

Ludwik Fleck's Philosophy and Sociology of Science and the Resilience of Modern Neoclassical Economics - a Case Study

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Arne Heise

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and Sociology of Science
and the Resilience of
Modern Neoclassical
Economics – a Case Study**

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1. Introduction

Ludwik Fleck's contribution to the sociology and philosophy of science has gone almost unnoticed to the present day (see Sady 2017). Although his ideas about the development of scientific knowledge as a collective effort organised in 'thought collectives' ('Denkkollektive') based on shared 'thought styles' ('Denkstile') may have been elaborated and honed in Thomas S. Kuhn's works on scientific revolutions and paradigm shifts and those of Imre Lakatos on scientific research programs (srp), Fleck's work is still insightful beyond Kuhn's and Lakatos' contributions, not so much with respect to what triggers scientific progress but rather what impedes the correction of scientific deceptions.

While Kuhn and Lakatos built on the rationality of the scientific community not to follow paradigmatic lines or adhere to scientific research programs defeated by empirical falsification or the proof of logical inconsistency or having entered the 'state of degeneration', Fleck was more concerned with the sociological forces that explain the resilience of ideas and what today we would call 'fake knowledge' even in the face of mounting evidence that does not fit the established wisdom.

In the following, Fleck's philosophy and sociology of science will be briefly outlined in order to establish a 'theory of the resilience of scientific misapprehension'. This theory will be tested against the development of modern neoclassical economics by singling out a case of extreme deviation of theoretical prediction from empirical evidence: minimum wages' impact on employment.

2. Ludwik Fleck and the 'harmony of deception'

Ludwik Fleck was convinced that there are no such things as 'objective knowledge' or only 'facts' which constitute a true understanding of the real world. Rather, facts, like knowledge, are always socially constructed in the sense that what we see (as a fact) or know (as 'truth') depends on the way we look at it. And in order to be plainly able to see something when we look at it, we need a 'pre- or proto-idea' ('Prä- oder Ur-Idee') which is neither wrong nor false but merely a device with which to construct reality. Observations and reflections under the influence of such pre- or proto-ideas develop into a 'thought style' ('Denkstil') which then can be defined

as (the readiness for) directed perception, with corresponding mental and objective assimilation of what has been so perceived (Fleck 1979: 99).

As distinct from the social constructivists, Fleck must not necessarily reject the existence of a unique social reality independent of the observer, but the way the observer sees and explains such a unique social reality always depends on the particular heuristic devices and hermeneutics that constitute a 'thought style'. A social element comes in because a certain 'thought style' can produce 'facts' and 'knowledge' in any meaningful way only if such 'facts' and 'knowledge' are accepted by more than one individual, i.e. a group of people or, more generally, a collective which shares the same way of seeing and explaining: a 'thought collective' ('Denkkollektiv').

In order to attribute to a certain 'thought style' the power of generating and developing

facts and knowledge that assume scientific status, it must not only be shared by a collective of scientists (which Fleck calls the ‘esoteric circle’) and laymen accepting the outcome as scientific wisdom (the ‘exoteric circle’) but must also be stable or last some time. Therefore, the thought collective must develop a certain solidarity to the thought style Fleck calls the ‘collective mood’ and which can be described as

an intellectual taste and a notion of what counts as a good result and appropriate path to it (von Sass 2016: 75).

The stronger such bonds of solidarity, the stronger the ‘thought compulsion’ (*‘stilgemäßer Denkwang’*) emanating from it, the more stable a thought style will be. Its flipside is the neglect and rejection of everything – from facts to ideas or theories originating from alternative ‘pre- or proto-ideas’ – that does not conform to the thought style of the thought collective. This kind of group pressure may be harmless as long as membership of a thought collective is entirely voluntarily (i.e. independent of any social or institutional inducement or pressure) and there are different thought collectives entertaining different thought styles. Yet if a scientific discipline does not allow a plurality of different thought styles but enforces a unitarian-monistic approach delegitimizing every thought style but one, the likelihood of what Fleck calls ‘a harmony of deception’ (*‘Harmonie der Täuschungen’*)¹ is high.

