that non-equilibrium economics does not fully get away from market failure

thinking. Thus, it misses to dissociate itself from equilibrium economics although its advocates characterise it as a separate, alternative and unique approach (see, e.g., Boschma and Frenken 2006, pp. 273-274).

2 The equilibrium foundations of EU regional policy

In order to comprehend the difference between the prevalent equilibrium explanation of EU regional policy with its focus on market failures and the non-equilibrium explanation, it is necessary to understand what kind of economy the former presupposes its method of explanation. It bases upon the idea of a “natural equilibrium” of economic interactions in the internal European market (see, e.g., Vanhove 1999, p. 2). In economics this notion can be traced back at least until Adam Smith’s *Wealth of Nations*, which essentially contains “a sophisticated theory of ecological equilibrium and evolution in the ecosystem of commodities” (Boulding 1980, p. 179).³ Nowadays, it corresponds to the standard neoclassical general equilibrium, i.e. the well-known model of perfect competition in which a decentralised market economy is led by an invisible hand (see Dixon 1990, pp. 356-365; Kaldor 1972, pp. 1237-1242). Without central planning, the price mechanism automatically aligns demand and supply on all sub-markets bringing the numerous different and conflicting plans of rational utility and profit maximising market participants to coincidence and mutual harmony in the whole economy.

Two beliefs are constitutive for the neoclassical equilibrium theory of value and distribution as the starting point for the explanation of EU regional policy. First, the market is assumed to be the first-best mechanism to solve the alleged fundamental economic problem of scarce resources on the one hand and infinite human wants on the other hand.⁴ This should be the case, since it generally allocates the factors of production in the most efficient (optimal) way in terms of a societies wants and distributes the incomes generated with those factors in a performance-linked, socially optimal and just way (marginal productivity theory of distribution). Second, the equilibrium theory encloses the vision that independent of specific historical circumstances production takes place in any economy for the purpose of consumption, what Dillard (1988) called the “barter illusion”.⁵ Taken

³ See Mosini (2007) for the role, the scope and the limits of the concept of equilibrium in economics.

⁴ See Weeks (2012, pp. 3-4), who proposes an alternative definition of the science of economics as “the study of the process by which society brings its available resources into production, and the distribution of that production among its members.”

⁵ The best and most obvious expression of the (neo)classical idea that the economy works as if it were

together, undisturbed economic interactions via the market are grasped as a harmonious and cooperative system of international division of labour which is constantly reconfigured by technical progress over time and that generally mitigates the unresolvable economic problem of scarce resources and infinite human wants in an optimal way.

Clearly, from this epistemological point of view, regional policy interventions are only necessary when the market mechanism fails to bring about an optimal allocation of the factors of production and a just distribution of incomes.⁶ Hence, it is hardly surprising that in the prevalent economic literature on EU regional policy different equilibrium trade, growth and regional economic theories are considered, that deal with these two aspects of economic development in the internal European market in order to identify potential market failures. According to the policy conclusions drawn from the different models of the theories, those failures should be tackled by the EU's regional policy to improve and harmonise the living and working conditions of its citizens in the presumed consumption economy. The economic theories that are usually examined and that will be discussed in more detail below are the neoclassical trade and growth theory, the new trade and growth theory and most recently the new economic geography (NEG).⁷ All of them can be allotted to two main strands, which are the "thesis of convergence" and the "thesis of divergence" of the living and working conditions in the EU (Berthold and Neumann 2003, p. 1). While the neoclassical trade and growth theory can be assigned to the thesis of convergence, the new trade and growth theory can be allotted to the thesis of divergence. The NEG can be seen as a synthesis of either theses, since it captures both developments depending on the progress of economic integration of regions measured in terms of transport costs (Fujita and Thisse 2009, pp. 113-114).

a barter system can be found in a book on business administration written by Perridon and Steiner (2004, p. 1), where they state that "the economic function of production-households is to supply the society with goods and services which satisfy their needs (...) as soon as they do not any longer provide this service to the society they basically loose their *raison d'être*" [own translation, P.S.].

⁶ Additionally, some authors mention that regional policy interventions are necessary in order to stabilise the economy (see, e.g., Schindler 2005, pp. 12-13). However, as Holtzmann (1997, p. 85, footnote 103) notes, the stabilisation function of regional policy is usually not discussed in the economic literature on regional policy. This might be the case, because the economy is likely to be stable, when an optimal allocation and a just distribution are given in the market economy since the plans of all market participants do then coincide.

⁷ Of course, other theories are also discussed in the economic literature but usually not by "pure" economists and only to a minor extent. These are often rather descriptive, informal and heterodox and include, e.g., the theory of long waves, the product-life cycle theory, the theory of potential (development) factors of a region or different institutional theories (see, e.g., Farole, Rodríguez-Pose and Storper 2009, pp. 22-35; Holtzmann 1997, pp. 48-85; Krieger-Boden 1995, pp. 5-74; Molle 2007, pp. 15-23; Vanhove 1999, pp. 1-63).

The neoclassical trade theory, based on the theorem of comparative advantage, and the neoclassical growth theory, which relies on the Solow-Swan growth model, basically imply neither allocative nor distributive regional policy interventions. On the one hand, this is the case because both theories rest upon the standard neoclassical assumptions like a market structure of perfect competition, regionally identical production functions with constant returns to scale, positive but diminishing factor returns, the absence of transportation costs, full employment and perfect information. These assumptions assure the existence of a general equilibrium with a pareto-optimal allocation of the factors of production. On the other hand, the workhorse two-factor Heckscher-Ohlin-Samuelson model of the neoclassical trade theory predicts that trade between two economies is not only beneficial to them but also ensures an equal remuneration of the internationally immobile factors of production (factor price equalisation) implying no distributive policy interventions.⁸ The same distributive policy implications hold true in the Solow-Swan growth model. It predicts that two structurally similar countries or regions with the same production function, depreciation rate, population growth rate and savings rate will converge towards the same equilibrium or steady state (absolute convergence). Countries or regions do only converge towards a different steady state, when they differ in their structural parameters (conditional convergence).⁹ Even when an exogenous technological progress is introduced into the production function in order to explain positive long-term growth rates within a model with decreasing factor returns, the allocative and distributive results remain the same as long as it is equally spread across countries or regions (Schindler 2005, p. 93). In a nutshell, given the underlying assumptions of these two theories, the market mechanism will automatically lead to better and harmonised living and working conditions of EU citizens. Hence, the EU has only a regulative task, which is to ensure the free movement of goods, services and the factors of production.

