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Development of Heterodox Economics at public universities since the 1970s

by Sebastian Thieme** and Arne Heise*

Abstract

This article discusses the development of 'heterodox' economics at universities in Germany since the 1970s. Based on Lakatos' concept of scientific research programmes (SRP), the article introduces a classification of economics in order to clarify the understanding of variety within economics, especially in the case of Germany. Based on this classification and taking into account the different kinds of capital (economic, social and symbolic) available to heterodox economists, this article aims to show how heterodox economics in Germany has developed from the early 1970s until the present day. It will be shown that the heterodox schools expanded in the 1970s, but marginalisation took hold again by the 1980s and ultimately left German heterodox economics in a state of near-extinction today. From this, it follows that the history of heterodoxy in Germany is an unequal 'battle of the paradigms', and can only be told as the story of a failure.

Keywords: heterodox economics, pluralisation, philosophy of science, sociology of science, Germany

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

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1 Introduction

So-called ‘mainstream’ economics has come increasingly under attack since the recent economic crises that began in 2007/2008. Consequently, critics from within economics are increasingly enjoying public attention. However, the criticism of the ‘mainstream’ is not a completely new phenomenon, as is best illustrated by the example of the well-known ‘Plea for a Pluralistic and Rigorous Economics’ published in the *American Economic Review* in 1992 (Abramovitz et al. 1992). Interestingly, most of the past arguments against the ‘mainstream’ are still in use. This raises the question of why a ‘mainstream’ has persisted that is criticised for almost the same things as decades before. In addition, although alternative streams of economics are nowadays enjoying increasing public attention, they obviously (still) suffer marginalisation within the academic world, especially within economics. This is astonishing, because the optimistic mood of the 1960s once resulted in the establishment of some (reform) universities and the appointment of some economists with Marxist, Post Keynesian and neo-Ricardian backgrounds. So what happened to these economists who represent(ed) an alternative way of economic thinking?

Against this background, a research project investigated the development of heterodox economics at German universities since the 1970s.¹ The analysis itself was of a heterodox character because it took account of the institutional environment of the heterodox hotspots in Germany (policy at the local and federal level, history, etc.) and the categories of capital in Bourdieu’s terms (1991; 1992).

The following article is based on this research. It is structured as follows. Section 2 describes the subject of research, i.e. who was analysed, what kind of universities were analysed, etc. Section 3 concerns itself with the question of who is ‘heterodox’ in Germany, i.e. it presents and explains our classification and then introduces the group of people who have been analysed. Section 4 gives a short introduction to the historical and institutional background to the academic situation from the end of World War II to the 1970s, which marks the starting point of our analysis. Section 5 then describes the situation of heterodox economists in Germany from the 1970s until the present day. Section 6 elaborates these findings by concentrating on the economic, social and symbolic capital which was (or was not) available to the German heterodox economists. The final section, 7, concludes with some remarks about the significance of our findings.

2 Who was analysed?

The project concentrated on scientists who were employed at German *universities*. Economists who worked at universities of applied sciences (in German: *Fachhochschulen*), business schools (*Berufsakademien*) and the like were *not* included. The reason for this limitation is that the latter institutions of higher education are not normally allowed to confer PhDs and, more importantly in the German academic world, they are not allowed to confer a *Habilitation*, the qualification required to become a university professor. While a PhD typically paves the way for an academic career, the *Habilitation* is a

¹ See Heise, Sander and Thieme (2016). The project was financially supported by the Hans-Böckler Foundation (number: 2012-575-1).

necessary condition in order to become a full professor at German universities. Consequently, complete academic *reproduction* only results from being a professor at a German ‘full’ university.

For the same reason, the project concentrated on professors in the sense of full professors, adjunct/associate professors and German assistant professors or their current equivalent: ‘junior professors’.² These professors were (statistically) analysed from their first official appointment until their retirement. Hence, ‘senior’ professors, who are retired but nonetheless still engaged in research, were not included.

A further limitation is the exclusive focus on professors who were employed in economics departments because the project was interested in the heterodoxy that is accepted as belonging to *economics*. Therefore, economists employed at non-economics departments are associated with the decision to leave (or being forced to leave) economics altogether. In addition, economists working in other disciplines are typically not recognised as economists by economists working in economics, i.e. the former are no longer associated with economics and their criticism seems to be regarded as distant from current economics.