If tenacity is a necessary pre-condition for thought styles to become powerful in the sense that it creates explanations and narratives which are regarded as scientific truth by both the esoteric and exoteric circles and, indeed, as common knowledge, collective mood and thought compulsion must be effective. Although the collective mood may have very different origins and modes of operation, thought compulsion is similar regardless of thought style:

Once a structurally complete and closed system of opinions consisting of many details and relations has been formed, it offers enduring resistance to anything that contradicts it:[...] (1) A contradiction to the system appears unthinkable. (2) What does not fit into the system remains unseen; (3) alternatively, if it is noticed either it is kept secret or (4) laborious efforts are made to explain an exception in terms that do not contradict the system. (5) Despite the legitimate claims of contradictory views, one tends to see, describe, or even illustrate those circumstances, which corroborate current views and thereby give them substance. (Fleck 1979: 27)

The more pervasive the collective mood is, the stronger the thought compulsion will be, resulting in a strong resilience of the thought style and, possibly, scientific misapprehension or a ‘harmony of deception’. In the following section, the economic discipline will be explored with respect to its collective mood and its thought compulsion by referring to a field in which ‘exceptions’ or ‘anomalies’, in Kuhn’s terminology, appear to be devastating for the dominant thought style (mainstream neoclassical

¹ Thomas S. Kuhn in his foreword to the English edition of Fleck’s *Entstehung und Entwicklung einer wissenschaftlichen Tatsache* (Genesis and Development of a Scientific Fact) calls it “a damaging metaphor, for it reinforces the impression that, in the absence of social pressure, illusion might have been avoided” (Kuhn 1979: X). Actually, if ‘absence of social pressure’ refers not to the ‘thought compulsion’ necessary for any thought collective but to the inadmissibility of more than one thought style at a time, the impression appears to be well founded.

economics), yet do not trigger a ‘thought style transformation’ (*Denkstilumwandlungen*) but, if anything, merely ‘thought style supplementations’ (*Denkstilergänzungen*) or ‘thought style extensions’ (*Denkstilerweiterung*): labour market economics in general and the introduction of minimum wages in particular.

3. The impact of minimum wages on employment and the dominant ‘thought style’

The dominant neoclassical labour market theory is based on the premise that the labour market can basically be analysed in the same way as any other commodity market. That is to say that supply of and demand for labour (services) follow the same utility maximisation principles as on any other market: households provide labour (services) according to the optimisation principle of exchanging leisure time (which provides utility, and thus any offer of labour services reducing leisure time implies disutility) for income (which compensates for the loss of utility) up to the point where the disutility of an extra unit of sacrificed leisure time is merely compensated for by the utility of the extra unit of income gained; i.e. marginal disutility of labour supply simply equals the real wage rate as the price of the extra unit of labour supply. In a similar fashion, the microeconomics of firms’ demand for labour align the utility of an extra unit of labour with the cost of that extra unit; i.e. the marginal productivity simply equals the real wage rate as the price of the extra unit of labour demand. As the marginal disutility of labour supply is assumed to increase with each unit of labour supplied, the ordinary labour supply curve rises with the real wage rate. And since the labour demand curve falls as the marginal productivity of labour is assumed to fall under the conditions of a ‘well-behaved’ production function, both curves will intersect at the real wage rate which equalises the marginal productivity of the last unit of labour demanded with the marginal disutility of the last unit of labour supplied – hence we get a cleared labour market at the ‘equilibrium wage rate’ and full employment in the sense that every unit of labour supplied at the equilibrium wage rate will find employment. Unemployment can only be ‘voluntary’ in the sense that households may ask a price (real wage rate) for their labour supply which lies above the market-clearing level (i.e. above the marginal productivity of the unit of labour if it were employed additionally) and cannot, therefore, be paid by the firms unless they accept losses (in the short term and bankruptcy in the long run).

