

Heise, Arne; Thieme, Sebastian

Working Paper

What happened to heterodox economics in Germany after the 1970s

ZÖSS Discussion Paper, No. 49

Provided in Cooperation with:

University of Hamburg, Centre for Economic and Sociological Studies (CESS/ZÖSS)

Suggested Citation: Heise, Arne; Thieme, Sebastian (2015) : What happened to heterodox economics in Germany after the 1970s, ZÖSS Discussion Paper, No. 49, Universität Hamburg, Zentrum für Ökonomische und Soziologische Studien (ZÖSS), Hamburg

This Version is available at:

<http://hdl.handle.net/10419/110348>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



Universität Hamburg
DER FORSCHUNG | DER LEHRE | DER BILDUNG

Arne Heise/Sebastian Thieme

What happened to heterodox economics in Germany after the 1970s

ZÖSS
ZENTRUM FÜR ÖKONOMISCHE
UND SOZIOLOGISCHE STUDIEN

Discussion Papers
ISSN 1868-4947/49
Discussion Papers
Hamburg 2015

What happened to heterodox economics in Germany after the 1970s

Arne Heise/Sebastian Thieme

Discussion Paper
ISSN 1868-4947/49
Zentrum für Ökonomische und Soziologische Studien
Universität Hamburg
April 2015

Impressum:

Die Discussion Papers werden vom Zentrum für Ökonomische und Soziologische Studien veröffentlicht. Sie umfassen Beiträge von am Fachbereich Sozialökonomie Lehrenden, NachwuchswissenschaftlerInnen sowie Gast-ReferentInnen zu transdisziplinären Fragestellungen.

Herausgeber/Redaktion:

Zentrum für Ökonomische und Soziologische Studien (ZÖSS)
Kathrin.Deumelandt@wiso.uni-hamburg.de
Fachbereich Sozialökonomie
Universität Hamburg – Fakultät WISO
Welckerstr. 8
D – 20354 Hamburg

Download der vollständigen Discussion Papers:
<http://www.wiso.uni-hamburg.de/fachbereiche/sozialoekonomie/forschung/zoess/publikationen/discussion-papers/>

Abstract

In the context of ongoing criticisms of the lack of pluralism in economics, the present article aims to discuss the development of 'heterodox' economics since the 1970s. Following Lakatos's concept of scientific research programs (srp), and concentrating on the situation in Germany, the article will discuss classifications of economics, and will specify the understanding of diversity in the light of 'axiomatic variations' of the economic mainstream. This will form the basis for the subsequent description of the development of heterodoxy in Germany, with special reference to the founding of new universities and the reform movements in the 1970s. It can be shown that the heterodox scene flourished in this period, but that this pluralization remained fragmented and short-lived; by the 1980s at the latest heterodoxy was again on its way to marginalization. The history of heterodoxy in Germany thus presents itself as an unequal 'battle of the paradigms,' and can only be told as the story of a failure.

Keywords: Heterodox economics, pluralization, philosophy of science, sociology of science

JEL code: A 11, B 20, B 50, Z 13

1. Introduction*

In 1992 a group of economists published a ‘Plea for a Pluralistic and Rigorous Economics’ in the *American Economic Review* which was also signed by several Nobel laureates (including Franco Modigliani, Paul Samuelson and Jan Tinbergen). The text states:

We the undersigned are concerned with the threat to economic science posed by intellectual monopoly. Economists today enforce a monopoly of method or core assumptions, often defended on no better ground than it constitutes the “mainstream.” Economists will advocate free competition, but will not practice it in the marketplace of ideas. Consequently, we call for a new spirit of pluralism in economics, involving critical conversation and tolerant communication between different approaches. Such pluralism should not undermine the standards of rigor; an economics that requires itself to face all the arguments will be a more, not a less, rigorous science. We believe that the new pluralism should be reflected in the character of scientific debate, in the range of contributions in its journals, and in the training and hiring of economists. (Abramovitz 1992)

Although the ‘mainstream’ criticized here as an intellectual monopoly is not explicitly named, there is no doubt that the authors were alluding to the ‘dynamic stochastic general equilibrium model’ (DSGE), usually referred to as ‘neoclassical economics.’ This model not only provided the foundation for the vast majority of all research articles, but also constituted the canon in the widely used textbooks of (mainly) American authors (e.g. Mankiw’s *Introduction to Economics* and Samuelson/Nordhaus’ *Economics*). There are two interesting things about this ‘plea.’ Firstly, it asserts the dominance of a scientific paradigm in economics (‘intellectual monopoly’), though this is occasionally challenged with regard to numerous ‘axiomatic variations’.¹ Secondly, it deplores this dominance, an attitude which is also not universally shared. Olivier Blanchard (2008), for example, quite recently described the state of economics as ‘good,’ primarily because a consensus model had been successfully established within the DSGE paradigm. This seemed not only to settle the long-lasting quarrel between the ‘Keynesians’ and the ‘neoclassical economists’, but also provided the basis for an economic policy allowing a historically unprecedented stability of growth (‘Great Moderation’; cf. Summers 2005). In the terms of the much-quoted philosopher of science Thomas Samuel Kuhn, a ‘normal science’ had developed, and economics had thus attained the status of a ‘mature’ science. According to this understanding, pluralism

* The present paper is in large part based on work carried out as part of a research project funded by the Hans Böckler Foundation, ‘Ökonomen und Ökonomie’, which is soon to be published: Heise et al. (2015). Thanks also go to Gerd Grözinger for his helpful comments. The late Fred Lee, former editor of *The American Journal of Economics and Sociology*, accompanied the project with great interest – it is to him that the article is dedicated.

¹ Cf. especially Colander (2000) and Colander/Holt/Rosser (2004).

is a sign of immaturity or of a revolutionary paradigm shift within a science, while monism is a mark of maturity and ‘normality’ in the business of science.

Since the last global financial crisis, everything has changed. The self-assurance of mainstream economics has gone: within the discipline, there are calls for changes,² while external critics ask why the crisis was not predicted, and why there are no ready-made recipes for dealing with crises on the scale of the latest global financial crisis and the resulting European debt crisis.³ Critics are calling into question the universal validity of a paradigm that is ontologically defined by an optimistic faith in self-regulation, and is almost completely fixated on allocative questions, instead of calling into question the conditions and risks of stability.⁴ Would economics not have been better served – and, of course, the national economies affected by the instability – if the scientific community had accorded more space, recognition and respect to those theorists who were suddenly ‘rediscovered’ after the crisis, to help to understand what had happened? These include the post-Keynesians Hyman P. Minsky and Wynne Godley, who can be categorized as heterodox, but also, of course, the primary theorist of instability and disequilibrium, John Maynard Keynes.⁵

The aim here is not to argue for the pluralization of economics on the basis of the theory and philosophy of science;⁶ the plea for pluralization in 1992, just like numerous other

² Cf. amongst others Kirchgässner (2009), Blanchard/Del’Arricia/Mauro (2010), Caballero (2010), Galbraith (2013), Kirman (2010), Pessaran/Smith (2011), Stiglitz (2009a; 2009b; 2011; 2014).

³ Particular prominence was attained by the question the Queen of England put to her economists in the British Academy of Science: why, she asked, was there not sufficient warning of the global financial crisis? (cf. Besley/Hennessy 2009). But German Chancellor Angela Merkel expressed similar criticisms at the 5th Lindau conference of Nobel laureates in economics: “*Now we are emerging from years in which – I want to say this very carefully, in such learned company – one hasn’t always had the impression that economics already knew about everything that was going to happen to us. Of course one can now ask why some of the things that we assumed in our statistics and prognoses – not just we as politicians, but also in highly expert organizations – were so far removed from the reality that then came about. (...) In any case one does not have the impression that the majority made the right prognoses.*” (Merkel 2014; own translation).

⁴ Robert Lucas expressed this as follows in his ‘Presidential Address’ to the American Economic Association: “*The question I have addressed in this lecture is whether stabilization policies that go beyond the general stabilization of spending that characterizes the last 50 years, whatever form they might take, promise important increases in welfare. The answer to this question is ‘No’: The potential gains from improved stabilization policies are on the order of hundredths of a percent of consumption, perhaps two orders of magnitude smaller than the potential benefits of available ‘supply-side’ fiscal reforms.*” (Lucas 2003: 11).

⁵ Both Hyman P. Minsky and Wynne Godley – and John Maynard Keynes even more so – suddenly received a great deal of attention after the outbreak of the global financial crisis, attention that had never been paid to them before, except in the heterodox part of the community of economists; cf. e.g. Leijonhufvud (2009), Posner (2009), Skidelsky (2009), Sell (2010), Kurz (2011), Palley (2011), Heise/Hentrich (2012), Schlefer (2013). In 2011, Minsky’s works were published in German translation for the first time: Minsky (2011).

⁶ The list of studies dealing with this is long. To give a small selection: Davis (1994), Salanti/Screpanti (1997), Backhouse (2001), King (2002a), Kellert/Longino/Waters (2006), Heise (2007).

memoranda and appeals published by academics and students since then,⁷ is sufficient indication of the lack of plurality and the continued existence of a monistic consensus in the community of economists. Instead, the central question will be why the state of pluralization that was apparent in surveys of economists at the beginning of the 1980s,⁸ after the universities in Germany had opened up to critical, heterodox approaches during the reforms and the founding of new universities from the mid-1960s, was not maintained or indeed expanded – e.g. when many faculties of economics were effectively re-founded at the East German universities after German reunification in 1990.⁹ To do this, we need to briefly describe, in section 2, the concept of scientific plurality used here, in order to be able to distinguish between ‘axiomatic variation’ and ‘genuine plurality’. This will also allow us to categorize other terms often used in this context: ‘mainstream’, ‘orthodoxy’, ‘dissenter’ and ‘heterodoxy’. In section 3 we trace the paradigmatic development of economics in Germany (in light of the object of this study, pluralism), and its position in the universities, in the institutional context of changing structures of university governance. The focus, then, is exclusively on the academic discipline of economics, as represented by professorial positions at public universities.¹⁰ In section 4 we will seek explanations for this development in a Bourdieuan analytical framework (cf. Bourdieu 1990; 1991). Section 5, finally, gives a brief conclusion.