The project covers a period of time from about the 1960s to 2013/2014. Since official data from the ‘Vademecum’ – a semi-official statistical record of all professors, lecturers, etc. at German universities – contained some inconsistencies, the development of heterodox economics was mainly reconstructed from the curriculum vitae of each identified heterodox economist. This data was completed by and compared to additional information from the official webpage of the chair/person, commemorative publications and the like. Since information about social capital in terms of staff (postdocs, postgraduate students), the acquisition of third-party funding, etc. is typically not available from official data, the project also interviewed the (still) living heterodox economists by means of a questionnaire. At the end, 57 individuals were identified as being heterodox (for the classification, see the next paragraph) and 21 of them participated in an additional questionnaire.³

3 Defining ‘heterodoxy’

According to Imre Lakatos (1974) and Paul Feyerabend (1975), the evolution or development of an academic discipline is based on a multitude of paradigms, where the proponents of a paradigm play the role of warriors in a ‘battle of the paradigms’ (Lakatos) that is fought for a better interpretation or approximation of reality. Lakatos’ concept of scientific research programmes (SRP) was used in the project as a framework within which the following dimensions of classification can be described (Table 1):

² Assistant and ‘junior’ professors became/become a professor without needing to complete a *Habilitation*; it is near-equivalent to the concept of tenure track that is well known in the English-speaking world.

³ Note that there are individual cases of incomplete information. Consequently, the number of analysed individuals can differ from the sample mentioned in the text (i.e. 57 and 21 individuals). To avoid misunderstandings, our work concentrates on influential factors on the development of heterodox economics in Germany in general, thus we do not want to engage in a discussion about individual, anecdotal cases of heterodox economists. A complete list of the German heterodox economists who were analysed can be found in Heise, Sander and Thieme (2016).

1. Firstly, the dimension of a particular *methodology* which is regarded as acceptable (and therefore scientific).
2. Another dimension can be described in *epistemological* terms: certain *core assumptions* (axioms) underlying the formation of models.
3. Finally, there is a ‘negative heuristic’, according to which the postulates of the research programme, which have been derived from the core assumptions, are not (allowed to be) called into question.

Note that categorisations that take account of the aforementioned dimensions are hard to find within discussion about heterodox and mainstream economics.⁴

As claimed by the aforementioned ‘Plea for a Pluralistic and Rigorous Economics’ (Abramovitz et al. 1992), the mainstream in economics can be taken as the ‘paradigm’ or scientific research programme of ‘dynamic stochastic general equilibrium’ (DSGE), usually associated with ‘neoclassical economics’. Note that (simplified versions of) this paradigm also constitutes the canon in the widely used textbooks by (mainly) American authors (e.g. Mankiw’s *Introduction to Economics* and Samuelson and Nordhaus’ *Economics*).⁵

This DSGE paradigm is (i) *methodologically* based on the exclusive acceptance of a formal mathematical-deductive, positivist reductionism (Lawson 2006). Following the ‘empirical turn’ of the last two or three decades, sophisticated micro- and macroeconomics, and/or experimental arrangements which are familiar from the leading natural sciences (physics and chemistry) were incorporated (Schmidt and aus dem Moore 2010), (ii) the *epistemological dimension* of the DSGE paradigm can be described in terms of assumptions of rationality, ergodicity and substitutionality (Davidson 1984). These axioms constitute the ‘core’ of the paradigm. Finally, (iii) the dimension of the ‘negative heuristic’ of the DSGE paradigm is the postulate of macroeconomic stability and market clearing (Walras’ Law), which is implemented a priori in the core assumptions and serves as a ‘model solution’.⁶

Based on these considerations the mainstream can be described as a DSGE paradigm that is based on: (i) the acceptance of the ‘standard *methodological* toolkit’, i.e. formal mathematical-deductive, positivist reductionism and/or highly developed empiricism/experimentalism; (ii) the acceptance of the *core assumptions*, namely rationality, ergodicity and substitutionality; and (iii) the acceptance of Walras’ Law as a ‘*negative heuristic*’. The latter in particular marks the line of demarcation between DSGE mainstream and economic heterodoxy. This means that a paradigmatic change requires the rejection of the ‘negative heuristic’; merely having doubts about assumptions within the ‘protective belt’ is not sufficient for being heterodox. Economists who exhibit doubts

⁴ Lawson (2006), Lee (2012) and Colander, Hold and Rosser (2003) also provide categorisations, but they are different from ours.

⁵ Comments by some referees showed that this statement may be capable of being misunderstood. We are well aware that there is not a unique (‘standard’) DSGE model but rather many (which is why we speak of DSGE paradigm rather than theory). And we are also aware that most textbooks simplify their presentations by providing static General Equilibrium models which we consider as belonging to the DSGE paradigm. Therefore, we agree with Olivier Blanchard (2016: 1) in that „DSGE models have come to play a dominant role in macroeconomic research“.