This rather technical approach to a very social mechanism follows the dominant thought style (‘mainstream economics’) of translating any social process in the economic sphere into an exchange procedure in a market place – *the ‘pre- or proto-idea’ of mainstream economics is thus market exchange in order to increase the welfare of the market participants involved* by using advantages of specialisation (‘economies of scope’) and by exploiting favourable exchange opportunities based on initial endowments. But ‘the market’, i.e. market exchange, is not only seen technically as a coordination mechanism (harmonising diverging interests) but also ideologically as a superior device for creating a ‘spontaneous order’ which reduces social power to symmetrical exchange relations and provides (pareto-)optimal outcomes which can be accepted without the need to determine collective objectives such as a ‘common good’ or general welfare –here superiority refers

to allocative and productive efficiency in comparison to an alternative coordination mechanism such as a central plan. ‘The market’ and its defence against other coordination mechanisms therefore becomes a constitutive element of mainstream economics not only because it promises superior economic outcomes but also because it is based on the preservation and defence of property rights and, implicitly, a given distribution of wealth (initial endowments). How much the idea of market exchange as the constituent of economic activity analysed by the economics profession permeates the dominant thought style – and thus creates a collective mood of the thought collective – is illustrated by the fact that the object of inquiry is widely dubbed ‘market economy’. The classical political economists of the eighteenth and nineteenth centuries used the term ‘capitalism’ instead, which does not yet convey the message of market exchange as central and definitive to their object of inquiry. Moreover, the centrality of market exchange for analysing and modelling economic activities is strengthened and reinforced by society’s attitude towards markets and market outcomes: the more ‘market conforming’ or ‘market oriented’ a society and its cultural norms, the stronger the collective mood of the thought collective of scientists in general and of economists in particular – thus establishing a strong thought compulsion which excludes the possibility of any other basic constituent such as power relations (as in Marxian economics) or nominal obligations (as in post-Keynesian economics).²

The mandatory tenacity of a thought style based on its ‘thought compulsion’ may turn it into a ‘harmony of deception’ if the scientific discipline involved does not allow a plurality of thought styles to coexist. This, again, may be the case when the scientific claim of the discipline is to provide ‘truth’ in a singular form (and to reject pluralism as relativism) and when thought collectives are in a position to set the methodological, epistemological and, particularly importantly, the ontological standards for the discipline as a whole. This appears to be exactly the case in economics, where a handful of US elite university departments are bestowed with a level of economic, social, institutional and cultural capital (in a Bourdieuan sense) which puts them in a position to play key roles in offering the standards which the peculiar ‘market for economic ideas’ requests (see Heise 2016). Fourcade/Ollion/Algan (2015: 91) therefore conclude:

Economics occupies a unique position among academic disciplines. It is characterized by far-reaching scientific claims linked to the use of formal methods; the tight management of the discipline from the top down; high market demand for services, particularly from powerful and wealthy parties.

Through institutionalised incentive systems (rankings, journal hierarchies, third-party funding as ‘objective’ quality measurements), the US market-oriented collective mood has turned into a worldwide thought compulsion which leaves almost no room for other

² Marion Fourcade shows that a market-oriented collective mood is particularly strong in the USA, while in other countries (such as the UK or France) the collective mood is (or, rather, has been) more state-oriented or public-minded: “The American political distrust of centralized political power has a natural corollary in the celebration of the market. [...] The Sherman Act implied that markets are not simply the *structure* of the American economy: they are its *law* (Fourcade 2009: 35 ff.; italics in original).

thought styles to flourish (see e.g. Heise/Thieme 2016, Chavance/Labrousse 2018, Corsi/D'Ippoliti/Zacchia 2018).

Notwithstanding the glorification of markets in mainstream economics, its smooth functioning rests on some assumptions which may not necessarily hold in the real world: perfect competition, perfect information and foresight, absence of transaction cost and the absence of political interference. With respect to the labour market, myriad theories have been put forward on how the real-world refutation of any of these assumptions can explain what appears to be – contrary to the prediction of perfect markets – a common feature of highly developed economies: lasting mass unemployment. Monopoly union, right-to-manage, insider-outsider and NAIRU³ theories reject the assumption of perfect competition in labour markets, and efficiency wage theories point to the fact that wage contracts are incomplete in the face of imperfect knowledge and information. Job search and menu cost theories refer to positive transaction costs involved in real-world labour markets. The result is always a deviation of the market outcome from market clearing at full employment level due to restrictions either on the demand or on the supply side of the labour market. Moreover, once social policies or legal restrictions render the assumption of the ‘absence of political interference’ futile, reservation or minimum wages will provide the same explanation for unemployment: the real wage rate turns out to be too high for full employment. In terms of Ludwik Fleck’s philosophy, all such ‘theories of unemployment’ can be seen as thought style supplementations and extensions to the initial ‘theory of the non-existence of involuntary unemployment’, yet they remain compatible and commensurable with it⁴ and thus rather stabilise the initial thought collective than spark a veritable thought style transformation.