However, the neoclassical growth and trade theory are often criticised because they abstract from important regional features observable in reality which undermine the validity of their assumptions, predictive power and policy implications (Schindler 2005, p. 95, 104). These include, inter alia, increasing returns to scale and related economies of scale, transport costs, market structures of imperfect competition, different production

⁸ Hence, movements of commodities are a substitute for factor mobility. As Mundell (1957) shows, the reverse is also true, namely, that factor mobility can be a substitute for commodity movements.

⁹ However, even when two countries or regions are not structurally similar there can be absolute convergence. This can be reached in the Solow-Swan model via international or interregional factor movements (Krieger-Boden 1995, pp. 33-34).

techniques and the (im)mobility of the factors of production. Therefore, the theories mentioned above labelled as “new” try to implement these issues into a general equilibrium framework to render them more realistic (see, e.g., Aghion et al. 1998 for the endogenous growth theory; Krugman 1998 for the NEG; Maneschi 2000 for the new trade theory).

The new theories are especially reflecting the renewed interest of economists in the topic of increasing returns to scale and imperfect competition as the main drivers of economic interactions and development (see, e.g., Buchanan and Yoon 1994). Both issues have been left aside for quite a long time in the neoclassical economic analysis of value and distribution because of the serious problems associated with incorporating them into formal general equilibrium models (Brakman and Heijdra 2004, pp. 1-27).¹⁰ The assumptions of perfect competition and of constant returns to scale in the traditional neoclassical theories, going along with comparative advantage as the primary rationale for trade, are abolished in the new theories in favour of conditions of imperfect competition, increasing returns, non-comparative or absolute advantage and related concepts of externalities, CCC or path dependence (Martin 1999, pp. 68-74). That is how it became possible within the new trade theory to explain intra-industry trade, i.e. why it is beneficial even for similar countries or regions, not differing in factor endowments, demand or technology like in the theory of comparative advantage, to engage in trade (see, e.g., Krugman 1994). Similarly, long-term growth could be explained within the new growth theory, in contrast to including an exogenously given technology in the traditional Solow-Swan growth model, by in various different ways endogenously prohibiting decreasing factor returns of the accumulable production factors (see, e.g., Barro and Martin 2004). Due to the incorporation of imperfect competition and increasing returns to scale, both theories can explain income divergence between regions or countries and a suboptimal allocation of the factors of production. That is why, they imply active distributive and allocative interventions by the regional policy of the EU to improve and harmonise the living and working conditions of its citizens (Schindler 2005, pp. 95-101, 104-106).

The new trade and growth theory generally model countries or regions as “point-economies”, i.e. they abstract from transport costs and thus from economic geography. The NEG includes these costs into the analysis and combines them with interregional

¹⁰As Gabszewicz and Thisse (1999, p. xiv) remark, the main problem is to combine increasing returns to scale with the price-taking behaviour of firms in a perfectly competitive market. As McCombie and Roberts (2009, p. 14) point out, the intention to reconcile both things could be driven by the ideological motivation to preserve the marginal productivity theory of value and distribution and thus to exclude any Marxian notion of the exploitation of labour from the subjective theory of value.

factor mobility making geography matter for economic development of different regions.¹¹ Emerged in the beginning of the 1990s, the NEG directly descends from the new trade and growth theory as well as location, urban and regional economic theory (Martin 1999, pp. 66-67).¹² Its main goal is to explain why economic activities tend to agglomerate in certain regions or countries and why others remain economically behind (Fujita and Krugman 2004, p. 140). The scientific progress of the NEG, though, does not consist in new insights into geographical economics but in the mathematical formalisation and microfoundation of older theories of economic development and geography within a general equilibrium framework (Ascani, Crescenzi and Immarino 2012, p. 2). The older assimilated theories encompass, e.g., Perroux's (1955) "growth poles", Myrdal's (1957) "circular and cumulative causation", Hirschman's (1958) "forward and backward linkages", Marshall's (1890) "industrial districts" and Kaldor's (1970) "regionally uneven development".¹³

Originating from the new trade theory, NEG models usually start from two identical regions in terms of demand conditions, technology, factor endowments, the perfectly competitive agricultural and the imperfectly competitive manufacturing sector of production. Subject to the level of transport costs and the economic forces promoting agglomerations (centripetal forces) and deglomerations (centrifugal forces) the mobile factors in these models, which are usually manufacturing workers or firms, decide on taking their location in one of the two regions (see Krieger-Boden 2000, pp. 4-23). In the beginning of economic integration between the regions, when transport costs are usually high, manufacturing activities are equally distributed between them. This is the case, since high transport costs prohibit the preponderance of centripetal over centrifugal forces. Any exogenous in-migration of the mobile factors into one region on the one hand fosters the centripetal forces. But on the other hand, the corresponding home-market and price-index effect together with high transport costs are not sufficient to outweigh the price-competition effect associated with the centrifugal forces. Hence, the mobile factors remigrate and the symmetric equilibrium is stable. Yet, when transport costs are exogenously falling to a

¹¹ Admittedly, the crucial step from the new trade theory to the NEG was the inclusion of interregional factor mobility since transport costs have already been included in some of the new trade theory models (see Bhattacharjea 2010, p. 1058; Fujita and Thisse 2009, p. 112-113).