⁶ Again, in order to prevent misunderstandings, it should be noted that the heuristic dimension of a paradigm is not about ascertained model outcomes of a particular configuration but about ‘ideal types’ in the sense of Arrow/Hahn (1971: 325) or Weber (1922).

about rationality, ergodicity and substitutionality, while at the same time remaining loyal to the ‘negative heuristic’ of the DSGE paradigm, belong to the ‘grey area’ that is often called ‘dissenters’. ‘Dissenters’ typically do not raise any fundamental criticism of the mainstream and use methods/ techniques (mathematics, modelling, etc.) similar to the mainstream, so that they are recognised by mainstream economists who often present these ‘dissenters’ as the dynamic front line of mainstream research (Colander, Holt and Rosser 2009).⁷ However, these variations within the ‘protective belt’ are often presented in a way that has made others fail to see that they nevertheless accept the ‘negative heuristic’. This applies (partly) to behavioural economics, evolutionary economics, neuroeconomics and the economics of complexity and approaches explicitly based on assumptions of limited rationality and the like. On the one hand this means that mainstream economists attempt to incorporate non-mainstream ideas and methods/ techniques into the mainstream framework while still accepting the ‘negative heuristic’. On the other hand, the adoption by the mainstream can be turned into a hostile takeover, where the mainstream increasingly gains dominance and strips the once ‘alternative’ movement of economics off any ‘heterodox’ character. This problem can be best associated with the difficulties in categorising evolutionary economics as being ‘heterodox’ (see, for instance, Dürmeier and Euler 2013). Against this background, the analysis of the ‘dissenters’ would have required a lot of extra work that was not possible within the scope of the project. Table 1 (below) takes them into account using the notion of being ‘partially’ affiliated with heterodoxy or dissenters.

Interestingly, there are some other dissenters within the mainstream who share its core axioms and the optimistic belief in stability and market-clearing, but not the mainstream’s standard methodological toolkit. The German *Ordnungsökonomik* (‘Ordo’-economics or economics of order) and the Austrian School based on the work of Hayek are examples of this category of dissenters. They are largely marginalised as though worthy, yet methodically weak and no longer up to date (Schmidt and aus dem Moore 2010, p. 170).

⁷ Both Kuhn’s ‘paradigm’ and Lakatos’ ‘scientific research programmes’ are terminologically ambiguous. Here we 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 labour market, distribution and growth, as well as theories of foreign trade, money or finance. From this perspective, however, it seems questionable whether, for example, behavioural economics or the economics of complexity actually constitute independent paradigms, or whether they are merely partial theories, which may in some cases have connections to various paradigms.

Table 1: Classification of economics

Core Axioms	‘Negative heuristic’	Methodology	Classification	‘School’
<i>Rationality, ergodicity and substitutionality</i>	<i>Walras’ Law, i.e. the stability of market clearing as a ‘model solution’</i>			
Accepted	Accepted	Standard economic toolkit	DSGEM	New classical macroeconomics Neo-Keynesianism Standard Keynesianism
Partly questioned/ variations	Accepted	Standard economic toolkit	DSGEM dissenters	Behavioural economics (partly) Economics of complexity (partly) Evolutionary economics (partly) Neuroeconomics
Accepted	Accepted	Rejection of the standard economic toolkit	DSGEM dissenters	Economics of order Austrian School
Accepted and appended by the assumption of asymmetrically distributed information	Rejected	Standard economic toolkit	Dissenters/heterodoxy	Information economics
Partly questioned/ variations	Rejected	Standard economic toolkit + other methods/ techniques (narrative analysis, abduction, etc.)	Heterodoxy	Post-Keynesianism Regulation theory/Marxism Socio- economics/socio-economic institutionalism <i>Behavioural economics (partly)</i> <i>Economics of complexity (partly)</i> <i>Evolutionary economics (partly)</i>
Accepted	Rejected	Standard economic toolkit	Heterodoxy	Neo-Ricardianism

Source: own classifications

Consequently, heterodoxy is based on: (i) the necessary condition of rejecting the mainstream’s ‘negative heuristic’, i.e. the stability of market clearing as a ‘model solution’ (repudiation of Walras’ Law⁸); (ii) the rejection of some (or all) of the assumptions within the mainstream’s ‘protective belt’; and (iii) methodological openness with regard to less formal, more narrative deduction and inductive or abductive techniques. The latter does not mean that heterodox economists must reject formal techniques/ mathematics. In contrast to mainstream economics, however, formalistic techniques are not taken as the only means of getting scientific insights in heterodox economics. As a result, there are heterodox economists using formal techniques, but we can also find heterodox economists who are more familiar with inductive and abductive techniques or more narrative deduction. Theoretical schools that can undoubtedly be regarded as heterodox and which are important for the German-speaking world include post-Keynesianism, neo-Marxist regulation theory, and theories of socio-economics.

⁸ The insight that a real paradigmatic alternative implies the rejection of Walras’ 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’ Law, Say’s Law; for the relationship between Walras’ Law and Say’s Law, see Mishan (1963).