It is in this sense that the minimum wage has become part of almost every textbook on macroeconomics: if it is set at a level above the ‘equilibrium wage rate’ – and a minimum wage below that level would clearly make no sense – it will cause unemployment (see e.g. Blanchard/illing 2017: 339; Bofinger 2015: 340; Altmann 2009: 373f.).⁵ The obviousness of this result – merely the exact quantity of unemployment remains to be empirically settled – is illustrated by the fact that unemployment on this theoretical basis is typically termed ‘minimum wage unemployment’ irrespective of what or who determines the minimum wage: it could as much be initiated by the trade unions via encompassing collective bargaining agreements as simply being statutorily set by the law maker.

4. Empirical minimum wages research and the introduction of minimum wages in Germany

Academic economics considers itself to be a ‘positive science’; i.e. it claims to

³ NAIRU stand for Non-Accelerating Inflation Rate of Unemployment.

⁴ As a mainstream referee to a paper of mine once wrote: ‘No matter how you look at it, unemployment ultimately always turns out to be a problem of excessively high real wages’ – mainstream heuristics does not allow for any other interpretation.

⁵ I will concentrate on the German literature – textbooks in this case – only because Germany and the introduction of minimum wages in Germany in 2015 form the case studied in this paper. However, the same is true for the more influential American textbooks; see Dolar (2013).

theoretically explain what 'is', not what 'should be'. Therefore, theoretical modelling in economics always has to face the reality test of empirical falsificationism: theoretical statements can be accepted as establishing 'truth' as long as they are not rejected by rigorous empirical testing. There is a long tradition in Labour Market Economics of doing exactly this: testing the effects of minimum wages on sectoral and overall employment, (wage) income distribution, and collective bargaining, among other things. With respect to the employment effect of minimum wages, the picture remains perplexing:

Economists have conducted hundreds of studies of the employment impact of the minimum wage. Summarizing those studies is a daunting task, but two recent meta-studies analyzing the research conducted since the early 1990s concludes that the minimum wage has little or no discernible effect on the employment prospects of low-wage workers. (Schmitt 2013: 22)

These findings are in stark contrast to mainstream neoclassical labour market theory exposed above. How does the thought collective (of mainstream economists) react to such an apparent falsification of its thought style? Will we experience a transformation of thought style which brings the ideas back in line with the facts? Or how will the thought compulsion serve to keep the thought style intact? The introduction of statutory minimum wages in Germany in 2015 provides an interesting basis for study. However, before we examine the German case, let us extract potential reactions from a review of the international literature: 1) a common reaction, of course, is simply to ignore contradicting empirical evidence altogether. 2) Many studies avoid addressing the question of overall, economy-wide employment effects by merely focussing on sectoral, i.e. partial impacts. In doing so, they can demonstrate the expected negative employment effects in the very sectors in which sectorial minimum wages were introduced and thus avoid conceding 'exceptions' or 'anomalies'. 3) With the seminal papers of Card/Krueger (1995) and Manning (2003), the common assumption of perfect competition in labour markets has been replaced by the assumption of monopsonistic labour markets, i.e. the idea that regionally, employers may not be faced with competing employers for labour (the 'industry town') or the idea that transaction cost (job search cost, moving cost, loss of firm-specific human capital, etc.) may give employers wage-setting power (pseudo-monopsony) even in the face of complete competition. As smartish as this thought style supplementation is, it is not without problems: truly monopsonistic competition appears to be rather rare in modern advanced economies and, therefore, of only marginal importance. Moreover, to take the argument seriously, the introduction of minimum wages will curtail the wage-setting power of monopsonistic firms and, if we assume ordinary labour supply behaviour, increase employment compared to a situation without a minimum wage. This, again, would not be consonant with empirical evidence. And although the introduction of transaction cost definitely renders the theoretical approach more realistic and explains some limited the wage-setting power of firms, negative employment effects can only be avoided if the minimum wage is set very low indeed: once the minimum wage exceeds the equilibrium wage rate of the least qualified worker by more than the margin given by transaction cost, employment losses would have to be expected. To summarise, the artificiality of the arguments put forward are a clear indicator of the working of thought compulsion: stabilising a thought style confronted with

empirical evidence to the contrary.

