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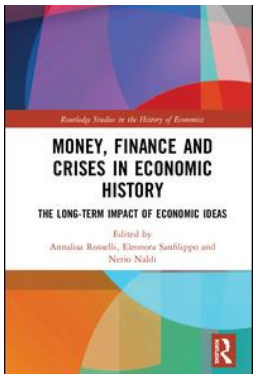

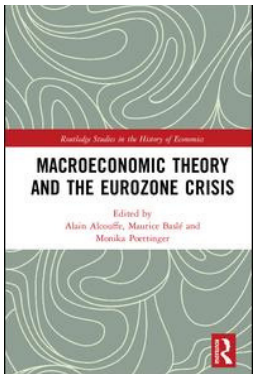

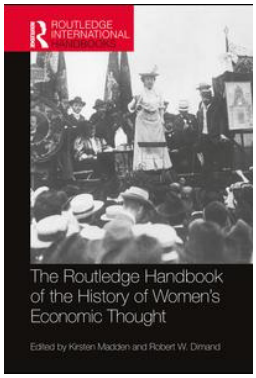

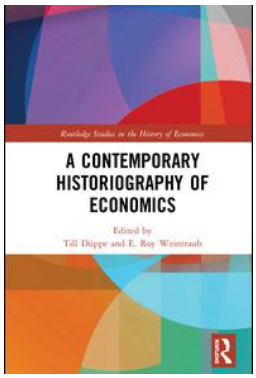

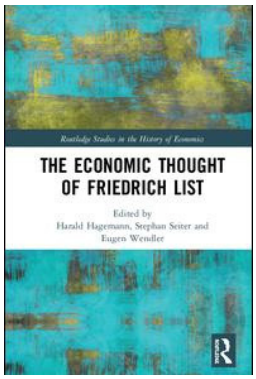

17 The flaw in 20th century macroeconomic thought

The general equilibrium benchmark

Elisabetta De Antoni

1. Introduction

This chapter starts with the Swedish Flag, a metaphor introduced by Leijonhufvud (1983, 1992) in order to depict the course of macroeconomic thought in the twentieth century. The result is a faithful and stimulating fresco whereby the Flag is a useful teaching aid, as well as providing stimulating food for thought. Leijonhufvud's conclusion is that macroeconomics started with Keynes but ended with repudiation of the Keynesian revolution.

As shown in the next Section, the success of Leijonhufvud's metaphor descends from an ace in the sleeve: implicitly and uncritically, the Flag adopts the same presuppositions as the mainstream theory. We refer to the use of competitive general equilibrium as a benchmark. This implies referring to a competitive economy whose state of health is characterised by (i) perfect individual rationality, (ii) perfect correspondence of macroeconomics with microeconomics and (iii) perfect collective rationality. As shown in Section 2, the realism and validity of these presuppositions are highly questionable. Analogous considerations apply to the two corollaries of the aforementioned benchmark represented respectively by (*a*) the "shock plus maladjustment" approach to economic fluctuations, and (*b*) the dichotomy between nominal and real variables. The issue under examination is of crucial importance: an unrealistic and groundless benchmark risks distorting and misleading the analysis. The geocentric approach of Aristotle and Ptolemy could never have allowed us to understand the solar system. The problem is also relevant today, since mainstream theory generally keeps referring to the general equilibrium benchmark.

In light of these considerations, Section 3 will retrace Leijonhufvud's description of the course of the debate, highlighting its main turning points. Section 4 will then show that the presuppositions of the mainstream represent "blinkers" which have distorted its representation of the world, directing it towards an artificial world which – *ex ante* and *a priori* – excludes uncertainty, the non-neutrality of money, the active role of effective demand, "unnatural" involuntary unemployment, endogenous instability, the inefficiencies of financial markets, and so on. As if this were not enough, the same presuppositions have also affected the evolution of dominant macroeconomic theory, pushing

it further and further away from reality. It is thus hardly surprising that, at the beginning of the new century, the profession proclaimed that it had acquired "full control of the rudder" (see, e.g., Blanchard, 2000, 2008) just as the crisis was coming and even when it was exploding under the profession's feet.[1]

With regard to the increasing gap between theory and reality, moreover, Section 4 highlights that the various imperfections introduced by the various schools to explain deviations from general equilibrium and observed economic fluctuations were ephemeral. In the light of past experience, the research strategy based on general equilibrium plus maladjustments seems thus doomed to failure. This result is not surprising: being incompatible with the neoclassical Olympus, maladjustments represented an easy theoretical shooting target. As a consequence, they ended with being systematically criticised and then removed, leaving the field free for full coordination. In light of these considerations, general equilibrium may be likened to a mermaid who attracts sailors without leaving them any escape route. Put otherwise, if general equilibrium has magnetic properties, they are of an ideological and intellectual (rather than economic) kind. On these bases, Section 5 will draw some lessons about the future.