¹² Since these are the roots of the NEG and geography is put into economics, while economic geography is a sub-field of geographical sciences, some authors prefer the term "geographical economics" instead of NEG (see, e.g., Brakman, Garretsen and van Marrewijk 2009).

¹³ Interestingly, all of these scholars have been non-equilibrium economists or at least dealt with non-equilibrium economic issues within their writings. Given the subject of the paper, this is an important fact I will return to in the next part of the paper.

medium level in the course of economic integration of the two regions geography starts to matter. The mobile factors start locating in the agglomerating area since the predominance of centripetal over centrifugal forces allows a higher compensation for them. In this way, a self-reinforcing and cumulative process is implemented that goes on until an equilibrium is reached in a core-periphery pattern à la Krugman (1991a;b) with an industrialised core and an agrarian hinterland. Which of the two regions will be the centre or the periphery merely depends on chance in NEG models. That is why its exponents emphasise that “history matters” for the path-dependent distribution of economic activity across space (Martin and Sunley 1996, p. 263).

However, some NEG models predict an inverted-U-shape development pattern, so that the core-periphery equilibrium must not be the permanent spatial outcome. When transport costs are approaching to zero, these models predict that centrifugal forces like pollution, traffic congestion, high crime rates or the increasing scarcity of immobile factors start to overcompensate the centripetal forces. This induces a remigration of the mobile factors to the periphery until an equilibrium is reached where economic activities are again evenly distributed between the two regions. Thus, it is possible that processes of agglomeration and deglomeration occur in an integrated market like the EU, which either lead to converging or diverging spatial developments. The eventual outcome depends on the level of transport costs, the strength of the centrifugal and centripetal forces as well as the degree of mobility of production factors.

The ensuing regional policy implications of the NEG are complex. On the one hand, NEG models imply distributive policy interventions by the regional policy of the EU. This is the case when core-periphery patterns can empirically be observed, since then the factors of production are differently compensated in the centre and periphery. Moreover, infrastructure policies to reduce transport costs might be preferable to achieve convergence between the two regions, when an inverted-U-shape pattern can be identified.¹⁴ On the other hand, the NEG implies no allocative policy interventions because the overall quantity of agricultural goods and manufactured varieties produced is usually independent of the spatial distribution of manufacturing activities between the two regions (Lammers and Stiller 2000, p. 19). However, compared to the situation of a perfectly competitive market where firms are price-takers, in the monopolistic competition models of the NEG they have control over prices, which leads to allocative inefficiency. But this inefficiency is

¹⁴The role of lower transport costs in terms of efficiency and distribution is not unambiguous though (see Puga 2002, pp. 394-400; Baldwin et al. 2003, p. 476).

the result of the consumers love for variety and not the consequence of the firms' market power (Brakman and Heijdra 2004, p. 10). From this point of view, the non-price or quantity competition in monopolistic competition models, where firms earn zero profit and there is free market entry and exit, is in turn efficient and thus no allocative regional policy interventions are necessary. Accordingly, in case of regional disparities, EU regional policymakers are facing a trade-off between an efficient allocation of the factors of production and a harmonious distribution of the incomes generated with them, when they try to relocate the mobile factors to the periphery (Baldwin et al. 2003, p. 444). Every redistribution of income from richer to poorer regions, which is used to influence the allocation of production factors between them, necessarily directs these factors into inefficient employments from the point of view of the overall economy.¹⁵

To summarise the second part of the paper, the equilibrium foundations of EU regional policy implicitly presume that production in market economies is undertaken for the purpose of consumption. Simultaneously, the market is seen as the best mechanism per se to solve the alleged fundamental economic problem between infinite human wants and scarce resources by bringing about an efficient allocation of the latter as well as a just distribution of the incomes generated with them. Consequently, all situations where economic reality deviates from this vision are regarded as allocative or distributive market failures that need to be tackled by policy interventions in order to raise the common good. Hence, the policymaker is seen as an exogenous counterpart to the decentralised market system (Koch 1996, p. 17). It should only be intervened in the given environment, when the market fails to fulfil its task to supply EU citizens with goods in an optimal way. Examining the different theories constituting the equilibrium foundations of EU regional policy, no unambiguous insights into whether allocative as well as distributive regional policy interventions are necessary in the internal European market can be drawn. This is highly dependent on the assumptions and the composition of the model considered. To the exponents of the equilibrium approach, it remains largely an empirical question which of the manifold policy implications of the new theories can have practical relevance for European regional policymakers (Schindler 2005, pp. 129-130). Nevertheless, one important message from the new theories is, that they are facing a trade-off between

¹⁵There would be no equity-efficiency trade-off when the winners of economic integration in the centre-region compensate the losers in the periphery and the additional income is used by them to consume in the centre. But the EU structural funds interventions are clearly allocatively motivated and do not comply to this simple backward and forward transfer of income between the two regions (Pflüger and Südekum 2005, p. 26).

the improvement (allocative efficiency) and the harmonisation (equity) of the living and working conditions of EU citizens (Martin 2008). That is why, there is a huge controversy in the prevalent economic literature on EU regional policy between more market-oriented and more state-oriented economists. They argue about the policy's necessity, its pros and cons especially in terms of the large amounts of money spent and the ambiguous empirical evidence concerning its efficacy (Molle 2007, p. 3).¹⁶ All this often leads economists to the conclusion to conduct rather no regional policy instead of conducting the wrong policy (see, e.g., Berthold and Neumann 2003, p. 20).

3 The non-equilibrium foundations of EU regional policy

The non-equilibrium explanation of EU regional policy does not rest upon such a coherent and closed system of economic theory like the equilibrium one. It is rather a synthesis of different kinds of economic doctrines like Post Keynesian Economics, Austrian Economics, Evolutionary Economics and Complexity Economics which largely reject the deterministic, formal and abstract mathematical approach of equilibrium economics (see, e.g., Berger 2009, pp. 2-3; Boschma and Martin 2010, pp. 4-11; Tieben 2009, pp. 421-535).