For long time, minimum wages sparked little attention in German academic economics: the principle of the autonomy of collective bargaining granted to the social partners evoked negative responses on the part of employers' organisations to the same degree as trade unions whenever the topic of introducing minimum wages arose on the political agenda. It was only from the early 2000s onwards, when it became ever more apparent that collective bargaining agreements no longer covered most employees at the lower end of the wage scale and (wage) income inequality and poverty rates increased markedly, that minimum wages became more topical. The discussion was fuelled mainly by the big policy-oriented German think tanks such as the *ifo-Institut* or the *Deutsches Institut für Wirtschaftsforschung* (DIW) and official counselling institutions such as the *Institut für Arbeitsmarkt- und Berufsforschung* (IAB) of the German Labour Agency and the *Sachverständigenrat* (SVR – Council of Economic Experts).

The latter addressed the question of minimum wages as early as 2006, when the mainstream majority of experts⁶ clearly rejected the introduction of a minimum wage in Germany on the basis of expected negative employment effects as predicted by the ordinary neoclassical labour market theory. They did mention empirical evidence to the contrary, yet refused to accept such evidence was of guiding importance for Germany, since it was allegedly based on economies (mainly the USA and the UK) which are different from the German economy and where labour markets are more flexible than in Germany (see Sachverständigenrat 2006: 401ff.). However, they failed to explain why these qualifications matter, but mention labour market monopsony as a potential argument in favour of minimum wages. Again, they rejected this approach due to the argument outlined above: only very low minimum wages (much lower than the mooted hourly minimum wage of €7.50) could claim neutral or even positive employment effects. Interestingly, in a minority votum, one expert pointed to empirical evidence to the contrary in order to back his pro-minimum wage position. Yet he made no effort to fortify his adversarial position with a theoretical argument. In the editorial revision of his textbook on macroeconomics (Bofinger 2015: 159ff.), this expert added the monopsony model of labour markets to justify minimum wages – the earlier editions only mentioned mainstream minimum wage unemployment. Unfortunately, he neither bothered to explain the difference between theoretical prediction (increase in employment) and empirical evidence (neutral employment effect) nor did he make any effort to prove the existence of monopsonistic labour markets in Germany. When the government finally decided to introduce a minimum wage in 2015, the Council of Economic Experts simply replicated its earlier judgment in its 2013 and 2014 annual reports (see Sachverständigenrat 2013; Sachverständigenrat 2014).

The *ifo-Institut* was even more explicit in its compliance to the ordinary mainstream

⁶ The German council of economic experts (SVR) comprises 5 'economic experts' (mainly economics professors). 3 of them are nominated by the German government, one is nominated by the German employers' organisation and one is nominated by the German trade unions. In most cases, 3 + 1 experts are from a mainstream neoclassical background while 1 (the trade union's nominee) has a more Keynesian background.

labour market approach by resorting to citing the alleged analogy between apple and car markets on the one hand and labour markets on the other (see Ragnitz/Thum 2008): if the price is too high, there will be a quantity reaction, i.e. if the minimum wage is set above the equilibrium wage rate, employment will fall and unemployment will rise – merely the strength of this reaction may be questionable. The higher the employment elasticity of the (real) wage rate, the higher the negative impact will be. According to the estimates used by the *ifo-Institut*, even low minimum wages will cause considerable employment losses in Germany. The study mentions conflicting empirical evidence only in passing and rejects it outright by simply claiming a lack of suitable accuracy for Germany.

In a common declaration of the six publicly financed economic think tanks⁷ and the research institute of the German employers' organisation *Institut der deutschen Wirtschaft* (IW) and the privately funded *Institut für die Zukunft der Arbeit* (IZA) (see DIW et al. 2008), the introduction of a minimum wage is rejected on the grounds that it will damage employment to a considerable extent. Again, empirical evidence to the contrary is played down and other theoretical constructions such as the monopsonistic labour market even entirely ignored.