2. The Swedish Flag and its questionable presuppositions

Let us therefore start with Leijonhufvud's metaphor. The basic presupposition of the Swedish Flag is the benchmark represented by competitive general equilibrium, i.e. the assumption that it represents the state of an economy's health. In the absence of imperfections, we would consequently have a perfectly competitive regime in which optimal individual choices are perfectly coordinated by the price mechanism. This benchmark has in turn two corollaries of remarkable importance. The first is the impulse plus propagation mechanism (or shock plus maladjustment) approach to economic fluctuations. If general equilibrium were hit by a shock, the price mechanism would instantaneously clear all markets. To justify deviations from general equilibrium and observed economic fluctuations, it is then necessary to introduce a propagation mechanism, i.e. a maladjustment able to prevent the price mechanism from adequately performing its role. The second corollary ensues from the neoclassical dichotomy and implies the possibility of sharply distinguishing between nominal and real variables.

By associating the nature – real or nominal – of the variables affected by the possible shocks and maladjustments, Leijonhufvud obtains four cells and overlaps them with the blue squares of the Swedish Flag in Figure 17.1. On those bases, he shows that the macroeconomic debate of the past century moved from one square of the Flag to another, finally returning to the starting point, i.e. to Keynes' square. At the end of its circular path, however, the debate disowned the revolutionary contribution of *The General Theory*, above all the crucial role of effective demand.

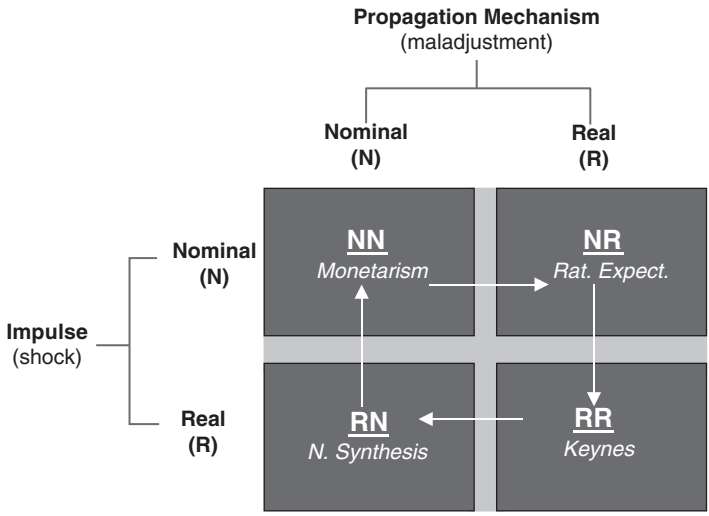

Figure 17.1 Leijonhufvud's Swedish Flag

Leijonhufvud presents the Flag without dwelling on it. Between the lines, however, his metaphor hides an ace in the sleeve which explains its effectiveness in synthesising the evolution of dominant macroeconomic thought: the Flag acritically adopts the same presuppositions as the mainstream. We essentially refer to the assumption of perfect competition and to the three pillars of general equilibrium represented by (i) perfect individual rationality, (ii) perfect correspondence of macroeconomics with microeconomics, and finally (iii) perfect collective rationality. These presuppositions cannot be taken for granted. As we shall see below, their realism and their validity is highly questionable.

To start with perfect individual rationality, this assumption presupposes optimising agents with rational expectations. This means referring to Olympic demigods, who possess perfect information and the cognitive skills required by perfect foresight and optimisation. For poor flesh-and-blood human beings, however, the future is mostly unknown: each day may be their last one. The continuous evolution and complexity of the world in which they live prevent them from identifying the model (assuming it exists, is unique, and so on) that rules the economy and from formulating rational expectations on those bases. Even if perfect foresight were possible, moreover, it cannot at all be said that they have the cognitive skills required by optimisation. Even if they had the cognitive skills, it is not said that problems are tractable. Not by chance – as shown by Behavioural Economics and in line with Keynes's "animal spirits" – the behaviours of ordinary mortals reflect psychological considerations which have not much to do with rational calculations.

Turning to the correspondence of macroeconomics with microeconomics, the assumption is that aggregate behaviours represent the sum of individual ones, being consequently traceable to them: in other words, macroeconomics has to be microfounded. This, however, means excluding *ex ante* and *a priori* phenomena like Keynes's paradox of thrift or Fisher's debt paradox that some European countries seem to have concretely experienced firsthand. On the other hand, the literature (for instance, Lavoie, 2014, pp. 17–18) highlights several fallacies of composition according to which aggregate results do not correspond to the sum of individual behaviours. These fallacies match with our daily experience, according to which the same ingredients may be combined in different ways to produce different dishes.

Let us finally consider perfect collective rationality, i.e. the assumption of full coordination of the system by virtue of the price mechanism. As highlighted by Samuelson (1947, p. 5), in physics there is the force of gravity, whereby an egg does not stand on its tip but tends to settle on its side. Analogously, in economics there is the invisible hand, whereby prices instantaneously clear all markets. The pathologies that systematically afflict the real world show the irrealism of this assumption. In addition, its theoretical underpinnings are questionable as well. For instance, the existence of a positive interest rate able to align full-employment saving and investment cannot be taken for granted (Krugman, 2011). The same holds for the assumption of an imaginary auctioneer able to coordinate the whole system. As shown by Velupillai (2006), any *tâtonnement* process would amount to solving the halting problem of a Turing machine, known to be undecidable.