2. Plurality versus variation

From a philosophy of science perspective, the concept of ‘plurality’ or ‘pluralism’ is opaque. Sometimes there is talk of a plurality of methods, sometimes of theoretical or paradigmatic pluralism. Following the concept of pluralism found in critical rationalism, and the philosophy of science principles of the theorists of pluralism, Imre Lakatos (1974) and Paul Feyerabend (1975), plurality is to be understood here as a multitude of paradigms, in the sense of a ‘battle of the paradigms’ for a better interpretation or

⁷ The list of relevant appeals is long. In 2011, Swiss lecturers and researchers went public with an appeal stating that ‘Research and teaching in economics, finance and management should be modernized, with the aim of better serving the common good’ (Auroi et al. 2011). In the same year, the ‘Baseler Manifest für ökonomische Aufklärung’ (Basel Manifesto for Economic Enlightenment) (Chesney et al. 2011) was published by the Centre for Religion, Economy and Politics in Basel. And in 2012 the MeM-Denkfabrik für Wirtschaftsethik published an appeal with the title ‘For a modernization of the economy’ (cf. Thielemann et al. 2012). There are also numerous appeals from students, such as the ‘Petition Autisme Economique’ in 2000, ‘opening up economics’ by the Cambridge 27 in 2001, and the latest appeal, ‘An international student call for pluralism in economics’ by the International Student Initiative for Pluralism in Economics (2014).

⁸ In a survey of academic economists in 1981, 54% stated that they were against neoclassical monism, while only 46% regarded this idea as reasonable (cf. Frey/Humbert/Schneider (2007)).

⁹ A new survey at the beginning of the 2000s showed that 80% of the economists surveyed now based their views on neoclassical economics – and these were significantly more young economists than old ones close to retirement (cf. Frey/Humbert/Schneider 2007). A similar development can also be observed for the USA, however; cf. Colander/Klamer (1987) und Klamer (2007: 230).

¹⁰ Private universities, the first of which were established in the mid-1980s, cannot be taken into consideration here. This is because of the limited access to reliable data, but also because of the completely marginal influence they have had so far in Germany. Universities of applied sciences (Fachhochschulen) are not examined because they are not authorized to award doctorates and therefore cannot contribute to the reproduction of scientific paradigms.

approximation of reality.¹¹ Using Lakatos's scientific research program (srp)¹² as a frame of reference, the following dimensions of classification can be described: (cf. Tab. 1): 1) a particular methodology, which is regarded as acceptable (and therefore scientific); 2) in epistemological terms, it is possible to identify certain core assumptions (axioms) underlying the formation of models; 3) a 'negative heuristic', according to which the postulates of the research program, which have been derived from the core assumptions, are not (allowed to be) called into question.

The DSGE mainstream – which is made up of new classical macroeconomics and neo-Keynesianism¹³ – is unanimously based on the core assumptions that characterize the paradigm of social exchange theory. These are rationality, ergodicity and substitutionality (cf. Davidson 1984), the exclusive acceptance of a formal mathematical-deductive, positivist reductionism (cf. Lawson 2006). After the 'empirical turn' of the last two or three decades, these have been combined with sophisticated micro- and macroeconometrics, or with experimental arrangements (cf. Schmidt/ aus dem Moore 2010), such as are familiar from the leading natural sciences (physics and chemistry). The postulate of stability and optimality (Walras's law), which is implemented a priori in the core assumptions, serves as a 'model solution,' and thus functions as a marker of a negative heuristic. The apparently very different model prognoses of new classical macroeconomics (hyper-balanced and hyper-stable) on the one hand, and of standard and neo-Keynesianism (unbalanced, open to intervention) on the other hand are based on changes to assumptions in the 'protective belt' (e.g. about the speed of adjustment, the rigidity of prices and quantities, the formation of expectations etc.), but do not actually point to a different paradigmatic origin of the two schools of theory.¹⁴

Criticism of the core assumptions of the mainstream is occasionally answered with the argument that these are still valid for the DSGE model used in education and training, but not for the model used in research. The latter, it is argued, has long since incorporated approaches from behavioral economics, neuroeconomics or the economics of complexity, and assumptions of, for example, limited rationality. Since the proponents

¹¹ Kapeller (2012: 107ff.) describes paradigms or economic models as 'idealizations', 'fictions', 'heuristics' or 'metaphors.'

¹² For the problems involved in translating Lakatos's concept to economics, see Cross (1982). For an overview of the discussion on the application of philosophy of science concepts to economics, see Drakopoulos/Karayiannis (2005).

¹³ Combining (neo-)Keynesian and neoclassical models in a single paradigm may sound strange to some readers, but will hopefully become plausible when discussed in more detail below. As Davidson (1992; 2005) has shown, placing these in the same paradigm highlights the unsuitability of the use of the term 'Keynesian' for neo-Keynesian models (which can thus be seen as fraudulent labeling).

¹⁴ Consequently, both approaches can be found in modern textbooks, with a distinction being made between short term (neo-Keynesian model) and long term (neoclassical model); cf. e.g. Abel/Bernanke (2005); Blanchard/Johnson (2013). Especially noteworthy is information economics, which also shares the core assumptions and methodology of the mainstream, but nonetheless rejects the ideal of stability and optimality as a negative heuristic. This apparently inconsistent finding is not based on the proof of deductive weaknesses in the theoretical derivation of the postulates of stability and optimality, but in the special emphasis placed on the distribution of information to economic subjects (who are no longer permitted to be seen as representative agents). This is raised to the rank of a – divergent – core assumption.

of these approaches – sometimes referred to as ‘dissenters’, sometimes as the ‘periphery’ – accept the (often methodological) limitations of the mainstream, and (observing the ‘negative heuristic’) do not venture to voice any fundamental criticism of the mainstream as a ‘model solution’,¹⁵ they are recognized by the mainstream,¹⁶ and occasionally even held up as the dynamic front line of mainstream research (cf. Colander/Holt/Rosser 2009).¹⁷ The same does not apply to those dissenters within the mainstream who share its core axioms and the optimistic belief in stability and optimality, but not the methodological requirements of a rigorous formal deductivism. The economics of order (Ordnungsökonomik), but also the ‘Austrian school,’ based on the work of Hayek, are largely marginalized as worthy, but methodologically weak and no longer up-to-date (cf. Schmidt/aus dem Moore 2010, p. 170 ff.).

¹⁵ ‘Loyalty’ to the mainstream is attested either by refusing to generalize the proof one has just given of the untenability of certain assumptions (mostly the assumption of rationality) (cf. Smith 2002, p. 505), or by explicitly stating that this is not an alternative to the dominant mainstream, but simply an addition (cf. e.g. Hermann-Pillath 2013: XVIII).

¹⁶ This means, primarily, that representatives of these approaches are able to publish their work in the major mainstream journals (which are, in turn, part of the economic capital of a paradigm).

¹⁷ Both Kuhn’s ‘paradigm’ and Lakatos’s ‘scientific research programs’ are terminologically ambiguous. Here I wish to understand the concepts as efforts to explain the economy as a whole, in which all aspects of economics are embedded – theories of the labor market, distribution and growth, as well as theories of foreign trade, money or finance. From this perspective, however, it seems questionable whether, for example, behavioral economics or the economics of complexity actually constitute independent paradigms, or whether they are just partial theories, which may in some cases have connections to various paradigms.

Table 1: Classification of economic paradigms

Core assumptions	Methodology	Heuristic	Paradigm	Theoretical school
- Assumption of rationality - Assumption of ergodicity - Assumption of substitutionality	Formal mathematical deductive, positivist reductionism + highly developed empiricism/experimentalism	Acceptance of the stability of market clearing as a 'model solution'	DSGE	- New classical macroeconomics - Neo-Keynesianism - Standard Keynesianism
Questioning of some of the core assumptions	Formal mathematical deductive, positivist reductionism + highly developed empiricism/experimentalism	Acceptance of the stability of market clearing as a 'model solution'	DSGE dissenters	- Behavioral economics - Neuroeconomics - Economics of complexity - Evolutionary economics
- Assumption of rationality - Assumption of ergodicity - Assumption of substitutionality	Rejection of formal mathematical deductive, positivist reductionism	Acceptance of the stability of market clearing as a 'model solution'	DSGE dissenters	- Economics of order - Austrian school - Critical neoclassical economics
- Assumption of rationality - Assumption of ergodicity - Assumption of substitutionality - Assumption of asymmetric distribution of information	Formal mathematical deductive, positivist reductionism + highly developed empiricism/experimentalism	Rejection of the stability of market clearing as a 'model solution'	Dissenters/heterodoxy	- Information economics
Questioning of some of the core assumptions	Acceptance of formal mathematical deduction + narrative analysis	Rejection of the stability of market clearing as a 'model solution'	Heterodoxy	- Post-Keynesianism - Social economics/social-economic institutionalism - Regulation theory/Marxism - Historical school
- Assumption of rationality - Assumption of ergodicity - Assumption of substitutionality	Formal mathematical deductive, positivist reductionism + highly developed empiricism/experimentalism	Rejection of the stability of market clearing as a 'model solution'	Heterodoxy	- Neo-Ricardianism

Heterodoxy is characterized by the rejection of some (or all) of the mainstream axioms, methodological openness to less formal, narrative deductions and inductive techniques, and, consequently, the repudiation of the stability and optimality of the market coordi-

nation solution (repudiation of Walras's law¹⁸). Theoretical schools that can undoubtedly be regarded as heterodox include post-Keynesianism, neo-Marxist regulation theory, theories of social economy, and, if it has not already died out, the non-axiomatic historical school. Neo-Ricardianism, which goes back to Piero Sraffa, also conceives itself as heterodox, since its proponents reject the mainstream postulate of stability and optimality, while nonetheless accepting the research methodology and core axioms of the mainstream. This apparently inconsistent result can be explained by the fact that the neo-Ricardians, in the so-called Cambridge Capital Controversy (CCC), provided the proof that the stable equilibrium solutions based on the core assumptions of the DSGE mainstream, which are also shared (or at least not called into question) by the neo-Ricardians, are only valid in very limited circumstances.¹⁹ In short, this rocked the entire deductive foundation of the mainstream – but without offering any plausible alternative.

The dual classification into orthodoxy/mainstream and heterodoxy/non-mainstream has the advantage of allowing clear distinctions between model-theory-based variations within a paradigm (i.e. intraparadigmatic plurality, which can also encompass the so-called 'dissenters') and interparadigmatic plurality. Heuristics turn out to be a key point of differentiation: only those models and theories that do not question the heuristic of the DSGE – i.e. the postulate of stability manifested in Walras's law as a 'model solution' – are orthodox/mainstream or are accepted by the mainstream, and only those models and theories that explicitly reject this heuristic can be regarded as heterodox/non-mainstream. In this sense, real plurality, in contrast to 'axiomatic variation,' means the acceptance of all heuristics – orthodox and heterodox – that are based on rigorous modeling, which can be intersubjectively reconstructed and empirically falsified.