The *Institut für Arbeitsmarkt- und Berufsforschung* (IAB) of the German Labour Agency is the only major research institute in Germany that was slightly less critical of the introduction of a statutory minimum wage (see Möller/König 2008). However, this was not due to different theoretical reasoning but simply to a different weighting of empirical evidence against theoretical prediction – highlighting the applied research focus of the institute. The trick was to point to the inconclusive empirical evidence and to claim that the theoretical prediction is also inconclusive once the ordinary neoclassical (competitive) labour market model is supplemented by a monopsonistic labour market model.⁸ Moreover, it was argued that as long as the minimum wage is kept low – close to the bottom end of the wage scale – negative employment effects can be contained. Clearly, in substance there is not much difference to the lines of argument pursued by the critics of a minimum wage.

After the political debate culminated – despite the strong resistance from German academic economics – in the resolution to finally introduce a statutory minimum wage in Germany in 2015, Knabe et al. (2014) provided probably the most comprehensive study on the potential employment effects. They conclude:

The introduction of a comprehensive, statutory minimum wage of € 8.50 is a big experiment which entails high social risks. The objective of this review article is to evaluate these risks on the basis of existing theoretical and empirical literature. The result is that neither theoretical research nor empirical work from other countries provide the all-clear.

Arguments for a negligible effect on employment all rest without exception on

⁷ *Deutsches Institut für Wirtschaftsforschung* (DIW), *ifo-Institut*, *Hamburger Weltwirtschaftsarchiv* (HWWA), *Rheinisch-Westfälisches Institut für Wirtschaftsforschung* (RWI), *Institut für Weltwirtschaft* (IfW) and *Institut für Wirtschaftsforschung Halle* (IWH).

⁸ Of course, conflicting theoretical predictions are translated into inconclusiveness of theoretical prediction – which is clearly not the same thing.

theoretical and empirical work on moderate minimum wage increases. Up to 2015, for example, presumably 1.1 million employees will earn less than 5 euros per hour. For these people, the introduction of a minimum wage will cause their wages to increase by 70 percent and more and thus these arguments cannot be applied. (Knabe 2014: 153, own translation)

They estimate considerable job losses in Germany of 910,717 on the basis of a standard neoclassical model and, interestingly, an only marginally lower figure of 425,676 if a monopsonistic labour market is assumed.⁹ The former result is entirely in line with exactly the same theoretical reasoning which empirical evidence has not supported. The latter result appears to contradict the monopsony model; however, the monopsony model's prediction of an overall gain in employment rests on the assumption of very low minimum wages. Once this assumption is dropped, job losses – although lower in number – are inevitable even under (pseudo-)monopsonistic conditions. And it is precisely this argumentative turn – that the minimum wage of € 8.50 to be introduced statutorily in Germany in 2015 is far too high for positive or neutral employment effects – which is also directed against the empirical literature: the wage increase in many sectors is far higher than has ever been empirically tested and therefore empirical evidence to the contrary is considered inappropriate for the German case.

Summarising the debate, we find all the elements of “enduring resistance” (Fleck 1979: 27) predicted by Ludwik Fleck to anything that contradicts the considerable negative effects of such a regulatory step: (1) For most studies and their authors, a contradiction of the outcome of mainstream neoclassical labour market theory with respect to wage setting above the equilibrium wage rate is simply unthinkable! (2) Although scientific credibility and integrity precludes ignoring conflicting theoretical and empirical evidence outright (‘not see or keep secret’ as Fleck puts it),¹⁰ (3) in most cases it is either played down or rejected as not appropriate for the case under investigation, i.e. “laborious efforts are made to explain an exception” (Fleck 1979: 27). (4) Finally, even those studies that appear not to be in line with the predictions of the mainstream thought collective – i.e. those that favour minimum wages – do not refute the dominant thought style altogether but, rather, add ideas to or change assumptions of that dominant thought style, thereby triggering ‘thought style supplementations’ or ‘thought style extensions’. It should be noted that such ‘supplementations’ and ‘extensions’ have been easily re-integrated into the original ‘thought style’ by claiming their limited validity and commensurability with it¹¹.

⁹ Other studies suggest quite similar negative employment effects: Henzel/Engelhardt (2014) expect job losses of 857,000, Arni et al. (2014) estimate a decline in employment of 570,000 – differences are basically due to different assumptions about the wage elasticity of labour demand.