As mentioned earlier, heterodox economists from the camp of dissenters (evolutionary economics and economics of complexity) are analysed insofar as they were easily identifiable within the framework of the project. Although ‘feminist economics’ is listed as a current heterodox approach by the JEL classification code B54, it was *not* associated here with an independently heterodox approach. Note that some of the feminist approaches belong to the mainstream (neoclassical feminist approaches) and are, therefore, not heterodox; other feminist approaches can be associated with pre-existing approaches from the heterodox camp of economics such as old institutionalism or Marx-inspired approaches (e.g. against the background of the discussion of whether household chores would also produce added value like ‘normal’ waged work).

4 The situation of economics from the end of World War II until the 1970s

After World War II, the academic landscape in Germany suffered from the moral failings of academics who became close to the Nazi regime and lost their neutrality and autonomy (Wolbring 2007, p. 73). There was also a very substantial loss of academic excellence because a lot of scientists were forced to emigrate for political, religious and racial reasons; Krohn (2002, p. 437) estimates that about 20 percent of those who held the office of (full) professors in 1930 and subsequently left Germany showed little interest in remigration after the downfall of the Nazi regime (Krohn 2002, p. 443). As a result, there was a ‘natural’ demand for new and ethically acceptable academics after the end of World War II. In the face of the enormous increase in student numbers between the 1950s and the 1960s the number of students doubled from 100,000 to 200,000 – the demand for academic professionals had to grow as well.

Later, with the student movement, this situation culminated in reform processes in Germany’s academic landscape. This found expression firstly in a (retrospective) temporary openness in recruitment practices. The existing ‘supply’ of scientists with a *Habilitation* did not satisfy the high demand for professorial candidates, so the recruitment conditions were modified so that scientists who had only completed a PhD could be appointed to the post of professor. As a result, around a fifth of all university professors had not completed a *Habilitation* in the mid-1970s (Hesse 2007, p. 124).

The aforementioned reform process also resulted in the foundation of ‘reform universities’ and the influence of reform-oriented status groups within traditional ‘old’ universities. The latter can clearly be attributed to the short-lived principle of *Drittelparität* (one-third parity), i.e. the substantial involvement of student or research assistant representatives in decision-making bodies at universities (with respect to appointing professors, etc.).

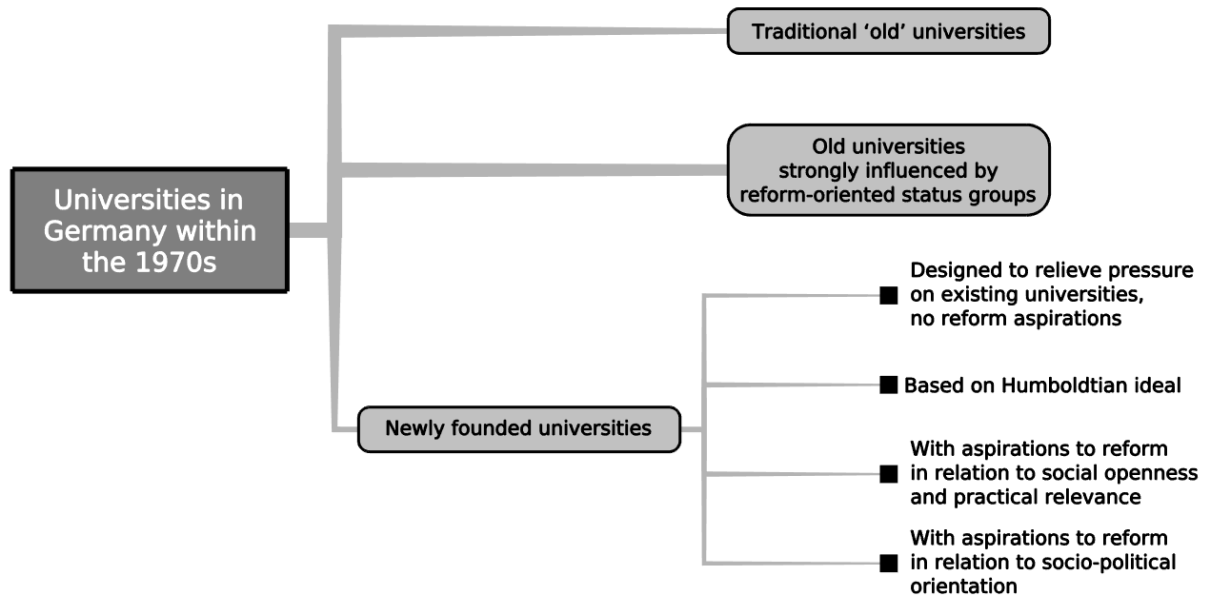


Figure 1: ‘Old’ and ‘new’ universities in Germany in the 1970s

Consequently, the general expansion of academic staff at German universities also meant a greater chance to appoint heterodox professors. However, there was not a nationwide pluralisation of economics, but rather a heterogenisation of both the access routes and the paradigmatic orientation of the professorships, with considerable regional variation. The latter especially applies to the two ‘strongholds’ of heterodoxy in Germany, the University of Bremen and the Hochschule für Wirtschaft und Politik (HWP) in Hamburg both of which had been founded with clear socio-political aspirations.