3. Development of economics in West Germany after 1945

With Hesse (2007; 2010), we can observe that economics and business studies were subject to multiple layers of development at German universities in the post-war years:

- a) The number of students of Wirtschaftswissenschaften (economics + business studies) exploded from around 9,000 in 1950 to 31,000 in 1965 (= + 244%), then to 52,000 in the 1974/75 winter semester (= + 68%).²⁰ To begin with, the number of professors did not keep pace, rising only from 54 in 1950 to 78 in 1960 (= + 44%). With the wave of new institutions being founded, however, this

¹⁸ The insight that a real paradigmatic alternative implies the rejection of Walras's law goes back to Robert Clower (1965). But even before that, 'heterodox' economists such as Karl Marx or Thomas Robert Malthus had begun to question the classical predecessor of Walras's law, Say's law; for the relationship between Walras's law and Say's law, see Mishan (1963).

¹⁹ One would have to either live in a one-commodity world (such as Ricardo's corn economy), or make specific assumptions about the capital intensity of the subsistence commodity industry and all of its input producers – neither of which is especially realistic.

²⁰ Due to a change in the classification system in 1972, the student numbers are not completely comparable over time.

number also rose dramatically by the mid-1970s, to 243 (= + 211%). “*From the end of the 1960s, the market for economists eligible to be appointed as professors was virtually swept clean, due to the generational changeover and the simultaneous expansion of the universities, and Privatdozenten²¹ had an astonishingly powerful position in the market – especially in young and fashionable subjects such as econometrics and economic theory.*” (Hesse 2007: 125; own translation). From the mid-1970s, this picture changed dramatically – access for young academics was now more or less blocked until around the end of the 1990s.²²

- b) The formalization and mathematization of the discipline was accompanied by a methodological and epistemological ‘professionalization’, which was meant to allow economics to rise to the rank of a Leitwissenschaft or leading science (at least among the social sciences) (cf. e.g. Schipper 2013). Since this process was mainly driven by the US, the new scientific hegemon, it is often referred to as ‘Americanization’. However, in view of the efforts of German economists to catch up with developments that had been missed during the Nazi period (especially the younger generation, most of whom had been trained in the US), it can also be understood at least in part as a process of ‘self-Americanization’ (cf. Hesse 2007: 128f.; Rosser/Holt/Colander 2010: 8).
- c) Separation of economics from legal studies (previously combined in faculties of Staatswissenschaften, literally ‘state sciences’), and internal specialization within economics faculties.

The aspect of professionalization, in conjunction with self-Americanization, requires further attention here. On the one hand, this reflects the largely normal development of a science from the pre-paradigmatic stage to that of a ‘mature’ science (cf. Kuhn 1970: 256ff.). On the other hand, however, professionalization also refers here to the transition from an evaluative normativism (‘advocacy’) to a (supposedly) objective positivism (‘objectivity’) – especially in light of the ongoing development of empirical testing methods, and the emergence of econometrics. The driving force of this development originally lay in the US, in the attempt to gain legitimation and acceptance for an academic discipline that was still in its infancy. Since – in contrast to Europe and in particular Germany – it was not the institution of the university that give the discipline or its representatives the necessary legitimation, generally accepted scientific criteria such as rigor and epistemological exactness had to be borrowed from other, successful disciplines (‘leading sciences’) – especially, of course, the natural sciences (cf. Busch 1959: 80ff.; Mirowski 1989). Thus formalization, axiomatization, and empirical monitoring were taken as the methodological and epistemological boundaries of what was legitima-

²¹ So-called ‘private lecturers,’ i.e. academics with a Habilitation and the right to teach and supervise doctorates, but no salaried position.

²² During the wave of foundation of new institutions, around 70 per cent of *Assistenten* (research assistants/ junior researchers) had a chance of gaining a professorship. Once these new institutions had been founded, from the mid-1970s, only 9 per cent of them had this chance; cf. Finkenstaedt (2010: 157).

tely allowed to call itself economics.²³ Since, however, the process of knowledge acquisition is culturally bound, professionalization also implies a heuristic demarcation of boundaries: the special social position of the market as an instrument of coordination and a meritocratic justification for economic distribution outcomes in the US meant that an academic discipline hoping to gain social acceptance could not afford to fundamentally challenge the superiority of the market over other mechanisms of coordination and distribution (cf. Fourcade 2009: 35ff., 78ff.).²⁴ The equilibrium and welfare economics developing at the end of the 19th century, based on the work of Jevons, Menger, Walras and Pareto, increasingly replaced American institutionalism as the dominant paradigm in US economics. Although the German university as an institution, and the professor as a ‘mandarin’, had lost much of their authority after the experiences of the Nazi period, and were subjected to further challenges, especially during the student movement, the phenomenon of ‘self-Americanization’ is probably to be ascribed more to German economists’ feelings of inferiority in the international context²⁵ than to any urgent need to acquire legitimacy in the national social and political arena.²⁶ What happened, then, was an importing of norms which had no cultural basis in Germany – but which are defended, to this day, by those scholars who reject the idea of greater methodological openness.²⁷ Astonishingly, the argument given is that specific national approaches (nationale Sonderwege) would undermine the international competitiveness of German economists.

Although the theoretical foundations of equilibrium and welfare economics were laid in the second half of the 19th century, and came to occupy a dominant position in Great Britain,²⁸ it is nonetheless the period after the Second World War that has to be seen as the real phase of professionalization of economics, in the sense used above – and in both politics and academia, this phase was mainly dominated by one economist: John Maynard Keynes (cf. Solow 1986; Snowden/Vane 1997). The construction of macro-economic theories on the basis of Keynes’s magnum opus – the General Theory

²³ “In contrast with their European counterparts, whose elite situation was a ‘given,’ grounded in history, class, and (for continental Europe) state patronage, American university professors had to conquer their own legitimacy and social standing in a culture that had never been strongly deferential to intellectual authority, and they relied on professionalization in order to accomplish that goal.” (Fourcade-Gourinchas 2001: 426).

²⁴ An American business journalist sums it up neatly: “To be an economist in the United States, you have to believe that the market works most of the time. The situation in which markets don’t work, or cannot be made to work, is really quite exceptional, and not all that interesting to study.” (Fourcade 2009: 61).

²⁵ Hesse (2010: 320ff.) refers to a large number of sources that show these feelings of inferiority, thus suggesting that Americanization was part of a semantics of progress.

²⁶ The German ‘economics of order’ (*Ordnungsökonomik*), which still resists the claims to axiomatization and formalization made by mainstream economics, was quite influential in the early phase of West Germany history (cf. among others Ptak 2004: 155ff.).

²⁷ Rosser/Holt/Colander (2010: 18) bemoan this US-centeredness as a source of second-class imitation rather than first-class innovation.

²⁸ This is due, in particular, to the position of Alfred Marshall and Arthur Cecil Pigous at one of the world’s foremost elite universities at the time. Thus there was already talk of ‘orthodoxy’ (cf. Keynes 1936: V) or of a ‘citadelle’ (cf. Keynes 1934: 488) in the first quarter of the 20th century.

(Keynes 1936) – left room not only for formalization and econometric expansion,²⁹ but also for appropriation by the (neo-)classical orthodoxy which Keynes had criticized.³⁰ Keynesian principles of economic management also allowed a promising combination of scientific objectivity and added value for society. The sentence ascribed to Paul Samuelson, “We are all Keynesians now”, was roughly applicable to West Germany in the 1960s, where just over two thirds of the available professorships had been filled, even straight after the war, by academics who had completed their Habilitation either after 1945 (one third) or between 1933 and 1945 (another third) (cf. Hesse 2010: 191). The 1960s, however, saw the beginning of a process that would intensify in the 1970s, the struggle for paradigmatic supremacy – the second phase in the maturation process of economics, in the sense of the contested emergence of a ‘normal science’. On the one hand, the voices questioning the neoclassical synthesis as the standard interpretation of Keynesianism were growing louder; these critics saw it instead as a ‘bastard Keynesianism’ (Joan Robinson), which could not claim to give an accurate rendering of Keynesian macroeconomics. On the other hand, the Italian economist Piero Sraffa, a member of the circle surrounding Keynes, had published a slim volume in 1960 (Sraffa 1960), which dealt a severe blow to neoclassical equilibrium economics. He did this by pointing out deductive inconsistencies in the central argumentative field of neoclassical economics (and of the neoclassical synthesis): the price-based mechanism of equilibrium undoubtedly only works under unrealistic conditions. For the acceptance of a paradigm in a science that lays claim to exactness and rigor as its basis for legitimation, deductive weaknesses had to be fatal.³¹ In addition to this, Sraffa set out to remedy the central weakness of classical political economy – the objective theory of value – with the formally exact description of an invariant measure of value. This led to a renaissance of classical political economy of Ricardian, but also Marxist provenance, whose proponents criticized not only the theoretical weaknesses of neoclassical equilibrium economics, but also its tenuous link with reality.³²

²⁹ In the US, Lawrence Klein was arguably one of the most important exponents of the combination of econometrics and Keynesian macroeconomics.

³⁰ John Hicks’ well-known IS-LM model can be seen as formalizing Keynesianism and reconciling it with neoclassical orthodoxy. Paul A. Samuelson eventually became the most prominent and influential representative of this “neoclassical synthesis”, the harmonization of Keynes and neoclassical theory, in the US. In Germany, this version of Keynesianism was mainly propagated by Erich Schneider, Erich Preiser, Fritz Neumark and Karl Schiller.

³¹ The ‘fightback’ against the alleged theoretical falsification, in defense of the embattled neoclassical position, was initially led by Paul A. Samuelson and Robert Solow, later by Christopher Bliss and Frank Hahn. Although they had to acknowledge the validity of the criticism put forward by Sraffa, they were so successful in downplaying the significance of this controversy for the rigor of neoclassical equilibrium theory that Sraffa is now not even mentioned in studies on the development of modern macroeconomics, let alone in standard textbooks; cf. Cohen/Hartcourt (2003).

³² Vogt (1973: 12; own translation) gives the following account of the criticisms expressed at the time: *“In its simplest version, the criticism is that the theory is not concerned with reality at all, but only with the development of its primarily mathematical methods and models, that it is fundamentally unable to be falsified, or that it has long since been falsified, and that it therefore not only compromises practice-oriented education and training, but also impedes any genuine scientific progress; indeed its own development is a constant step backwards for science.”*

Max Planck (1928: 22) argued that new scientific insights do not become widely accepted because the proponents of the old paradigm change their minds, but because they grow old and disappear, and because the next generation of scholars are familiar with the new paradigm. In keeping with this, the sudden increase in chairs and professorships during the wave of new universities, and the not-yet completed generational changeover in the existing ('old') universities, can be seen as an institutional starting point for a potential pluralization of economics in Germany. At first glance, the reform of the German higher education landscape taking place at the same time as the 'battle of the paradigms' had more to do with organizational structures and educational objectives. On the level of economics faculties or departments, however, ideas of reform relating to socio-political orientation can certainly be linked with a type of economics that saw itself as an alternative to neoclassical equilibrium economics, even in its standard Keynesian version, or which at least called for pluralistic openness in the 'battle of the paradigms.'