Kaldor (1972, pp. 1240-1242) localises the reason for the different approach of non-equilibrium economics in the first seven chapters of Vol. I, Book I of Adam Smith's *Wealth of Nations* (1776). Here, Smith develops "both a theory of economic equilibrium and a theory of economic evolution; and in each of these competition has a key role to play" (Richardson 1975, p. 351).

The non-equilibrium theory of economic evolution discussed by Smith in the first three chapters of Book I deals with the principle of the division of labour. It presents the competition of commodity producers in a market economy as a dynamic process of self-sustained economic growth driven by the economy-wide prevalence of increasing returns to scale as well as related economies of scale and specialisation (Richardson 1975, pp. 351-354). In a circular and cumulative process the division of labour, which originates from the human propensity to exchange things and which is limited by the extend of the market, constantly increases material wealth. It endogenously brings about an increase in labour productivity, in technical improvements and a more extensive use of machinery

¹⁶For a recent survey concerning the effectiveness of EU regional policy see Hagen and Mohl (2009).

in the production process (Schumacher 2012b, p. 62). This in turn is associated with an extension of the market and a still greater volume of exchange which further advances the division of labour and an increase in material wealth.¹⁷

After Smith has discussed the role of money in the fourth chapter, three chapters on the value and price of goods are following. They constitute the theory of economic equilibrium focusing on the harmonising and allocative functions of competition (Chandra 2004b, pp. 60-66). Against the background of his labour theory of value, Smith divides the “value in exchange” of a good into a natural or real price, which is independent of demand solely determined by the amount of labour needed for its production, and a market or nominal price. Depending on demand and supply the market price of a good is fluctuating around its natural price while competition assures that it is eventually gravitating to it. In equilibrium, the market price equals the natural price and the three classes of capital, labour and landowners are remunerated according to their natural, socially optimal and just rates.

As Richardson (1975, pp. 351, 353) as well as Kaldor (1972, p. 1241) point out, today’s modern price theory of static competitive equilibrium, while no longer based upon the labour but upon the subjective theory of value, can be regarded as a formalisation of Smith’s ideas outlined in chapter five through seven of Book I of his *Wealth of Nations*. Yet, as described in the second chapter of this paper, a basic assumption of the equilibrium theory of perfect competition are constant returns to scale in the production of goods, i.e. the particular organisation of industry is taken as given and the economies from the division of labour are assumed to be exhausted (Richardson 1975, p. 353). So the harmonious allocative and distributive consequences of the neoclassical marginal productivity theory of value and distribution are “plausible only so long as Smith’s theory of economic evolution [driven by the general prevalence of increasing returns to scale, P.S.] is left wholly out of account” (Richardson 1975, p. 351). The neglect of the theory of evolution and its consequences is exactly what Kaldor (1972; 1975; 1985) criticises and where he locates the major difference between the explanation of economic interactions in static equilibrium economics and dynamic non-equilibrium economics.

It could now be objected, that there have been attempts to incorporate increasing

¹⁷This principle of circular and cumulative causation is the foundation in all modern theories of CCC offered, e.g., by Nicholas Kaldor, Gunnar Myrdal, Thorstein Veblen, Allyn Young or K. William Kapp (see Berger 2009). Historically, it can even be traced back to the physiocrats (Holt and Pressman 2009, p. 78) and can also be found in the work of other classical economists apart from Smith like Ricardo and Marx (Forstater and Murray 2009, pp. 155-166).

returns to scale into general equilibrium models in the “new” theories discussed in chapter two above (see also Brakman and Heijdra 2004, pp. 1-27; Buchanan and Yoon 1994, pp. 3-13). Besides the introduction of external increasing returns, this culminated in the formalisation of Edward Chamberlin’s (1933) theory of monopolistic competition in the well-known model of Dixit and Stiglitz (1977). Until today, it is the workhorse model in many of the new trade, growth and new economic geography models, which allows to unify a competitive market structure with equilibrium and increasing returns to scale internal to a firm.

But still, this static equilibrium approach, where preferences and production possibilities are exogenously given and do not change in the constrained optimisation problem, is foreign to Smith. In his non-equilibrium theory of economic evolution increasing returns to scale operate economy-wide. They are a macroeconomic and not a microeconomic concept only effective on the firm level or within an industry (Chandra and Sandilands 2005, pp. 465-466). Distinguishing between internal and external increasing returns to scale and related economies of scale in equilibrium economics to explain industrial progress is, as Young (1928, p. 528) argues, only a partial view. Since the concept of economies of scale is tied to alterations in the size of an individual firm or of a particular industry, it is different from the Smithian concept of “economies of specialisation” (Yang and Ng 1998, pp. 1-6). To adequately capture such specialisation economies and thus quantitative as well as qualitative economic change in a market economy, “what is required is that industrial operations be seen as an interrelated whole” (Young 1928, p. 539). In other words, economy-wide increasing returns or specialisation economies between firms and industries must also be considered in the analysis of economic phenomena (Chandra 2004a, p. 795).

To sum up, for Smith and later exponents of CCC theories the role of competition in a market economy is twofold. On the one hand, competition tends to equilibrate demand and supply within a given technological framework, with given preferences and a given industrial, social, cultural, political as well as institutional structure. On the other hand, it simultaneously changes and adapts these parameters to the new opportunities endogenously created by an extension of the market through the division of labour. Hence, Smith views competition as a dynamic activity instead of a static market structure, which is only taking place when the market is not in equilibrium (Chandra 2004b, pp. 62-64).¹⁸

¹⁸See also Backhouse (1990) and Loasby (1990) who describe the shift of emphasis away from a dynamic theory of competition and the firm of the classical economists to the static theory prevalent in

That is why, as Richardson (1975, p. 354) points out,

“Adam Smith [unlike neoclassical equilibrium economists, P.S.] did not appear himself to be in the least troubled by the thought that competition and increasing returns might not be able to coexist...[and] it may therefore be that incompatibility between competition and increasing returns is made to appear ineluctable to the modern theorist by the nature of the model of economic reality in terms of which he habitually thinks.”