This process of pluralisation was accompanied by the foundation of heterodox organisations such as numerous local ‘Rote Zellen Ökonomie’ (Red Cells for Economics) and, prominently, the ‘Arbeitsgruppe Alternative Wirtschaftspolitik’ (Working Group for Alternative Economic Policy, also referred to as the Memogruppe) and the ‘Arbeitskreis Politische Ökonomie’ (German Association of Political Economy). New journals with pluralistic or ‘critical’ aspirations were founded as well, for instance: *Mehrwert*, *Prokla*, *Hefte für Politische Ökonomie*, *Das Argument* and *Leviathan*.

In addition, the criticism of the neoclassical synthesis and the work of Piero Sraffa at the time resulted in the revival of Keynes and interest in Marxian and (neo-)Ricardian theory. Therefore economics in general was increasingly confronted with problems, insights and ideas that supported (at least) a discussion of different approaches. As a result, different heterodox research programmes appeared during the 1970s and 1980s, for instance:

- The research programme of ‘monetary Keynesianism’, which tried to reconstruct theorising along the lines of the *General Theory* and tried to formulate a paradigmatic alternative to mainstream barter or exchange theory (see Heise 1990)
- The research programme of neo-Ricardianism, which tried to combine the classical theory of value and distribution with Keynes’ principle of effective demand (see Kalmbach and Kurz 1983)

- The research programme of 'radical economics', which tried to combine Keynesian and Marxian theories of crisis to form broad interventions in markets and property relations (see Künzel, Ipsen and Rohwer 1985; Hickel 1979; Huffschnid 1979)
- The research programme of 'evolutionary institutionalism', which tried to combine socio-economic and institutional theories in order to embed market allocation in social contexts and to reject the axioms of rationality and ergodicity (Elsner 1986; Elsner 2009)

These examples of heterodox research programmes clearly show that heterodox economics is not restricted to criticising the mainstream and bemoaning its own marginalisation.

5 What happened to heterodox economics in Germany after the 1970s?

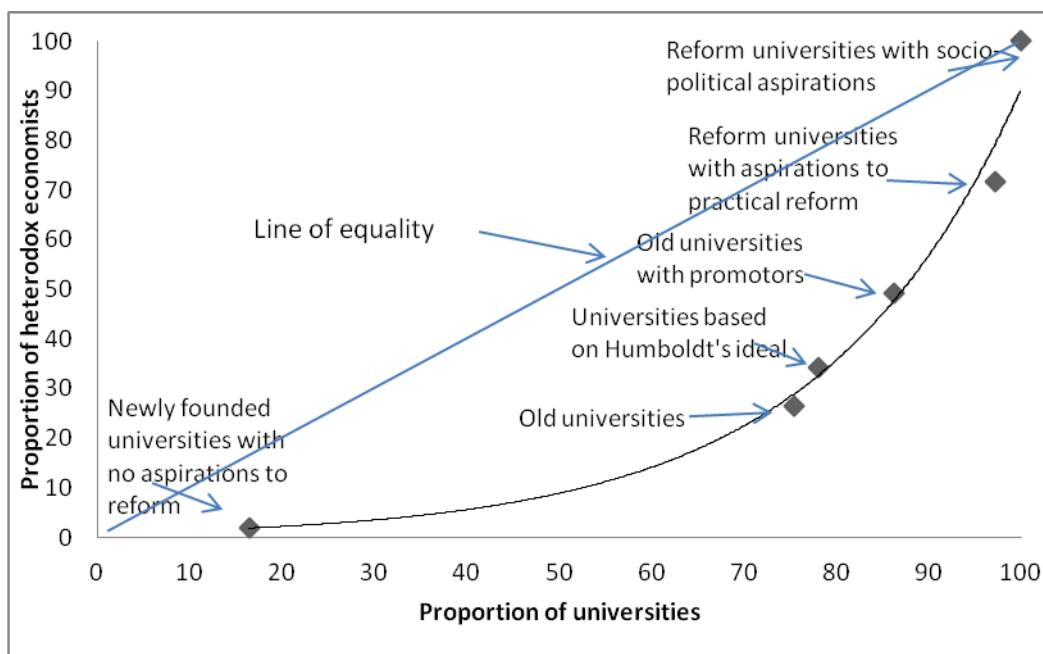
The situation of German universities during the 1970s can give the impression of amenable conditions for heterodox economics. But how were heterodox economists distributed throughout German universities (see Figure 1 above)?