In the founding phase of new universities in the 1960s and 1970s, a paradigmatic opening-up of economics, quickly institutionalized with the founding of working groups³³ and journals,³⁴ coincided with the organizational opening-up of universities, especially certain "reform" universities (Reformuniversitäten), which created space to consolidate the process of pluralization by appointing professors. Due to high demand for professorial candidates, which the existing supply of habilitierte Privatdozenten could not even come close to meeting,³⁵ the elite system 'university' temporarily opened up. Recruitment practices based on habit and social structures were replaced by practices based on science and research policy,³⁶ particularly in those universities that had been founded as part of a movement to reform society, but also in universities – even traditional ones – where representatives of the students or research assistants had substantial involvement in decision-making, thanks to the short-lived principle of Drittelparität (one-third parity) in the governing bodies of the university. The university system at the beginning of the 1970s can be roughly divided into the following categories:³⁷ 1) traditional old universities with little likelihood of pluralization, 2) old universities where reform-oriented status groups have a strong influence; low to medium likelihood of pluralization, 3) newly founded universities, designed to relieve pres-

³³ At the beginning of the 1970s, for example, the Arbeitsgruppe Alternative Wirtschaftspolitik (Working Group for Alternative Economic Policy, also referred to as the 'Memogruppe') and the Arbeitskreis Politische Ökonomie (AK PolÖK, Working Group for Political Economy) were founded, as were numerous local 'Rote Zellen Ökonomie' (Red Cells for Economics).

³⁴ Numerous economics and social science journals with pluralistic or 'critical' aspirations were established, including *Mehrwert – Beiträge zur Kritik der Politische Ökonomie*; *Prokla – Probleme des Klassenkampfes*; *Hefte für Politische Ökonomie*; *Das Argument*; *Leviathan – Zeitschrift für Sozialwissenschaft*.

³⁵ In the mid-1970s, around one fifth of all university professors had not completed a *Habilitation*; (cf. Hesse 2007: 124).

³⁶ Cf. von der Vring (1975: 113 and 262), Gräfin (2012: 72ff.). What occasionally happened, however (at the University of Bielefeld, for example), was that other humanities faculties intervened in the recruitment process for individual chairs in economics, under the slogan of 'interdisciplinarity.' This probably led to a different orientation than would have been the case if only economists had been involved.

³⁷ For more on this and on the coding of the university types and their likelihood of pluralization, see Heise et al. (2015: 293ff.).

sure on existing universities, no aspirations to reform; low likelihood of pluralization, 4) newly founded universities based on Humboldt's ideal³⁸, low likelihood of pluralization, 5) newly founded universities with aspirations to reform in relation to social openness and practical relevance; medium likelihood of pluralization, and 6) newly founded universities with aspirations to socio-political reform; high likelihood of pluralization (cf. Tab. 2).

Table 2: University status and likelihood of pluralization to be expected

	Classification	Likelihood of pluralization
1	Traditional 'old university'	low
2	Old universities strongly influenced by reform-oriented status groups	low-medium
3	Newly founded universities, designed to relieve pressure on existing universities, no reform aspirations	low
4	Newly founded universities based on Humboldt's ideal	low
5	Newly founded universities with aspirations to reform in relation to social openness and practical relevance	medium
6	Newly founded universities with aspirations to socio-political reform	high

The upshot of this is that we cannot expect any nationwide pluralization of economics as an academic discipline in Germany, but a heterogenization of both the access routes and the paradigmatic orientation of the professorships, with considerable regional variation. This, but also the bypassing of the Habilitation as the normal path to a professorship,³⁹ temporarily made it impossible to close the elite system of the university 'from below', i.e. with a qualification requirement monitored by the system itself. This led to pressure for standardization, linking recruitment to self-determined standards. Whether this form of closing the system 'from above' reproduces the heterogeneity which is to be expected, perhaps even extending it spatially, or whether it instead leads back to a broad paradigmatic homogeneity, depends very much on the developments on the 'battlefield of the paradigms'. It also depends, of course, on the range of possible dispositions in the field of power of 'economics'. The battlefield of the paradigms saw a wave of further developments of orthodoxy: from monetarism and new classical macroeconomics to neo-Keynesian modeling and, finally, the new neoclassical synthesis. Alongside this, however, a few 'dissenters' also emerged, variations on the neo-classical mainstream, who differed from the mainstream in their epistemology, but not in their methods or heuristics: neo-Austrian, neo-Schumpeterian and neo-institutionalist theories. Heterodoxy, the non-mainstream, developed various post-Keynesian and left-

³⁸ The University of Bielefeld and Konstanz University were founded with the explicit objective to create small-sized, research-oriented 'elite' universities adopting the ideals of 19th century German university reformer Wilhelm von Humboldt.

³⁹ On the one hand, this is a unique feature of the German-language university system, which is not internationally relevant. On the other hand, alternative recruitment paths via junior professorships and so-called 'tenure-track' systems have not yet been able to make any great headway against the path dependencies of tradition; cf. Bloch/Burkhardt (2011).

Keynesian positions,⁴⁰ neo-Marxist theories such as the (French) regulation school or the (American) ‘social structure of accumulation’ approach. In Germany, however, the latter received little attention, and no professorial backing within economics departments.⁴¹ In his history of post-Keynesian economics, John King (2002: 140) claims that there was no significant group of post-Keynesian economists in Germany, but that “...neoclassical orthodoxy rules...”. Fred Lee (2009), in his history of heterodox economics, also comes to the conclusion that – in terms of the number of heterodox economists – Germany plays a fairly unimportant role both internationally and in Europe. The following sections will investigate the reasons for this.

4. The marginalization of heterodoxy after 1970

At the end of the 1960s, many economists (especially younger ones) felt that their discipline was in a crisis, and therefore believed that they were on the verge of a scientific revolution. Their point of reference here was the frequently quoted text by the philosopher of science Thomas S. Kuhn (cf. Kuhn 1962). Such an ‘attack’ on the ‘dominant economics’⁴² was only possible because of the efforts made over the previous two decades to ‘mature’ economics into a paradigmatic science. Its microeconomic core in general equilibrium theory had been decisively summarized by Kenneth Arrow, Gerard Debreu and Frank Hahn, and its macroeconomic superstructure described theories of economic cycles and growth with a standard Keynesian focus. The massive expansion of the university system in Germany from the mid-1960s seemed to offer the chance to achieve a paradigm shift without waiting for the generational changeover which Max Planck had seen as the precondition for such cases. Instead it seemed possible to bring about a faster transition to the new paradigm by recruiting the younger generation, “*which is familiar with the truth from the start*” (Planck 1928: 22; own translation). The reliance on Kuhn, however, seems unfortunate. On the one hand, this is because the ‘empirical anomaly’ – the major economic crisis of the 1930s, as the basis of a state of crisis – was already so long ago that collective memory in the middle of the ‘golden age of capitalism’ had long since suppressed it. On the other hand, the ‘logical anomaly’ – the evidence of theoretical inconsistency provided in the framework of the Cambridge Capital Controversy – could not fulfill the conditions of a constructive alternative which Kuhn had seen as necessary to trigger a paradigm shift. Hence Imre Lakatos’s concept of competing ‘scientific research programs’ seems better suited to examining the development of economics in general and heterodox economics in particular. This is especially true if one insists, like Paul Feyerabend, that this ‘battlefield’ – at least in the social sciences – cannot be objectively divided into ‘progressive’ and ‘degenerate’ research programs, and that paradigmatic plurality (‘anything goes’)

⁴⁰ For a more exact description of the heterodox research programs in Germany, see Heise (2010: 36f.).

⁴¹ If at all these paradigms were represented in social science faculties or departments (e.g. at the University of Frankfurt).

⁴² An edited volume in which these attacks were collected had the subtitle ‘Zur Kritik der herrschenden Nationalökonomie’ (‘On the criticism of the dominant economics’) (cf. Vogt 1973).

should be allowed. From such a perspective, the ‘field of power’ in which the battle of the paradigms is fought becomes particularly important: to borrow from Pierre Bourdieu’s field theory, a paradigmatic development would then not be tied to objective (Kuhn) or objectifiable criteria (Lakatos), but would mainly depend on the actors’ endowment with or access to economic, social, cultural and symbolic capital.

The next step will be to show that the hope of a broad opening up of theoretical approaches, or a paradigmatic change in what was from then on to be understood as ‘dominant economics’ (mainstream, normal science), was not able to be fulfilled even after the quantitative expansion and the substantive reform of the German university system from the mid-1960s.⁴³ Instead, the old universities largely closed themselves to this pluralization despite the generational changeover and the quantitative expansion – except in those cases where there were effective promoters such as active student bodies and representatives of the *Mittelbau* (non-tenured academic staff), who, with the institutional support of the short-lived system of *Drittelparität* (one-third parity), influenced the way professors were recruited. The example of the University of Bonn shows that recruiters were willing to put up with longer vacancies or a certain fluctuation, in order to restrict intake to those (junior) researchers who conformed to the disciplinary culture that was developing there at the time (mathematization). The result was an extremely unequal pluralization of economics at German universities (cf. the following Tab. 3 and Figure 1). At traditional old universities and at those new universities that had been founded solely to expand capacity, and were largely without aspirations to reform, heterodox economists could only be appointed by chance, or these scholars only developed a heterodox orientation after their appointment. The chances of pluralism were somewhat higher when the relevant promoters encountered a ‘culture of openness’, internal organizational democracy, and external political support, as for example at the University of Frankfurt, where a chair in ‘Marxist economic theory’ was even established, or at the FU Berlin, where several heterodox professors were appointed.

⁴³ The following statements are based on a comprehensive survey of all economics professors classified as ‘heterodox’ at economics departments or faculties in German universities, and on a comparison between a selected heterodox economics department (University of Bremen) and an orthodox one (University of Bonn); cf. Heise et al. (2015).