Smith’s dynamic view of competition, where firms struggle for survival because they want to undersell one another, coincides with what Morgenstern (1972, pp. 1164, 1171-1174), besides twelve other critical points in equilibrium economics, has seen as a more realistic characterisation of competition in market economies. Taking into account the non-equilibrium or evolutionary view has, in comparison to its static equilibrium counterpart, at least five consequences for the understanding of economic activities in the European internal market and thus for the regional policy of the EU.

First and foremost, the notion of a “general equilibrium”, which is associated with rational utility maximising households and profit maximising firms both facing a constrained optimisation problem and having perfect foresight in an exogenously given environment, becomes irrelevant for the explanation of economic phenomena (Koch 1996, pp. 7-17). When the exogenous factors in the optimisation problem like preferences, technologies, industrial, social, cultural, political as well as institutional structures are subject to constant change from within the economic system itself, an equilibrium point where the system is converging to and which can be deduced from the given data, does not exist at all or only in the short-run.¹⁹ Consequently, the equilibrium economics notion of the market as the best mechanism to solve the fundamental economic problem between scarce resources and infinite human wants by ensuring an optimal allocation of resources and a just distribution of incomes also falls apart (Kaldor 1972, p. 1245). At the same time, neoclassical welfare analysis as a means to evaluate different policy proposals becomes useless (Jovanović 2009, p. 38). It also becomes evident, that the idea that production in market economies takes place for the purpose of consumption is meaningless (see also Dillard 1988). By contrast, the non-equilibrium understanding of the market economy is more realistic, since it emphasises that production takes place for the purpose of money making (see Dillard 1987). From these considerations follows, that economic phenomena

neoclassical economics.

¹⁹That is why, Young (1928, p. 535) and Kaldor (1972, p. 1244) used the term “moving equilibrium” to describe the process of endogenous change in which there is only a tendency towards an equilibrium state but which is never achieved.

such as disparities, crisis, poverty, unemployment, externalities, incomplete information or business cycles can no longer be seen as “market failures” or as deviations of reality from an optimal state of the economy that should actually be in force. Instead, they are the movens of the capitalistic mode of production constantly offering new profit opportunities in the changing economic environment. As such they are simply major and systematic phenomena of how the market mechanism works and evolves (Berger 2009, p. 2).

Second and directly following from the first remark, the non-equilibrium dynamic view is non-deterministic. Future economic developments in the European single market cannot be deduced from the exogenously given data as in the constrained optimisation problem in equilibrium economics. It is rather uncertainty, unpredictability of future events and incomplete information that characterise the world in which economic decisions of firms, households and policymakers with bounded rationality have to be taken (Jovanović 2009, pp. 9-15). Therefore, the economic system cannot be understood as closed but as an adaptive, complex and open system in which endogenous decision-makers follow routines instead of calculating the optimal path before they take decisions (Jovanović 2009, pp. 30-46).

Third, from a non-equilibrium perspective the concept of logical time in equilibrium economics, where the adjustment to an equilibrium position is infinitely fast or is wholly left out of account in the analysis, must be replaced by the concept of historical time (Tieben 2009, p. 422). Actual and future economic outcomes like, e.g., the distribution of economic activity across the European internal market are path-dependent. They highly depend on irreversible economic decisions taken on the local or regional level in the past given the social, cultural, political and institutional environment at that time (Martin 1999, p. 76). For this reason, historical lock-ins and lock-outs might play an important role for the economic development of a region. Moreover, economic decisions taken in the past, such as a regional policy interventions, might suddenly become important for the future economic development of a region. They might just “extend”, “renew” or “create” a successful economic path when the structure of the economic system endogenously evolves over real calendar time.

Fourth, besides the consideration of historical factors, the non-equilibrium perspective opens economics for explanations from other scientific disciplines and thus for the study of “real places”. Since it is not tied to the mathematical solution of a constrained optimisation problem, it is able to incorporate social, political, cultural, geographical and

institutional parameters into the analysis of economic activities of regions in the EU. This makes the non-equilibrium perspective a much richer and more realistic approach to think about regional economic development in the internal European market, because such issues are often wholly left out of account in equilibrium economics due to the fact that they cannot be expressed in mathematical terms (Martin 1999, p. 75).

Finally, the concept of CCC in evolutionary economic geography predicts that agglomeration and divergence but also deglomeration and convergence of economic activities across space could take place at the same time in the European internal market (Witt 2001, p. 3). Similar to the new trade and growth theory as well as the NEG, constantly changing centrifugal and centripetal forces are responsible for either a convergent or divergent economic development of regions in the EU.²⁰ However, it is important to remark that non-equilibrium economists emphasise the predominance of centripetal forces over centrifugal forces and would argue for active policy interventions to improve and harmonise the living and working conditions of the citizens in all regions of the EU (see, e.g., Kaldor 1970; Myrdal 1957). At the same time, they disapprove the notion of an equity-efficiency trade-off enclosed in the equilibrium foundations of EU regional policy empirically as well as theoretically because of the static character and the unrealistic, deductive models it relies on (see, e.g., Martin 2008). Although the “new” equilibrium theories, as mentioned in part two above, explicitly present their work as formalisations of the ideas of the forerunners of non-equilibrium economics, the incorporation of these concepts into their theories, as Schumacher (2012a) in a similar vein argues, must thus be seen as a doxographic reconstruction to fit them into a Whig history of equilibrium theory.²¹

4 A different understanding of EU regional policy and different policy implications

The five consequences of the non-equilibrium perspective just outlined also affect the explanation of EU regional policy and the policy conclusions that need to be drawn in

²⁰The coexistence of convergence and divergence is also empirically observed in the internal European market. Economic disparities among the member states have decreased but increased between their regions in the course of European integration (see, e.g., Martin 2005; Midelfart-Knarvik and Overman 2002; Molle 2007, pp. 23-35; Puga 2002).