Table 2: 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 Humboldtian 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

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

Figure 2: Distribution of heterodox economists in the university field

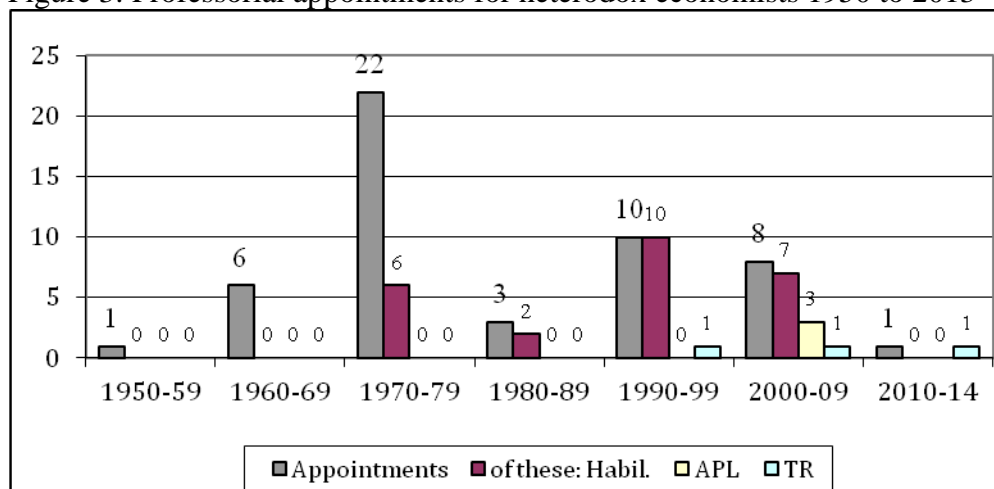


Source: own calculations

As Table 2 and Figure 2 show, the appearance of heterodox economists at traditional old universities in Germany was in most cases a result of pure chance. There was, however, a slightly higher chance for heterodox economists to be appointed at traditional old universities where groups with a socio-political orientation (students and academic assistants) had a strong influence in decision-making bodies or at newly founded universities that aimed at social openness and practical relevance. The situation also seemed to be a bit better at newly founded universities that followed the ideal of Humboldt ('research oriented universities'). Obviously (and not surprisingly), heterodox economists had the best chance of being appointed professor at 'reform universities' with aspirations to reform in relation to their socio-political orientation. The latter applies to the (former) heterodox 'strongholds', the University of Bremen and the HWP in Hamburg.

As seen in Table 2 and Figure 2, heterodox economists were virtually unrepresented at three quarters of all German universities with economics faculties or departments; of the remaining quarter, nearly 30% consisted of the two 'bastions' of heterodoxy (Bremen and HWP). The pluralisation is not only extremely unequal but quantitatively limited: on the basis of our research, we estimate that since the 1970s at no point in time have there been more than 10% of economics professors at German universities who can be associated with the heterodox camp.

Figure 3: Professorial appointments for heterodox economists 1950 to 2013



Notes: Habil. = *Habilitation*; APL = *außerplanmäßige* (extraordinary, non-tenured) professorships; TR = transformation/ converted professorships, resulting from the fusion of universities of applied sciences and universities

Source: own diagram

Ultimately, the development of heterodox economics only tells a story of further marginalisation (Figure 3): the number of appointments of heterodox economists after the

1970s declined rapidly,⁹ and the number of heterodox economists shrank more and more as the ‘first generation’ grew old and retired.

After the collapse of the German Democratic Republic (GDR), some heterodox economists might have associated the process of reorganisation of the universities within the territory of the ex-GDR with the hope of stabilising the population of heterodox economists. However, such hope quickly faded away. In fact, heterodox economists were completely overlooked when the economics faculties of East German universities were re-founded in the early 1990s (Table 3).

Table 3: Economics professors at reorganised East German universities

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

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

Moreover, the heterodox character of the two ‘strongholds’ of heterodox economics (Bremen and HWP) also faded away: 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 (more mainstream) organisational unit just at the time of the generational changeover when new professorial appointments were due.

6 Which elements characterise the weakness of German heterodoxy?

The increasing marginalisation of heterodox economics at German universities poses the question of the reasons for its weakness. According to Bourdieu’s framework, especially with respect to his differentiation of capital (Bourdieu 1991; 1992), the weakness of German heterodoxy can be attributed to the more or less insufficient endowment in terms of economic capital (financial situation and academic staff), social capital and symbolic capital. As a result, heterodox economists have found themselves placed with-

⁹ The 1990s as presented in Figure 3 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.

in an uneven ‘field of power’. In other words: if the academic history is associated with a ‘battlefield of paradigms’ (Lakatos), heterodox economists are less well armed than their opponents in the dominant mainstream.