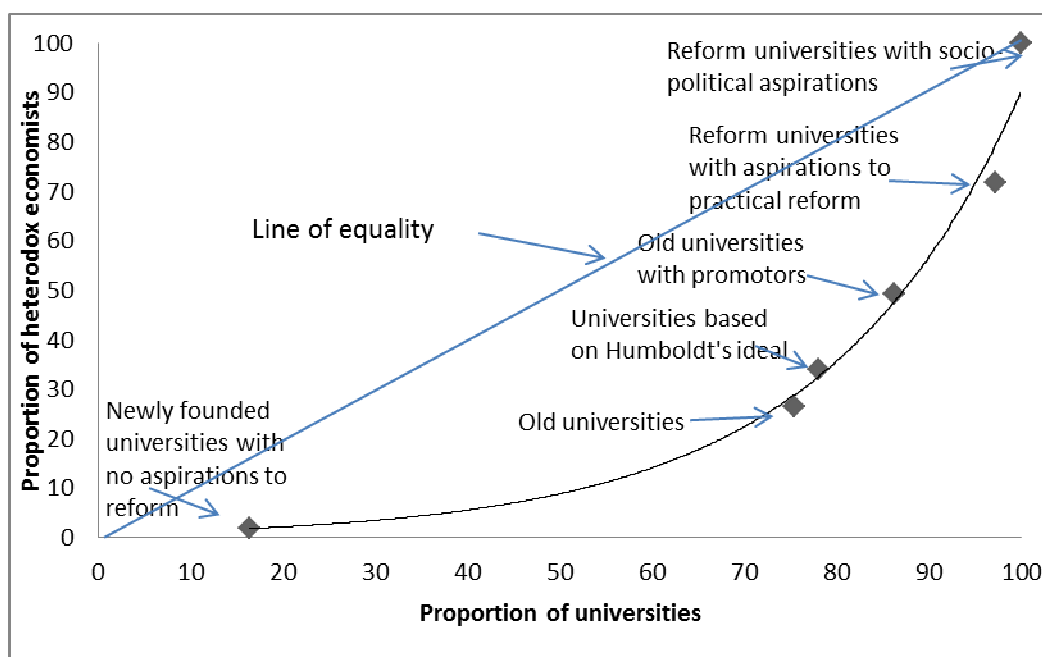
Table 3: Relative frequency of heterodox economists

Classification	Locations (number)	Heterodox economists (number)	Heterodox economists per location
Not classified (traditional old university)	43	13	0.3
Newly founded university based on Humboldt's ideal	2	4	2
New university founded to relieve pressure on existing institutions, no aspirations to reform	12	1	0.1
Old university strongly influenced by groups with socio-political orientation	6	8	1.3
Newly founded university with aspirations to reform in relation to social openness and practical relevance	8	12	1.5
Newly founded university with aspirations to reform in relation to socio-political orientation	2	15	7.5
Σ	73	53	
Average			0.8

At the ‘comprehensive universities’ (Gesamthochschulen⁴⁴) in North Rhine-Westphalia and Hesse, which saw themselves as ‘reform’ universities with a focus on practical relevance, professorial recruitment policies could allow heterodox economists to be taken into consideration – depending on specific local circumstances such as the position of the founding dean and the personnel policies at the predecessor institutions. The crucial factor here was the expectation that those economists who stood for (social) reforms and practical relevance – i.e. critical or heterodox economists – could be better for a reform university than those economists who stood for the preservation of the traditional university model with its claims to value-neutral science – i.e. the mainstream economists. At the two reform universities with socio-political aspirations – the University of Bremen and the Hochschule für Wirtschaft und Politik (HWP) in Hamburg – these aspects came together in a way that was particularly favorable for pluralism, and thus permitted the emergence of two bastions of heterodoxy.

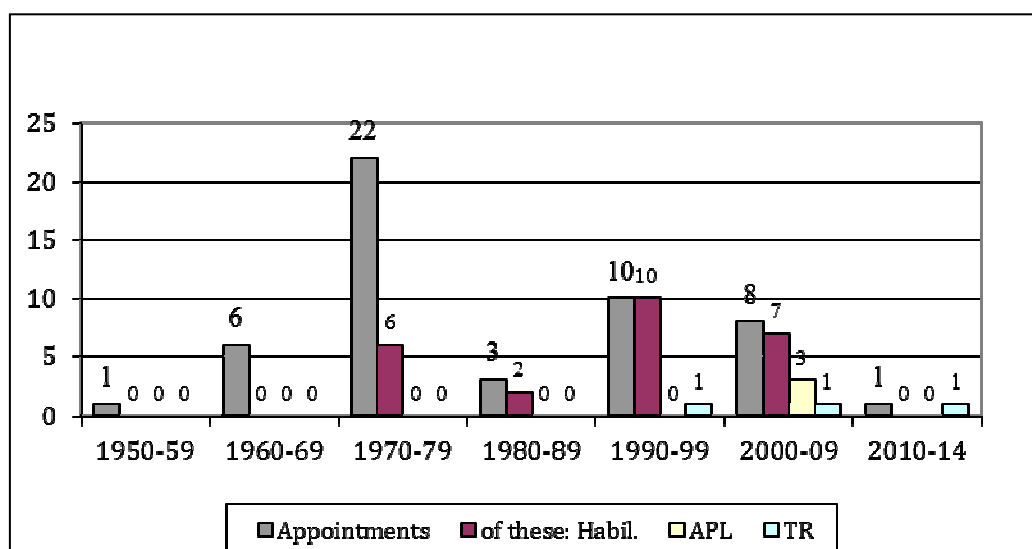
⁴⁴ The German system of higher education falls under federal authority, i.e. in the political realm of the German Bundesländer. Some Bundesländer – namely those ruled by social-democratic governments at the time – experimented with a new form of higher education institution: the ‘comprehensive university’ which combined academic units of university status with academic units of ‘Fachhochschul’ status (‘universities of applied science’ which are the German pendant to British polytechnics and US liberal arts colleges).

Figure 1: Distribution of heterodox economists in the university field



Source: Own calculations

Figure 2: Professorial appointments of heterodox economists 1950 to 2013



Notes: *Habil.* = Habilitation (see footnote 21); *Apl.* = *außerplanmäßige* (extra-ordinary, non-tenured) professorships; *TR* = Transformation professorships, resulting from the fusion of universities of applied science and universities (see footnote 46)

Source: Own representation

At three quarters of all German universities with economics faculties or departments, then, heterodox economists were virtually unrepresented; of the remaining quarter, nearly 30% are to be found in the two ‘bastions’ of heterodoxy (Bremen and HWP). The pluralization is not only extremely unequal but quantitatively limited: at no point in time could more than 10% of economics professors at German universities be classified

as belonging to the heterodox camp. And the development over time only tells a story of further marginalization (cf. Fig. 2): The number of appointments of heterodox economists after the 1970s declined rapidly,⁴⁵ and as the ‘first generation’ grows old and retires, their numbers are shrinking more and more. At the same time, heterodox economists were completely overlooked when the economics faculties of East German universities were effectively re-founded after the German reunification in the early 1990s (cf. Tab. 4).⁴⁶ And finally, of the two bastions of heterodox economics (Bremen and HWP), one was practically shut down as a unit for teaching undergraduate economics, and the other was adapted to the mainstream by being converted into another organizational unit after the generational changeover.

Table 4: Economics professors at East German universities after the faculties were newly founded

	Founding dean (disciplinary origin)	Number of economics profs. (today)	Number of heterodox economics profs. (per location)
HU Berlin	Wilhelm Krelle (economics)	9	-
TU Chemnitz	Peter Rüdger Wossidlo (business informatics)	4	1
BTU Cottbus/ Senftenberg	Gerhard Duelen (business informatics)	4	1
TU Dresden	Wolfgang Blum (economics)	7	-
U Erfurt	Wolfgang Schluchter (sociology)	7	1
EVU Frankfurt/Oder	Joachim Starbatty (economics)	7	-
U Greifswald	Jürgen Regge (law)	4	-
U Halle	Alfred Schmitt-Rink (economics)	8	-
U Jena	Peter Oberender (economics)	6	-
U Leipzig	Gernot Gutmann (economics)/ Bert Rürup (economics)	7	1
TU Magdeburg	Alois Wenig (economics)	6	-
U Potsdam	Josef Molsberger (economics)/ Wilhelm Bürklin (political science)	5	-
U Rostock	Dieter Oberndörfer (political science)	6	-
Total: 13		80	4 (0.3)

Source: Websites of the relevant faculties; data from July 2014

⁴⁵ The 1990s should not be interpreted as an ‘interim high’; instead they hint at the quantitative extent of ‘accidental’ appointments. The low number of heterodox appointments in the 1980s is due to the high degree of saturation of the university market after the wave of new universities had been founded.

⁴⁶ Three of the four heterodox professors at East German universities did not go through the normal appointment procedures, but are *außerplanmäßige Professoren* (professorial title which universities may bestow on academics who have suitable qualifications for a professorship but are not actually employed as such) or arrived at their function when a university of applied science (*Fachhochschule*) fused with a university (or was transformed into a university).

This story of failure must, however, be read with reference to the dispositifs of the field of power. The community of economists exerted an enormous pressure to conform on their heterodox colleagues: for many years, the universities at which most of them were employed were denied membership of the Deutsche Forschungsgemeinschaft (DFG)⁴⁷, and heterodox economists never held influential positions within the decision-making bodies of the DFG. Together these two things substantially reduced their economic, social and symbolic capital. The latter is also reflected in the fact that heterodox economists – predictably – have poor chances of obtaining funding from the DFG, and are thus dependent on alternative external sources (e.g. the Hans Böckler Foundation)⁴⁸. Many heterodox economists have submitted research proposals to the DFG, but their chance of success is low, or in any case lower than for applications to alternative research funding institutions (cf. Tab. 5): According to our survey, only 17% of DFG applications by heterodox economists were fully approved, as opposed to 57% of applications to alternative institutions. 50% of all applications to the DFG were completely rejected, but only 7% of applications to alternative external sources. This means that critical research – in the sense of ‘heterodox’ – can only really be achieved by means of such alternative external sources of funding.

Table 5: Research funding of heterodox economists

Institution	Applied for funds (in %)		Approved (in %)			
	Yes	No	0	< 50%	>50%	All
DFG	60	40	50	25	8	17
Alternative external sources	75	25	7	7	29	57

Source: Own calculations based on Heise et al. (2015)

Of particular importance for the reproducibility of a scientific paradigm is the ‘production’ of disciples, i.e. the number of doctorates and Habilitationen which are successfully completed during the tenure of a professorship, creating the potential to recruit the next cohort of professors. Although it is also fundamentally possible to complete one’s doctorate or Habilitation as an external scholar, the financial and human resources of an academic unit (faculty, department, institute or chair) are still the most significant parameter of reproducibility. This category of ‘economic capital’ was a further area in which the heterodox economists were not on an equal footing with the representatives of the mainstream – and this is vividly illustrated by a comparison between the two strongholds of orthodoxy and heterodoxy, the universities of Bonn and

⁴⁷ The Deutsche Forschungsgemeinschaft (DFG) is the major publically funded, self-governing organisation for science and research in Germany.