²¹In other words, the ideas of non-equilibrium economists have deliberately been misinterpreted by neo-classical economists to assimilate them into general equilibrium models.

order to improve and harmonise the living and working conditions of EU citizens in the internal European market.

Beginning with the explanation, it became evident in the previous part that market failures can no longer be the reason for why EU regional policy is conducted by European policymakers. Moreover, EU policy interventions can no longer be seen as exogenous counteractions to alleged failures taking place in the market. From a non-equilibrium economics perspective they must rather be understood as an endogenous, changing and active part of EU politics. Policy endogeneity implies that the structural funds interventions can only be explained in light of the interests pursued by the member states as the entities responsible for European policy. Since they strive for economic power and political influence in the context of international economic competition (Dunn 1994, pp. 304-306), the EU member states try to use their different policies to shape the competitive conditions among labour, capital, land and nation states according to their interests.²² They do this not only within the European single market but also in relation to the rest of the world. Against this background, it is clear that EU regional policy can only be adequately understood from a politico-economic and historical perspective. As discussed in part three above, the consideration of such explanatory variables is possible only within a non-equilibrium economics framework.

Looking into the history of EU regional policy, which was always closely tied to the process of European integration, it becomes clear that the member states used EU regional policy and the structural funds as a subject of negotiation in the different phases of the deepening and enlargement of the EU.²³ Intended to promote peace through the establishment of economic interdependence among the European nation states after the devastating experiences of the First and Second World War, the subsequent deepening and enlargement of the EU especially aimed at the creation of an international influential economic and currency area mainly vis-à-vis the USA (Thirlwall 2000a, p. 9). At the same time, this area should enable the current and prospective member states to broaden

²²See, e.g., Chang (2003; 2007) as well as Porter (1998) who discuss the key role of governments in planning and directing economic conditions of their own countries in international competition. Similarly, Toner and Butler (2009) discuss this for Northeast Asia in connection to CCC theory.

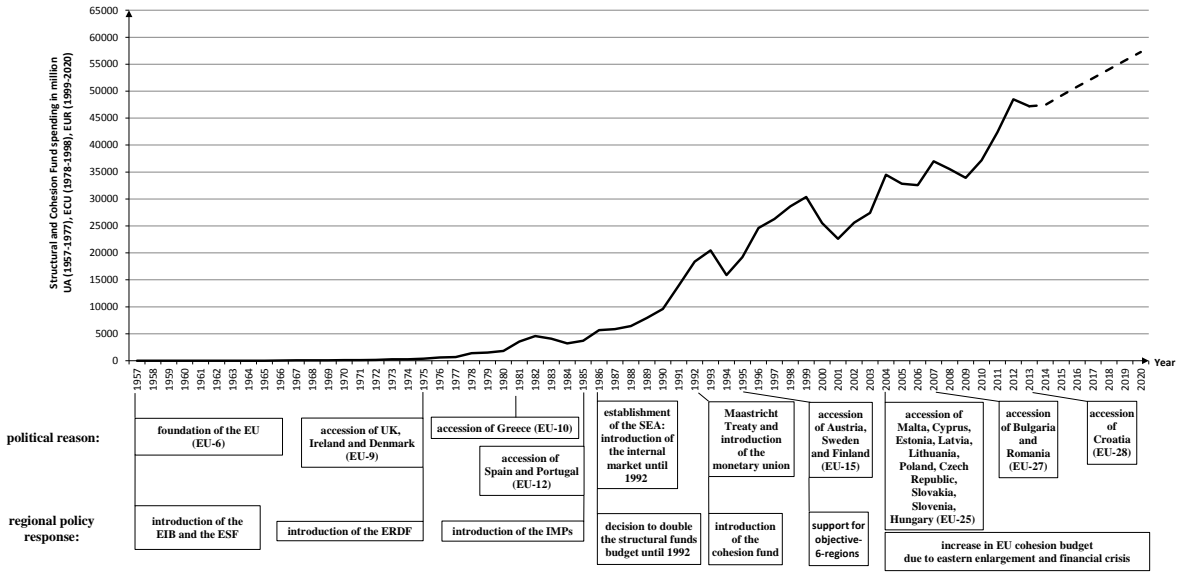
²³Numerous studies prove this “political bartering” thesis. They show that the amount of the EU budget, its distribution among the different policy fields as well as the regional commitments and actual payments of EU regional policy spending are politically determined and are only to a minor extend aligned with the economic needs of regions in the EU (see, e.g., Blankart and Koester 2009; Bodenstein and Kemmerling 2011; Bouvet and Dall’erba 2010; Dellmuth 2011; Kauppi and Widgrén 2004).

the internal market and the profit opportunities for the firms of their own countries. In this regard, regional policy promises to pay were always employed by EU member states as a means of compensation to convince potential candidate countries to join the internal market and later the EMU. The policymakers of the countries involved in these negotiations were aware that a larger market would increase economic competition and generate countries and regions losing from European integration. To establish the EU and later the EMU, to keep both together, to further the political union and to keep the losing countries as a vent for the outlet of the firms of the stronger countries, it therefore was necessary to “buy” the political agreement of the losing countries and regions to the European project (Heinelt et al. 2005, p. 19). That is why until today all EU member states are interested to a certain degree, to improve and to harmonise the living and working conditions of EU citizens in all regions of the EU with the help of EU regional policy.