Table 4: Research funding for heterodox economists

Institution	Applied for funds (in %)		Approved (in %)		
	Yes	No	Rejected	Partly approved	Fully approved
DFG	60	40	50	33	17
Alternative external sources	75	25	7	26	57

Source: own calculations based on Heise/Sander/Thieme (2016)

The insufficiency of endowment in terms of *economic capital* can be seen in the lack of access to financial resources from the Deutsche Forschungsgemeinschaft (DFG) – the German (public) research funding institution – which is the most important source of funding for academic work in Germany today (Table 4). 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 (Table 4): according to the project’s survey, only 17% of DFG applications by heterodox economists were fully approved, as opposed to 57% of applications to alternative research foundations (e.g. the Hans-Böckler Foundation and the Volkswagen Foundation). 50% of all applications to the DFG were completely rejected, as opposed to only 7% of applications to alternative external sources.

The ability to acquire research funds is very important for academic ‘reproduction’, especially where universities do not provide their professors with regular financial resources sufficient to employ postgraduates or postdocs. The financial resources required to employ postdocs play a key role in determining academic ‘reproduction’ in Germany: If a professor is not provided with financial resources to employ a postdoc, he or she will not be able to support the academic career of promising PhDs.

The financial resources that are provided obviously relate to the category of ‘economic capital’. On the basis of this category, it can be shown that heterodox economists were disadvantaged compared with the representatives of the mainstream. This is best illustrated by a comparison between the two ‘strongholds’ of orthodoxy and heterodoxy, the universities of Bonn and Bremen.¹⁰ The reform universities where heterodox economists were most likely to be found provided far fewer resources to the appointed professors than the traditional ‘professorial’ or ‘full’ universities (*Ordinarienuniversitäten*).¹¹

¹⁰ Despite limited information, it is certain that less than ten junior researchers received their *Habilitation* in economics at the economics department at 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) completed a *Habilitation* at the University of Bonn, and most of these went on to obtain a professorship at a German university. This is true of less than half of those who did their *Habilitation* in Bremen.

¹¹ According to the German Statistical Office, professors of economics in Germany had an average of 3.71 postgraduate and postdoctoral research staff in 2011 (cf. Statistisches Bundesamt 2012, p. 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 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 four to five research positions per professor in the 1980s and 1990s; cf. Heise, Sander and Thieme 2016), the heterodox professors tend to report a slight improvement. Of

In the case of the University of Bremen, at least in its founding phase, this can be attributed to the political attitude and desire to break with the habits of the traditional old universities, where the professors treat their employees like the ‘Sun King’ treats his servants.¹² Consequently, professors at such reform universities had more teaching responsibilities and could not employ additional members of staff.

In places where heterodox economists had access to resources comparable to mainstream economists (e.g. the University of Bielefeld), the ‘production’ of disciples was made difficult, at least at the level of the *Habilitation*. And even in those places where reproduction was successful as far as the *Habilitation* was concerned (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 sciences, or even shifting to other departments (sociology, political science) – in the worst case, they quit academia altogether. It is therefore certainly not wrong 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 it seems doubtful whether those who migrate to other countries or other – neighbouring – disciplines will return to the field of economics in Germany.

Note that the capacity for academic reproduction plays a key role in determining endowment in terms of *social capital*, i.e. resources are based on relationships and affiliations to social groups. Therefore, heterodox economists will struggle to have large or widespread networks if they are not able to ‘produce’ disciples. Being intertwined with symbolic capital (see below), although heterodox economists founded new journals and organisations during the 1970s (see section 4) this did not establish powerful networks and relationships comparable to the networks and relationships of the mainstream economists. These relationships comprise connections to and influence on academic, economic or political organisations such as the Wissenschaftsrat (German Council of Science and Humanities), the scientific advisory councils of the German Federal Government or the Deutsche Bundesbank and the scientific advisory boards of federal ministries where heterodox economists were entirely ignored.

The *symbolic capital* of heterodox economists can be associated with reputation and academic acceptance within economics and society. Although heterodox economists founded new journals and organisations during the 1970s, this did not help them to achieve academic reputation within the scientific community. This is exemplified by the low ranking of the main journals in which heterodox economists mostly publish in the *Handelsblatt* ranking (2013) which is the informal measure of the ‘quality’ of research output in economics in Germany.

Moreover, a comparison of the University of Bonn and the University of Bremen also reveals the low academic reputation of heterodox economists. For instance, the *Frankfurter Allgemeine Zeitung*’s ranking of economists (FAZ 2014b) that aims to assess the

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 ‘normalisation’.

¹² 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.

most influential economists in Germany also included ‘research’ as a category of performativity. Within ‘research’, the ranking did not include any heterodox economist with an academic background at the University of Bremen, but it did include four professors at the University of Bonn (FAZ 2014a).