⁴⁸ The Hans-Böckler-Foundation is a Trade Union related organisation which supports science, research and co-determination.

Bremen.⁴⁹ On the one hand, those reform universities where heterodox economists were most likely to be found had far fewer resources than the traditional ‘professorial’ universities (Ordinarienuniversitäten).⁵⁰ On the other hand, in places where heterodox economists had access to comparable resources (e.g. in the case of the University of Bielefeld), ‘production’ of disciples was made difficult, at least at the level of the Habilitation. And even at those locations where reproduction was successful as far as the Habilitation – at old and comparatively well-resourced universities such as the University of Frankfurt or the FU Berlin –, those who had gained their Habilitation seldom achieved the breakthrough to a regular professorship. Such scholars have often chosen alternative strategies: emigrating, moving into professorships at universities of applied science, or even shifting to other departments (sociology, political science). It is therefore certainly not false to speak of a disciplinary ‘brain drain’ in heterodox economics, which obviously weakens the position of heterodoxy within economics as a whole. This weakening is all the more dramatic because a return to the field of economics in Germany seems doubtful in cases of migration to other countries or other – neighboring – disciplines.

Lastly, the heterodox economists quickly began networking at the beginning of the 1970s,⁵¹ but they never succeeded in using these networks as a base for penetrating the reviewer networks of the DFG. True, a number of heterodox economists are involved in the Verein für Socialpolitik (VfS, Social Policy Association)⁵², especially in the committees for evolutionary economics and the history of economic thought. Outside these committees, however, their involvement within the VfS is minimal. And symbolic capital, the assumption of important and therefore symbolic positions in scientific,

⁴⁹ Despite limited information, it can be stated that fewer than 10 junior researchers received their *Habilitation* in economics at the economics department of the University of Bremen in the period from 1971 to 2014. In the substantially shorter period from 1984 to 2014, more than three times as many economists (over 30 of them) completed a *Habilitation* at the University of Bonn, and most of these went on to obtain a professorship at a German university. This goes for fewer than half of those who did their *Habilitation* in Bremen.

⁵⁰ At the University of Bremen, for example, one of the elements of reform was to reduce the dependency of junior researchers on the chairs or professors. Sometimes professors were not given any postgraduate or postdoctoral research staff (*wissenschaftliche Mitarbeiter* or *Assistenten*) at all. It was not until the mid-1980s that a turnaround in staffing policy occurred and the (mainly heterodox) professors were granted a small number of positions for research staff. According to the Statistisches Bundesamt, professors of economics in Germany had an average of 3.71 postgraduate and postdoctoral research staff in 2011 (cf. Stabu 2012: 96). Our survey of heterodox professors in Germany found an average of 2.32 research staff. The discrepancy evident here in the resourcing of orthodox and heterodox professors – especially with postdoctoral staff – is likely to have been even greater in the past: while the average level of resourcing is decreasing overall (for the economists at the University of Bonn, the rate was 4-5 research positions per professor in the 1980s and 1990s; in the more recent past this has been considerably reduced to 2-3, by the large-scale introduction of ‘junior’, fixed-term and minimally-resourced professorships; cf. Heise et al. 2015), the heterodox professors tend to report a slight improvement. Of course this development has to be viewed in the light of the above-mentioned zero endowment of many heterodox professorships in the founding phase of the reform universities, and a subsequent ‘normalization.’

⁵¹ Especially important here was, initially, the AK Politische Ökonomie and the Memorandumgruppe, and later the research network ‘Alternative Makroökonomik’ and the Keynes-Gesellschaft.

⁵² The Verein für Socialpolitik is historically the (inofficial) professional organisation of academic economists of the German speaking world.

economic or political organizations (e.g. the Wissenschaftsrat – German Council of Science and Humanities, or the scientific advisory councils of the German federal government or the Deutsche Bundesbank), have remained largely closed to the heterodox economists. Thanks to the nominating rights of the German Trade Unions, a few heterodox economists had been delegated to the Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung (SVR, German Council of Economic Experts) since it was founded, but here too, their role was that of the outsider (cf. Kampe 1983).

In summary, heterodox economics had to compete with mainstream economics in a very ‘uneven field of power’. This development is also embedded in the influential model of a competitively organized university landscape, in which universities compete with each other, as ‘enterprises’, for scarce financial resources. This is why research, today, is not defined by a striving for knowledge, but by ‘usability’ (Verwertbarkeit), in the sense of the ability to attract external funding. This and (partly as a result of this) the lack of reproduction and consolidation of heterodox structures has exacerbated the ‘unevenness’ of the above-mentioned field of power of economics.

5. Conclusion

The development of a scientific discipline is dependent on many determinants. As in every creative process, idiosyncratic factors within the personality of the individual scholar are especially important when it comes to explaining specific innovations or insights. A vital role is also played, of course, by the circumstances at the time, the economic or social developments that affect the research process – this may take the form of an especially urgent problem that requires scholarly examination. But empirical anomalies, as we have known since Thomas S. Kuhn, have also frequently changed the direction and paradigmatic orientation of a science. Furthermore, distinctive features of a discipline must also be taken into account, e.g. the stage of development already reached, or the object of study itself. An immature, pre-paradigmatic science seems more open to new epistemic processes or methodological approaches than a mature science in a paradigmatic state. For example, John Maynard Keynes believed that his theory, which he considered revolutionary, would find greater resonance in Germany than in his native Great Britain, because he thought that economics in Germany was still largely free of theories and paradigms, while he saw the discipline as being caught in a state of ‘lock-in’ in Great Britain (cf. Keynes 1973: XXI and XXV). And it is virtually unavoidable that sciences whose object of enquiry is a social construct are more ideologically contested than sciences that relate to objective natural phenomena. Some sciences (including the social sciences) are therefore unable to fulfil the requirement for value-neutrality. Furthermore, the manner in which a society tends and protects its underlying instruments (e.g. the market) has an effect on the acceptance of theoretical and paradigmatic approaches – quite irrespective of their actual explanatory power (cf. Fourcade 2009: 35ff.). The sum of these factors describes what Imre Lakatos described as the ‘scientific battlefield.’ Depending on the specific circumstances of the time,

idiosyncratic influencing factors, and the specifics of the discipline, this battlefield may be characterized by particularly intense interpretive struggles between different research programs (Lakatos), or may find itself in the calm waters surrounding a dominant hegemon, described by Kuhn as a ‘normal science’. And, lastly, there is one further determinant of the development of a scientific discipline: the dispositions in the field of the science in question, which must be understood in Bourdieusian terms as a ‘field of power,’ in which the various types of capital possessed – economic, social, cultural or symbolic – determine the conditions in which the contest on the ‘battlefield’ is fought.

This explanatory background helps to understand the development of economics at the beginning of the 20th century: the methodological dispute (Methodenstreit) in Germany showed that economics was still in an early state of maturity. The microeconomics-based equilibrium and welfare theory which was taking shape at the time co-existed with classically Marxist approaches and with the still-dominant ‘Historical School’. The rise of Keynesianism to (worldwide) prominence in the early post-war period to around the mid-20th century cannot be explained without the global economic crisis of the 1930s, and the special position of John Maynard Keynes as an economist at one of the world’s most prestigious universities, a statesman, and the editor of what was at the time the most influential economics journal in the still relatively small community of economists. But equally, the specific interpretation of Keynesian macroeconomics as an outlier of neoclassical equilibrium theory, which had a major influence on the professionalization and paradigmatic development of economics, especially in Germany, cannot be explained without the increasing hegemony of American scholarship after the Second World War, and the position of Paul Samuelson at an elite US university, as well as the massive worldwide success of his textbook, *Economics* (cf. Skousen 1997). *Economics* had thus developed from a pre-paradigmatic, plural and evaluative science (‘advocacy’) to a mono-paradigmatic and positivist one (‘objectivity’). The ‘Keynesian revolution’ was not a scientific revolution, for the simple reason that no paradigm had previously been established as a ‘normal science’.⁵³ The co-opting of Keynes by general equilibrium theory satisfied the cultural requirements of a science whose hegemon could not have legitimated any really fundamental criticism of the underlying institutions of its society. It was, however, this very domestication of the Keynesian paradigm, and the increasing theoretical criticism of its equilibrium-centered heuristics, that determined the development of economics in the middle of the 20th century. The ‘battle of the paradigms’ was influenced by the simultaneous expansion and reform of the universities, a broad social liberation movement, which also affected the universities, and dispositifs in the field of power of economics, which were linked with economic, social, cultural and symbolic capital.

⁵³ Blaug (1975) confirms the ‘Keynesian revolution’, in the sense that Keynes’ theory had other paradigmatic origins than neoclassical theory. Baumberger (1977), however, points out that this is not enough to class as a revolution, if the discipline had not yet reached the state of a normal science before the ‘new’ theory was developed.

The result was, at the beginning of the 1970s, a paradigmatic opening up of economics in Germany, which took an extremely uneven course. While the traditional old universities only appointed heterodox economists by chance, two bastions of heterodox economics emerged at the University of Bremen and the Hochschule für Wirtschaft und Politik (HWP) in Hamburg. In addition to these, a few newly founded universities – especially the ‘comprehensive universities’ in North Rhine-Westphalia and Hesse – and a few existing universities, in which reform-oriented status groups were particularly active, allowed at least some steps to be taken towards a pluralization of economics. However, at no point were more than 10 percent of economics professorships filled by heterodox economists. Although heterodox economics quickly developed its own institutions and networks, by founding organizations and journals, the following 40 years saw an overall marginalization of heterodoxy in Germany. This was also reflected in the overlooking of heterodox economists during the restaffing of East German economics departments after the unification of Germany. The following factors must be taken into account here:

1. The number of heterodox research programs represented in German universities, especially in the 1980s, does not suggest that heterodoxy became quantitatively insignificant because its approaches were beaten on the ‘battlefield of the paradigms’. Moreover, empirical anomalies – such as the increasingly permanent presence of unemployment despite increasing flexibilization of the labor markets (cf. Heise/Kromphardt/Priewe 1998) – remained significant enough to encourage the continuing search for alternative explanations (within, but also outside the mainstream).
2. German economics surrendered completely to the hegemony of American economics after the Second World War. On the one hand, this was intended to offset actual deficits caused by the exodus of important scholars and the country’s isolation during the Nazi period. On the other hand, German economics could not escape the hegemonic claims to standardization asserted by certain elite US universities and their journals. Even today, this ‘(self-) Americanization’ lingers on under the catchphrase ‘international competitiveness’, which is thought to preclude specific national paths (Sonderwege) – or national scientific cultures. Under these conditions, the marginalization of heterodox economics in the US had to be seen as, at least, a limiting parameter for developments in Germany.
3. Heterodoxy and the mainstream coexisted, without any acknowledgement of heterodoxy by the mainstream or any extensive penetration of the mainstream by heterodoxy. This non-acknowledgement is manifested in the long-standing refusal to admit pluralistic reform universities to the DFG, the ongoing denial of decision-making positions in DFG committees to heterodox economists, the general impossibility of accessing financial resources from the DFG, and the severely restricted access to publishing opportunities in journals which promise a high level of recognition, and which are supposedly not affiliated to any school. This denial of recognition became a standardized, institutionalized part of the allocation of university resources during the transition of univer-

sity governance from committee-led to competitive universities, thus making this marginalization virtually automatic, and above all, legitimizing it. The failure of heterodoxy to penetrate the mainstream is shown in the refusal of many heterodox economists to accept organizations such as the Verein für Socialpolitik (VfS) as representatives of the economics community with no paradigmatic affiliations. It should be mentioned, though, that the distribution of the heterodox VfS members over the committees of the VfS (the vast majority are members of the committee on the history of economic thought) suggests that the specific rite of admission to the VfS imposed clear restrictions on access to the core areas of the VfS, i.e. the committees for theory and economic policy, and was therefore also an instrument for denying recognition.