¹⁰ Nevertheless, the joint appeal of the presidents and directors of the important German economic think tanks, admittedly not a scientific document, does not even bother to mention the construction of a monopsonistic labour market as a potential theoretical counter-argument; see DIW et al. (2008).

¹¹ It should also be noted that there were (and are) alternative approaches available which would constitute veritable ‘thought style transformations’ (see e.g. Herr/Kazandziska 2011; Herr/Kazandziska/Mahnkopf-Praprotnik 2009) – however, they did not receive any attention and remained entirely marginalised.

5. ‘Thought compulsion’ and scientific misapprehension – a conclusion

It has been argued in this paper that – on the basis of the sociology and philosophy of science of Ludwik Fleck – every thought collective needs to create a certain thought compulsion in order to (temporarily) stabilise. However, there is a trade-off between the stability of a thought collective and the apprehensiveness of a thought style in that the inherent rebuttal of theoretical and empirical evidence to the contrary may eventually become a ‘harmony in deception’ and thus may harm scientific progress.

The introduction of a statutory minimum wage in Germany in 2015 and the preceding academic discussion reveal the resilience of mainstream labour market theory based on a thought compulsion of the thought collective: although there was abundant empirical evidence demonstrating that neither the standard (competitive) labour market model nor the peculiar approach of a (pseudo)monopsonistic labour market can be brought in line with real-world labour market outcomes in the face of minimum wages, the mainstream academic community in Germany adhered to those models and, at least in its vast majority, fervently rejected minimum wages as being economically harmful. Only a small minority supported minimum wage legislation – however this was not based on a rejection of the dominant ‘thought style’ but on a rather unconvincing bias towards empirical evidence (and, possibly, on ideological motivations).

The political actors in Germany did not follow the recommendations of the majority position and thus allowed an economic (and, of course, social) experiment: will Germany suffer a heavy blow to employment (the standard labour market model and monopsony labour market model in the interpretation of the majority of mainstream economists) or will employment even rise (as in the interpretation of the monopsony model by a minority of mainstream economists)? Or will the effect be rather negligible, as international empirical evidence suggests – putting the accuracy of the dominant thought style in doubt?

Without exception, all studies on the effects of the introduction of a statutory minimum wage on employment in Germany with their different methods – the minimum wage act codified research to be conducted concomitantly – conclude that overall employment effects are negligible (and more reliably so the more time has elapsed since the introduction of minimum wages; see e.g. Mindestlohnkommission 2018, Bossler/Möller 2018, Caliendo et al. 2017, Bonin et al. 2018, Heise/Pusch 2018; Zilius/Bruttel 2018).¹² There appears to be a negative impact on so-called ‘mini-jobs’¹³ and more so in those branches that are more exposed to the minimum wage than the average, but this seems to be almost entirely compensated for by an increase in regular jobs (*‘sozialversicherungspflichtige Arbeitsplätze’*). Certainly, unemployment has not

¹² Interestingly, most of these studies are provided by the very economic think tanks that rigorously opposed a minimum wage upon the advent of such legislation.

¹³ These are jobs in which employees do not earn more than € 450 per month and are exempt from social insurance contributions.

increased due to minimum wages but there have been a slight (and desired) shift of jobs from precarious to ‘normal’ and a slight sectoral change.

Taking these results seriously, we must consider not only neoclassical labour market theory to be ‘in crisis’ (to borrow Kuhn’s terminology) but also neoclassical (market) theory in general, since most neoclassical economists claim labour markets and other commodity and factor markets to be similar with respect to their ‘laws of motion’. Therefore, if the ordinary price–quantity correlations and causalities in labour markets appear not to work, why should they nevertheless work in other markets? It will be interesting to see whether and how¹⁴ mainstream neoclassical (labour) market theory manages to survive this blow to its very foundations as the dominant thought style.

¹⁴ One line of defence appears to be to point to other ‘adjustment channels’ of firms rather than quantity reactions: e.g. price or productivity changes (see e.g. Zilius/Bruttel 2018: 716 f., Schmitt 2013: 11ff.). However, the dubious nature of the logical rigour of such ‘adjustment channels’ suggests another set of ‘laborious efforts to explain an exception’.

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