As well as these kinds of rankings, reputation could also be achieved by holding representative positions within professional organisations that are important for the profession of economics. In the German-speaking world, the Verein für Socialpolitik (VfS) is the traditional (unofficial) professional organisation of German (or German-speaking) economists. 25 of the 57 heterodox economists are (or were) members of the VfS and although some of them are actively involved in the VfS, heterodox economists found it difficult to get accepted by the VfS, especially in terms of being elected to prestigious positions within it (e.g. president).

Finally, symbolic capital can also be associated with important and therefore symbolic positions in academia, economic or political organisations, such as the aforementioned Wissenschaftsrat (German Council of Science and Humanities) or the scientific advisory boards of federal ministries. These positions have remained largely closed to heterodox economists. Thanks to the nominating rights of the German trade unions, a few heterodox economists have been delegated to the *Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung* (SVR, German Council of Economic Experts) since it was founded in 1963. However, their role has been that of outsiders (Kampe 1983), i.e. mainstream economists must accept their participation by law and tradition, but they almost certainly regard this as a necessary evil.

7 Conclusion

The results of our project show that the ‘battle of paradigms’ is not dependent on a ‘true’ or ‘superior’ theory that would automatically sort out the other ‘wrong’ or ‘inferior’ theories. The case of Sraffa already indicates that showing substantiated evidence about the theoretical failings of one approach does not necessarily end in the latter’s loss of academic acceptance. Our results instead show that the scientific ‘success’ of scientists and, consequently, academic collectives of thinking do not or do not only require a correct or ‘true’ scientific theory but are also dependent on the institutional and cultural environment, including the economic, social and symbolic resources available to scientists and academic (sub-)communities.

Although the student movement called for a climate of openness in the academic landscape in Germany at the beginning of the 1970s, it did not result in a nationwide pluralisation of economics at German universities, but heterodox economists instead found the door to universities was barely open to them. The foundation of heterodox ‘strongholds’ was concentrated at a few locations (such as Hamburg and Bremen) and the entire heterodox camp never amounted to more than 10% of economics professors at German universities. Most of the heterodox economists who were analysed became professors during the 1970s, when they were not necessarily dependent on the *Habilitation*, but this changed in the 1980s. Our data shows a more or less fading wave of heterodoxy, beginning with the greatest amount of heterodox economists per decade in the 1970s (22 individuals) and with the number of appointed professors then decreasing in the following decades. Finally, in the present day, almost no professors of heterodox descent are being appointed any longer.

As well as this quantitative perspective, the results of the project show in detail that heterodox economists in Germany have never been bestowed with the economic, social and symbolic capital necessary to be a ‘competitive’ counterpart to the mainstream:

1. Heterodox economists have not been provided with personnel resources sufficient to ‘reproduce’ themselves (and comparable to their mainstream counterparts).
2. Heterodox economists have encountered and continue to encounter serious difficulties in acquiring third-party funds from the Deutsche Forschungsgemeinschaft (DFG) that are supposed to be awarded on the basis of academic originality and, therefore, to be paradigmatically and methodologically open; however, the funding is actually predominantly awarded to mainstream economists.
3. Consequently, heterodox research and academic reproduction is increasingly absolutely dependent on alternative foundations such as the Hans-Böckler Foundation and the Volkswagen Foundation. However, acquiring money from the Hans-Böckler Foundation in particular runs the risk of being disparaged as a ‘trade union economist’ by the economic mainstream, as well as by the media and politicians on the basis of the judgements of the economic mainstream.
4. Heterodox economists founded new journals and professional groups in the 1970s, but they were not able to achieve academic acceptance within science, society and politics; when heterodox journals are not ignored, they are usually associated with an inferior academic value in the *Handelsblatt* rankings, which are very important in order to pursue an academic career in Germany.
5. The academic work of heterodox economists is usually also rated to be of an inferior academic value by rankings such as the *FAZ* rankings that aim to measure the influence and relevance of German economists; most heterodox economists do not appear there.
6. Heterodox economists do not usually have access to academic, economic or political organisations that influence science and society in general (e.g. the German Council of Science and Humanities or federal ministries); where law and/or tradition impose the inclusion of ‘heterodox’ economists, as in the case of the German Council of Economic Experts (delegated by the German trade unions), the ‘heterodox’ or critical economists remain a minority and are more or less regarded as court jesters.

Against this background, a ‘fair’ competition of paradigms is still impossible. The ‘battle of paradigms’ is instead reduced to a defensive war waged by the mainstream with occasional ‘skirmishes’ by the heterodox minorities: this is not a ‘battle’ between equal opponents. As the results of the project show, if the aim were really a ‘fair’ competition, the government would repair the current academic framework and incorporate precautions guaranteeing the freedom of science, including the freedom to carry out heterodox research.

All things considered, the history of heterodox economics in Germany is a story of further marginalisation. The current situation requires administrative interventions. If such interventions fail to appear, the last chapter of the history of heterodox economics in Germany will be written in the near future: within the next five to ten years or so.

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