Figure 1 on the following page depicts the compensation function of EU regional policy just outlined. With the conclusion of the 1957 Treaty of Rome by Germany, Italy, France and the Benelux countries the European Investment Bank and the ESF were founded. Both institutions were concessions to Italy, whose Mezzogiorno was the only region economically lacking behind apart from otherwise relatively equal regions of the six founding members (Dedman 2010, p. 93). The introduction of the ERDF in 1975 was due to the enlargement of the EU by the United Kingdom (UK), Denmark and Ireland in 1973. Despite the demand for financial compensation due to relatively high payments into the EU budget, the UK as well as Ireland insisted on financial support for their underdeveloped regions likely to lose the increased intra-European locational competition arising from the accession to the common European market (Schindler 2005, p. 36). Subsequent increases in the ERDF budget can be ascribed to the enlargement of the EU by Greece in 1981, Spain and Portugal in 1986 and Austria, Sweden and Finland in 1995. Greece demanded financial compensation to agree to the accession of Spain and Portugal, since it feared increasing competition in its manufacturing and agrarian sector from these countries, while Sweden and Finland could realise the introduction of financial compensation for their thinly populated northern objective-6-regions (Rolle 2000, pp. 138-139, 143-144).

The compensation function also holds true for the ESF and the ECF introduced in 1957 and 1993, respectively. Originally introduced to intervene into the European labour market, the ESF was aligned to EU regional policy in 1986 with the establishment of the Single European Act (Heinelt et al. 2005, pp. 58-61). Its budget was constantly increased

Figure 1: Compensation function of EU regional policy



Source: own depiction following Rolle (2000, p. 146). Structural and cohesion fund data in current prices from European Commission (2009, pp. 77-82, 2013, 2014a) for 1957-2006, 2007-2013 and 2014-2020.

together with the ERDF budget for the same reasons as the means of this fund were increased. The ECF, which supports member states with less than 90% of the average per capita income of the EU, was established as a concession to Spain, Portugal, Ireland and Greece, which threatened to vote against the introduction of the EMU within the framework of the Maastricht Treaty signed in 1992 (Schindler 2005, pp. 44-45). Later enhancements of the structural and cohesion fund budget in the 1990s and 2000s were due to the severe economic differences and problems which accrued with the eastern enlargement in 2004, 2007 and 2013 and the financial crisis in 2008. Because of the relative economic backwardness of the central and eastern European countries, the old EU-15 members were actually sure to lose large amounts of structural funds payments from 2007 onwards. To include the new member states without changing the financial position of the current member states too much, the structural funds budget was further increased (Feld 2004, pp. 28-30). This applies until today as a comparison of total structural funds spending in each member state between 2007-2013 and 2014-2020 reveals. Absolute spending has increased in each country but the percentage share of total structural funds spending in each member state, with some exceptions, has remained almost constant

(European Commission 2014b).

Besides the different explanation of EU regional policy from a non-equilibrium perspective, the policy recommendations drawn from the different theories outlined in chapter two of the paper do change when the economy is understood as an ever changing system continuously self-creating new variety and complexity of economic structure and behaviour of firms, households and policymakers in a feedback process between them.²⁴ As outlined in the beginning of this section, EU regional policymakers play a major role in setting the conditions of economic competition in the European single market. However, an equilibrium or optimum of that system concerning the allocation of the factors of production and the distribution of incomes is simply not computable or predictable in a world with uncertainty, incomplete information and bounded rationality of economic decision-makers. The data necessary to do so are just accruing in the evolutionary process of European integration (Koch 1996, pp. 8-11). In terms of EU regional policy this implies that the success or failure of any policy measures to be taken cannot be predicted *ex ante* to their implementation. At the same time, following Schumpeter (1912), their success or failure crucially depend on the behaviour of policymakers, entrepreneurs and households who are willing to take economic risks in an uncertain environment. In the end, though, in this feedback process between economic actors and their changing environment, it remains a question of competition in the European single market and the world market whether a regional policy intervention will be successful in terms of the defined policy-goals. Economic competition just “discovers” the degree of success of a regional policy measure, i.e. it is just possible *ex post* to determine whether it was the right one to improve and harmonise the living and working conditions of EU citizens.

Since the future economic development cannot be predicted in advance, the selection of certain regional policy measures can be done best in a democratic manner against the background of the values and norms of a society at a certain point in time (Wohlgemuth 2003). Hence, EU regional policy-making becomes a process of trial and error and EU regional policymakers are adapters instead of optimisers (Metcalf 2003, pp. 179-183). Since they must always legitimate their regional policy in a democracy, they constantly have to adjust it according to their experience and the current economic, political, institutional, geographical, cultural and social conditions and prospects in the European

²⁴ Although one is losing formal welfare analysis as a means for evaluating policy proposals when explaining EU regional policy with politico-economic categories from a non-equilibrium perspective, this does not mean to have to refrain from normative policy statements (Lammers 1999, p. 26).

internal market (Koch 1996, p. 17). That is why, in an evolutionary world, rigorous policy evaluation as well as monitoring of regional development in the European internal market are necessary in order to learn from past experiences and to adopt EU regional policies adequately to the changing environment (Lambooy and Boschma 2001, p. 119).

Moreover, the spatial system with its cultural, political, technological, social, historical and institutional elements sets boundaries to EU regional policymakers and the new economic potential or variety they are able to create in a region. Accordingly, EU regional policy interventions should not be “picking the winners” or “one size fits all” policies (Boschma 2009, pp. 16-19). Instead, they should always be context and region specific to increase the probability of economic success. At the same time, though, they should not only be bottom-up policies but also top-down approaches to identify regional as well as macroeconomic needs in the EU. The latter is especially important for the stability of the EMU which requires a certain degree of economic homogeneity for its perpetuation. Direct currency devaluations to increase the competitiveness are no longer possible in EMU member states economically lacking behind. So internal structural changes in these countries need to take place in order to achieve economic convergence within the EMU and to circumvent a breaking apart of the eurozone. However, these structural changes need to be coordinated by European policymakers in order to prevent a race to the bottom competition in the EU. The lasting financial crisis clearly shows the need for extensive financial transfers from the richer to the poorer EU member states and regions, the importance of EU wide policy coordination as well as an adequate regulatory policy. Otherwise, as the non-equilibrium principle of CCC predicts, economic activity is mainly concentrating in the richer countries and regions threatening the cohesion of the EMU (see Thirlwall 2000a;b).