4. The reproduction of heterodox economists remained well below the average. The reason for this was the below-average number of positions available for junior researchers (Qualifikationsstellen), and the severe restrictions on access to DFG resources. But the orientation of many heterodox economists, who preferred to have an influence on society (through research transfer) than on the academic community (through research), is also likely to have played a part. The recruitment process in the economics faculties of East German universities after the German unification makes it clear, however, that it is not only the below-average reproduction of heterodoxy – i.e. a problem of supply –, but also the very much below-average level of recruitment – i.e. a problem of demand – that have to be taken into account as important factors.

5. Due to the special significance of the University of Bremen and the HWP for the development of heterodoxy, their specific circumstances have to be examined. These show the same thing that has happened, so far, to all attempts to influence traditional economics with a new orientation: in the end, the denial of recognition by the academic community led to a loss of political-social support and, ultimately, to the dissolution or at least total marginalization of the heterodox academic unit. In the case of the University of Bremen, the economics department was actually abandoned as a unit for teaching undergraduate economics,⁵⁴ and in the case of the HWP, the loss of institutional autonomy led to a forced adaptation to the mainstream.

The representatives of heterodox economics did not succeed in establishing pluralization as part of the ‘cultural capital’ of the German community of economists, and were thus unable to claim recognition for the heuristic divergence of their own paradigmatic approach in relation to the mainstream focus on self-regulation. Their chances of winning the ‘battle of the paradigms’ were hopeless, given their vast inferiority in terms of every kind of capital: economic (professorships and the associated positions for junior researchers, access to financial resources from the DFG etc.), social (networks

⁵⁴ Even in the mid-1970s, the reformist orientation of the University of Bremen lost its political and social support, after the DFG had refused to accept the university into its ranks, and the financial problems of the federal state of Bremen had forced the university to rely more on external funding. This was felt especially keenly by the department of economics, where business studies (*Betriebswirtschaftslehre*) was promoted and expanded at the expense of (macro)economics (*Volkswirtschaftslehre*) (cf. Heise et al. 2015: 338ff.).

based on VfS membership, editorial boards of journals, influential scholarly organizations such as scientific advisory committees of federal ministries, boards of reviewers of the DFG etc.) and symbolic (presidents of important economic research institutes, members of scientific advisory boards in federal ministries, members of the SVR (German Council of Economic Experts), etc.). Nor were they able to prevent the establishment of scientific standards⁵⁵ which systematically belittled the value of heterodox economics, thus perpetuating the marginalization of heterodoxy and ensuring the monistic idealization of the mainstream. In short, the setting of paradigmatic standards has been used to close the academic system, after previous attempts to close it by means of socio-structural attributions had failed due to the sudden expansion of the universities in the early 1970s.

⁵⁵ In particular, this means the value and weighting ascribed to funding sources and journals, to create 'objective' rankings for the evaluation of scientific 'quality.'

References

- Abel, A.B., Bernanke, B.S. (2005); *Macroeconomics*, Boston
- Abramovitz, M. et al. (1992); Plea for a Pluralist and Rigorous Economics; in: *American Economic Review*, Vol. 82, No.2, p. XXXV
- Auroi, C. et al. (2011); 'Aufruf: Forschung und Lehre in Wirtschaftswissenschaften, Finance und Management sollen erneuert werden mit dem Ziel, dem Allgemeinwohl besser zu dienen,' Geneva, Fribourg, Zurich (<http://www.responsiblefinance.ch/aufruf/>)
- Backhouse, R. E. (2001); On the credentials of methodological pluralism; in: Biddle, J.E./Davis, J.B./Medema, S.G. (eds.); *Economics Broadly Considered: Essays in Honor of Warren J. Samuels*, London, pp. 161–181
- Baumberger, J. (1977); No Kuhnian Revolution in Economics, in: *Journal of Economic Issues*, Vol. 11, No.1, pp. 1–20
- Besley, T., Hennessey, P. (2009); Letter in response to a question of Queen Elizabeth, British Academy of Science, London
- Blanchard, O. (2008); *The State of Macro*, NBER Working Paper 14259
- Blanchard, O., Dell'Araccia, G., Mauro, P. (2010); *Rethinking Macroeconomic Policy*, IMF Staff Position Note 10/03, Washington
- Blanchard, O., Johnson, D.R. (2013); *Macroeconomics*, New York (6th edn.)
- Blaug, M. (1975); Kuhn versus Lakatos, or paradigms versus research programmes in the history of economics, *History of Political Economy*, Vol. 7, No.4, pp. 399–433
- Bloch, Roland, Burkhardt, Anke (2011); Arbeitsplatz Hochschule und Forschung für wissenschaftliches Personal und Nachwuchskräfte; in: Hans-Böckler-Stiftung (ed.); *Expertise für die Hochschule der Zukunft*, Bad Heilbrunn, pp. 401–478
- Bourdieu, P. (1990); *Homo Academicus*, London
- Bourdieu, P. (1991); *Language and Symbolic Power*, Boston
- Busch, Alexander (1959); *Die Geschichte des Privatdozenten. Eine soziologische Studie zur großbetrieblichen Entwicklung der deutschen Universitäten*, Stuttgart
- Caballero, R.J. (2010); Macroeconomics after the Crisis: Time to Deal with the Pretense-of-Knowledge Syndrome; in: *Journal of Economic Perspectives*, Vol. 24, no. 4, pp. 85–102
- Chesney, M. et al. (2011); *Baseler Manifest für ökonomische Aufklärung*, Zentrum für Religion, Wirtschaft und Politik, Basel
- Clower, R.; *The Keynesian Counter-Revolution: A Theoretical Appraisal*; in: Hahn, F.H., Brechling, F.P.R. (eds.); *The Theory of Interest Rates*, London 1965, pp. 103–125

- Cohen, Avi J., Harcourt, G.C. (2003); Whatever Happened to Cambridge Capital Theory Controversies? In: *Journal of Economic Perspectives*, Vol. 18, No.1, pp. 199–214
- Colander, D.C., Holt, R.C.F., Rosser, J.B. Jr. (2009); Introduction; in: Colander, D.C., Holt, R.C.F., Rosser, J.B. Jr. (eds.): *Changing Face of Economics: Conversations with Cutting Edge Economists*, Ann Arbor, pp. 1–25
- Colander, D., Klamer, A. (1987); The Making of an Economist, in: *Journal of Economic Perspectives*, Vol.1, No.2, pp. 95–111
- Cross, R. (1982); The Duhem-Quine-Thesis, Lakatos and the Appraisal of Theories in Macroeconomics; in: *Economic Journal*, Vol. 92, pp. 320–340
- Davidson, P. (1984); Reviving Keynes' Revolution; in: *Journal of Post Keynesian Economics*, Vol. 6, No.4, pp. 561–575
- Davidson, P. (1992); Would Keynes be a New Keynesian?; in: *Eastern Economic Review*, Vol. 18, No.4, pp. 449– 463
- Davidson, P. (2005); Responses to Lavoie, King, and Dow on What Post Keynesianism Is and Who Is a Post Keynesian; in: *Journal of Post Keynesian Economics*, Vol. 27, No. (3), pp. 393–408
- Davis, J.B. (1994); Pluralism in social economics, in: *History of Economic Ideas*, Vol. 2, Nr. 3, pp. 119–128
- Drakopoulos, S.A., Karayiannis, A.D. (2005); A Review of Kuhnian and Lakatosian 'Explanations' in Economics; in: *History of Economic Ideas*, Vol. 12, No.2, pp. 51– 73
- Feyerabend, P. (1975); *Against method*, London
- Finkenstaedt, Thomas (2010); Die Universitätslehrer; in: Rüegg, W. (ed.); *Geschichte der Universität in Europa*, Vol. IV: Vom Zweiten Weltkrieg bis zum Ende des 20. Jahrhunderts, Munich, pp. 153–188
- Fourcade, Marion (2009); *Economists and Societies. Discipline and Profession in the United States, Britain and France, 1890s to 1990s*, Princeton
- Fourcade-Gourinchas, Marion (2001); Politics, institutional structures, and the rise of economics: A comparative study; in: *Theory and Society*, Vol. 30, pp. 397–447
- Frey, B.S., Humbert, S., Schneider, F. (2007); Was denken deutsche Ökonomen? Eine empirische Auswertung einer Internetbefragung unter den Mitgliedern des Vereins für Socialpolitik im Sommer 2006, in: *Perspektiven der Wirtschaftspolitik*, Vol. 8, Nr.4, pp. 359–377
- Galbraith, J.K. (2013); The Third Crisis in Economics; *Journal of Economic Issues*, Vol. 47, No.2, pp. 311–322
- Gräfling, Birte (2012); *Tradition Reform. Die Universität Bremen 1971 – 2001*, Bremen