In summary, to harmonise and improve the living and working conditions and thus to keep the EMU together, an active mixture of competition policies, EU wide coordination of policies and economic solidarity among EU member states is needed in order to successfully compete with other economic blocs. From an evolutionary point of view, it is important to see economic phenomena, which are termed as market failures in equilibrium economics, as new profit opportunities and incentives for regional structural change. Thus, EU regional policymakers should use policy measures that create incentives for economic evolution and that foster economic competition, the major driving force of evolution. Additionally, they should diversify among these measures in order to increase the probability of their economic success. This can be done best by stimulating the development and dif-

fusion of new variety, i.e. of process, product, cultural, social, geographical, institutional and technological innovations, in the whole European single market but especially in the regions lacking behind in their economic development. According to Boschma (2009) this could be done by the facilitation of access to venture capital or capital markets altogether, the improvement of access to all kinds of economic information, the investment in infrastructure like the internet, public transportation, road and rail construction, power networks or health care, the improvement of technological and innovative capacities in the form of universities, research and R&D institutions, the support of networking between such knowledge-institutions and firms and the investment in education, lifelong learning and creativity.

5 Conclusion

In this article it was argued, that the prevalent equilibrium explanation of EU regional policy, based on the notion of market failure, is inadequate to understand its historical development and actual design. Resting upon the static neoclassical theory of value and distribution, which implicitly assumes that production in today's market economies takes place for the purpose of consumption, from a market failure perspective policy interventions by the EU are only necessary when competition or the market mechanism fails to bring about an optimal allocation of the factors of production and a just distribution of incomes generated with them. This idea of the existence of a "natural equilibrium" in the internal European market can be traced back until Adam Smith's *Wealth of Nations*, but was shown to be just one part of the role competition plays in his magnum opus. The other part is about the creative functions of competition, which constantly change the structure and the technological conditions of an economy in a circular and cumulative way. The driving force of this dynamic development process are economy-wide increasing returns to scale and related economies of scale and specialisation, which can be exploited to a growing extent when the size of the market is rising over (real calendar) time.

In contrast to the equilibrium perspective on EU regional policy, that either completely neglects or only insufficiently incorporates this evolutionary part of competition in a market economy into its models by distinguishing internal and external increasing returns to scale, the non-equilibrium perspective emphasises it and claims the equilibrium perspective to be irrelevant for economic explanations. Since the economy is constantly changing the notion of a general equilibrium, the idea of an optimal allocation of production factors

and a socially optimal or just distribution of incomes becomes meaningless. Hence, the idea that production takes place for the purpose of consumption also falls apart. Market failures do not exist, because all things that appear as market failure from an equilibrium perspective like unemployment, low mobility of labour or capital, financial crisis or economic disparities between regions must be seen as inherent patterns brought about by the market itself. Moreover, uncertainty and incomplete information instead of perfect foresight and complete information, historical instead of logical time, routines and bounded rationality instead of optimisation behaviour, path dependence, circular and cumulative causation as well as political, cultural, institutional, geographical and social factors are the major concepts and parameters that need to be studied within an evolutionary analysis of EU regional policy and the study of real places. Especially the latter parameters are endogenously changing and are not just exogenously given and fixed data to a constrained optimisation problem.

Taking over an evolutionary perspective, it becomes clear that EU regional policymakers are actively shaping the conditions of economic competition in the internal European market. Their policy interventions can only be explained from a politico-economic perspective as a means of negotiation in the different phases of the deepening and enlargement of the EU. EU regional policymakers must be aware of this evolutionary environment within they take their decisions. To improve and harmonise the living and working conditions, which is a major prerequisite to maintain the project of European economic and monetary integration in a world with increasing international competition, it is important that EU policymakers stimulate innovation and structural change with the help of manifold regional policy measures. They should especially concentrate their efforts on the European regions lacking behind in their economic development. The selection of adequate policy measures in a world where success or failure of a policy intervention cannot be predicted in advance, must be decided in a democratic process against the background of current values and norms in the European society. Moreover, the policy measures to be taken should be based on the experience of regional policymakers, should always be context and region specific and should be accompanied by rigorous economic policy evaluation so that policy-learning could help to choose adequate regional policy measures in the future.

Finally, it should be stressed, that the evolutionary perspective on EU regional policy indeed delivers a much richer and more realistic analysis and explanation of regional economic development and policy in the internal European market than the equilibrium economics perspective. Hence, economic geographers proper are right when they criticise

new geographical economists for their abstract, deductive and unrealistic models and their inability of adequately explaining economic development and policy interventions in the European internal market (see, e.g., Martin 1999). This is especially true, since it is not a question of formalism and alleged internal consistency, as equilibrium economists like, e.g., Overman (2004, p. 501) remark, but a question of correctly explaining what is happening there. However, it must be criticised that evolutionary or non-equilibrium economics does not completely get away from the market failure thinking of equilibrium economics. Especially, Jovanović (2009) is arbitrarily mixing equilibrium and non-equilibrium concepts in his analysis of evolutionary economic geography in the EU. Although Boschma and Martin (2010, p. 31, note 2) are criticising Jovanović (2009) for doing so, Lambooy and Boschma (2001), for example, themselves do not reject the existence of the concept of market failure. Thus, it appears that they are also victims of the “barter illusion” (Dillard 1988) existing in equilibrium economics. When exponents of evolutionary economics characterise it as a unique and separate approach this seems at least problematic (see, e.g., Boschma and Frenken 2006, pp. 273-274). To really become a unique and separate approach not only improving and extending equilibrium economics, the rejection of the idea of market failure, which often gleams through in the evolutionary literature, is a fundamental prerequisite. This would allow for a much more realistic understanding of today’s market economies, which are definitely not the harmonious consumption economies presumed in equilibrium economics.

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