- Heise, A. (2007); Das Ende der neoklassischen Orthodoxie? Oder: Wieso ein methodischer Pluralismus gut täte; in: *Wirtschaftsdienst – Zeitschrift für Wirtschaftspolitik*, Vol. 87, Nr.7, pp. 442–449
- Heise, Arne (2010); Krise der Wirtschaftswissenschaft – Raum für Alternativen? Plädoyer für einen Pluralismus in der Ökonomik; in: Jens, U., Romahn, H. (eds.); *Methodenpluralismus in den Wirtschaftswissenschaften*, Marburg, pp. 33–50
- Heise, A., Hertrich, J. (2012); ‘It happened again’ oder: Hyman Minskys Beitrag zu einer Neuausrichtung der Wirtschaftswissenschaft; in: *Berliner Debatte Initial*, Vol. 23, Nr.3, pp. 33–48
- Heise, A., Hirte, K., Ötsch, W., Pühringer, S., Reich, A., Sander, H., Thieme, S. (2015); *Ökonomen und Ökonomie. Eine wissenschaftssoziologische Entwicklungsanalyse zum Verhältnis von Ökonomen und Ökonomie im deutschsprachigen Raum ab 1945. Abschlussbericht eines HBS-Projektes, Hamburg/Linz (unpublished manuscript)*
- Heise, A., Kromphardt, J., Priewe, J. (1998); Alternative Konzeptionen makroökonomischer Politik im Spannungsfeld von Arbeitslosigkeit, Globalisierung und hoher Staatsverschuldung; in: Eicker-Wolf, K. et al. (eds.); *Die arbeitslose Gesellschaft und ihr Sozialstaat*, Marburg
- Hermann-Pillath, C. (2013); *Foundations of Economic Evolution*, London
- Hesse, J.-O. (2010); *Wirtschaft als Wissenschaft. Die Volkswirtschaftslehre in der frühen Bundesrepublik*, Frankfurt
- Hesse, Jan-Otmar (2007); Hochschulreformgeschichte als Disziplingeschichte – Das Beispiel der Wirtschaftswissenschaften; in: A. Franzmann, B. Wolbring (eds.); *Zwischen Idee und Zweckorientierung. Vorbilder und Motive von Hochschulreformen seit 1945*, Berlin, pp. 121–135
- Kampe, D. (1983); ‚Fünf Weise‘ in der Wirtschaft – Sachverstand live erlebt; in: Hickel, R., Mattfeldt, H. (eds.); *Millionen Arbeitslose! Streitschrift gegen den Rat der Fünf Weisen. Eine Bilanz nach zwanzig Jahren*, Reinbeck b. Hamburg
- Kapeller, J. (2012); *Modell-Platonismus in der Ökonomie. Zur Aktualität einer klassischen epistemologischen Kritik*, Frankfurt/Main
- Kellert, S., Longino, H., Waters, K. (eds.)(2006); *Scientific Pluralism*, Minneapolis
- Keynes, John Maynard (1934); Poverty in Plenty, in: *The Listener* v. 21. November 1934 (this quote from Moggridge, D. (ed.); *Collected Writings of John Maynard Keynes*, Vol. XIII, London 1973, pp. 485–492)
- Keynes, John Maynard (1936); *The General theory of Employment, Interest and Money*, London
- Keynes, J.M. (1973); *General Theory of Employment, Interest and Money*, London (1st edn. 1936)

- King, J.E. (2002a); Three arguments for pluralism; in: *Journal of Australian Political Economy*, Vol. 50, pp. 82–88
- King, J.E. (2002b); *A History of Post Keynesian Economics Since 1936*, Cheltenham
- Kirchgässner, G. (2009); Die Krise der Wirtschaft: Auch eine Krise der Wirtschaftswissenschaft?; in: *Perspektiven der Wirtschaftspolitik*, Vol. 10, Nr.4, pp. 436–468
- Kirman, A. (2010); The Economic Crisis is a Crisis for Economic Theory; in: *CESifo Economic Studies*, Vol. 56, No. 4, pp. 498–535
- Klamer, A. (2007); Does this Have to Be our Future?; in: Colander, D.; *The Making of an Economist, Redux*, Princeton, pp. 227–233
- Kuhn, Thomas S. (1962); *The Structure of Scientific Revolutions*, Chicago
- Kuhn, Thomas S. (1970); Reflections on my Critics, in: Lakatos, I., Musgrave, A.; *Criticism and the growth of knowledge. Proceedings of the International Colloquium in the Philosophy of Science*, Cambridge, pp. 231–278.
- Kurz, H.-D. (2011); Vom Fall und Wiederaufstieg einiger Ideen von Lord Keynes; in: Hagemann, H./Krämer, H. (eds.); *Keynes 2.0 – Perspektiven einer modernen keynesianischen Wirtschaftstheorie und Wirtschaftspolitik. Jahrbuch Ökonomie und Gesellschaft*, Nr. 23, Marburg, pp. 405–431
- Lakatos, I. (1974); Falsifikation und die Methodologie wissenschaftlicher Forschungsprogramme; in: Lakatos; *Kritik und Erkenntnisfortschritt*, Braunschweig
- Lawson, T. (2006); The Nature of Heterodox Economics; in: *Cambridge Journal of Economics*, Vol. 30, No.4, pp. 483–507
- Lee, Fred (2009); *A History of Heterodox Economics: Challenging the Mainstream in the 20th Century*, New York
- Leijonhufvud, A. (2009); Out of the corridor: Keynes and the Crisis; in: *Cambridge Journal of Economics*, Vol. 33, pp. 741–757
- Lucas, Robert E. jr. (2003); Macroeconomic Priorities; in: *American Economic Review*, Vol. 93, No.1, 1–14
- Merkel, A. (2014); Speech of the German Chancellor Frau Merkel at the 5th Meeting of Nobel Laureats; available at: <http://www.bundesregierung.de/Content/DE/Rede/2014/08/2014-08-20-lindau.html>
- Minsky, H.P. (2011); *Instabilität des Kapitalismus*, Zurich
- Mirowski, Philip (1989); *More heat than light. Economics as social physics: Physics as nature's economics*, Cambridge
- Mishan, E. J. (1963); Say's Law and Walras' Law once more; in: *Quarterly Journal of Economics*, Vol. 77, No.4, pp. 617–625

- Möller, Christina (2013); Wie offen ist die Universitätsprofessur für soziale Aufsteigerinnen und Aufsteiger?; in: *Soziale Welt*, Vol. 64, pp. 341–360
- Palley, T.I. (2011); A Theory of Minsky Super-Cycles and Financial Crisis; in: *Contributions to Political Economy*, Vol. 30, pp. 31–46
- Pessaràn, M.H., Smith, R.P. (2011); Beyond the DSGE Straitjacket; in: *The Manchester School*, Vol. 79, pp. 5–16
- Planck, Max (1928); *Wissenschaftliche Autobiographie*, Leipzig
- Posner, R. (2009); How I became a Keynesian: Second Thoughts in the Middle of a Crisis; in: *The New Republic* v. 23. September
- Ptak, Ralf (2004); *Vom Ordoliberalismus zur Sozialen Marktwirtschaft. Stationen des Neoliberalismus in Deutschland*, Opladen
- Rosser, J. Barkley Jr., Holt, R.P.F., Colander, D. (2010); *European Economics at a Crossroads*, Cheltenham
- Salanti, A., Screpanti, E. (eds.) (1997); *Pluralism in Economics*, Cheltenham
- Schipper, Lena (2013); Marx im Regen; in: *Frankfurter Allgemeine Zeitung* (8 October 2013), online: <http://www.faz.net/-gyq-7i47e> [12 June 2014]
- Schlefer, J. (2013); Embracing Wynne Godley, an Economist Who Modelled the Crisis; in: *The New York Times*, 10 September
- Schmidt, C. M. and N. aus dem Moore (2010), Die Methodendiskussion in den Wirtschaftswissenschaften vor dem Hintergrund der Finanzkrise; in: Jens, U., Romahn, H. (eds.), *Methodenpluralismus in den Wirtschaftswissenschaften*. Marburg, pp. 143–182
- Sell, F.L. (2010); Die Weltwirtschaftskrise als Exempel der Überinvestitionstheorie: Komplementäre Erklärungsansätze von Hayek/Garrison und Minsky, in: Josten, S.D./Morasch, K./Sell, F.L. (eds.); *Volkswirtschaftliche Diskussionsbeiträge, Fachgruppe für Volkswirtschaftslehre, Universität der Bundeswehr*, Vol. 22, Nr.1, Munich
- Skidelsky, R. (2009); *Keynes - The Return of the Master*, London
- Skousen, M. (1997); The Perseverance of Paul Samuelson's Economics; in: *Journal of Economic Perspectives*, Vol. 11, No.2, pp. 137–152
- Smith, V. L. (2003); Constructivist and Ecological Rationality in Economics; in: Frängsmayr, F. (ed.); *The Nobel Prizes 2002*, Stockholm, pp. 502–561
- Snowdon, Brian, Vane, Howard R. (1997); The development of modern macroeconomics, in: Snowdon & Vane (eds.); *A Macroeconomic Reader*, London, pp. 1–25
- Solow, Robert (1986); What is a Nice Girl Like You Doing in a Place Like This? Macroeconomics after fifty years; in: *Eastern Economic Journal*, Vol. 12, No. 3, pp. 191–198

- Sraffa, Piero (1960); *Production of Commodities by Means of Commodities*, London
- Stabu (2012); *Fachserie 11, Reihe 4.4*, Wiesbaden
- Stiglitz, J.E. (2009a); *Moving Beyond Market Fundamentalism to A More Balanced Economy*; in: *Annals of Public and Cooperative Economics*, Vol. 80, No. 3, pp. 345–360
- Stiglitz, J.E. (2009b); *The Current Economic Crisis and Lessons for Economic Theory*, in: *Eastern Economic Journal*, Vol. 35, No. 3, pp. 281–296
- Stiglitz, J.E. (2011); *Rethinking Macroeconomics: What Failed and How to Repair It*; in: *Journal of the European Economic Association*, Vol. 9, No. 4, pp. 591–645
- Stiglitz, J.E. (2014); *The Lessons of the North Atlantic Crisis for Economic Theory and Policy*; in: Akerlof, G., Blanchard, O., Romer, D. Stiglitz, J.E. (eds.); *What Have We Learned? Macroeconomic Policy after the Crisis*, Cambridge (Mass.) and London, pp. 335–347
- Summers, P.M. (2005); *What caused the Great Moderation? Some Cross-Country Evidence*; in: *Federal Reserve Bank of Kansas City Economic Review*, Vol. 90, No.3, pp. 5–32
- Thielemann, U. et al. (2012); *Für eine Erneuerung der Ökonomie. Memorandum besorgter Wissenschaftlerinnen und Wissenschaftler*, Berlin (<http://www.mem-wirtschaftsethik.de/memorandum-2012/>)
- Vogt, Winfried (1973); *Einleitung*; in: Vogt (ed.); *Seminar: Politische Ökonomie. Zur Kritik der herrschenden Nationalökonomie*, Frankfurt
- von der Vring, Thomas (1975); *Hochschulreform in Bremen, Bericht des Rektors über Gründung und Aufbau der Universität Bremen während seiner Amtszeit von 1970 – 1974*, Frankfurt/Cologne
- Woodford, M. (2010); *Financial Intermediation and Macroeconomic Analysis*; in: *Journal of Economic Perspectives*, Vol. 24, No.4, pp. 21–44