No less questionable are the two corollaries of the benchmark under examination. Starting with the first, the shock plus maladjustment approach reflects the *ex ante* and *a priori* exclusion of endogenous instability. This assumption is again questionable. Postwar historical experience shows that growth may lead either to an increase in the prices of raw materials followed by inflationary spirals or to speculative waves leading to financial crises. From the theoretical point of view, Minsky (1986) teaches us that stability is destabilising. The general equilibrium benchmark *ex ante* and *a priori* rejects this eventuality. The system is intrinsically stable: economic fluctuations consequently require not only a shock but also a maladjustment able to propagate it to income and employment.

Let us now move to the second corollary, i.e. to the distinction between nominal and real variables. In the absence of imperfections, money is neutral. Financial markets are so efficient in coordinating intertemporal saving and investment decisions that they can be ignored. All of this implies the irrelevance of the Flag's yellow stripes, where nominal and real variables are so closely interconnected that they cannot be separated. The realism of this exclusion, however, is again not granted. If money were neutral, the reasons why it replaces barter would be mysterious. With regard to the efficiency of financial markets, the recent sub-prime crisis is an evident demonstration of its irrealism. Even admitting the dichotomy, and consequently focusing on the blue squares of the Flag, however, the distinction between nominal and real

variables is not univocal but depends on the theory taken into account. According to the neoclassical conception, for instance, the interest rate is a real variable determined by the forces of productivity and thrift. In *The General Theory*, by contrast, the interest rate is a nominal variable: "Interest has been usually regarded as the reward of not-spending, whereas in fact it is the reward of not-hoarding" (Keynes, 1936, p. 174). As far as money is concerned – insofar as it increases the liquidity and thus reduces the riskiness of wealth[2] instead of representing a mere medium of exchange – it proves difficult to consider it as a nominal variable.

To conclude, the common benchmark of the Flag and the mainstream seems highly questionable both in its realism and in its theoretical underpinnings. The point is not necessarily irrelevant, since a wrong benchmark risks being distortive and misleading. To check this, the following Section will retrace the evolution of dominant macroeconomic theory. On those bases, Section 4 will analyse the influence of its benchmark.

3. The evolution of dominant macroeconomic theory in the twentieth century

The macroeconomic debate starts with *The General Theory*, which Leijonhufvud places in the RR square of the Flag. As known, every economist has her/his own interpretation of Keynes. In Leijonhufvud's Keynes,[3] both shock and maladjustments concern variables that general equilibrium theory classifies as real. Specifically, the shock is represented by the fall in the marginal efficiency of capital (and consequently of investment) caused by a worsening of expectations. The maladjustment consists in the only partial fall of the interest rate to its lower natural level. Unlike entrepreneurs, speculators ignore the fall of the marginal efficiency of capital and consequently of the natural interest rate. Expecting the market rate to return to its former level, they sell securities, thus sustaining their yield. Out of this incorrect interest rate level, the fall of investment triggers quantity adjustments that lead to an amplified contraction of income and employment.

One year after the publication of *The General Theory*, Hicks (1937) introduced the IS–LM model as a synthesis of Keynes's book. By amputating the innovative contribution of the Keynesian revolution,[4] Hicks's model sets the premises for the subsequent neoclassical developments of the Synthesis. The Neoclassical Synthesis moves to the RN square of the Flag. The shock is still represented by the fall of the marginal efficiency of capital and thus of investment; it consequently remains real. This time, however, the maladjustment concerns the money wage (instead of the interest rate) and consequently becomes nominal. The change is triggered by Modigliani (1944) and comes to completion with Patinkin (1956). The conclusion of the Neoclassical Synthesis is that – if involuntary unemployment turned into the fall in money wages and prices – real money balances would rise, stimulating the economy to full employment even under a liquidity trap, i.e. even in the presence of downward rigidity of the interest rate. Consequently, a wrong interest rate does not represent an obstacle.

The only imperfection able to justify deviations from full employment (Keynes's economics) is represented by money wage rigidity. More generally, according to the Neoclassical Synthesis, Keynesian theory holds only in a short run defined by money wage rigidities. In the long run, money wages become perfectly flexible, and general equilibrium theory is the proper one. Given the duration and the staggering of wage contracts, however, the short run of the Synthesis tends to last years and years. This justifies the state's intervention in support of the economy, even though – according to Phillips (1958) – such support implies higher inflation. On this last issue, however, the Neoclassical Synthesis clashed with the stagflation of the 1970s, when the simultaneous increase in unemployment and inflation disavowed the trade-off envisaged by the Phillips curve.

The subsequent school of thought is represented by Monetarism Mark I,[5] which brings us to the NN square. This time, both the shock and the maladjustment become nominal. The leader of this school, Milton Friedman, is a staunch supporter of the free market and firmly believes in the effectiveness of the price mechanism. In his view, Keynes's liquidity preference[6] is a sacrosanct theoretical acquisition. Practically, however, it is irrelevant, since the interest rate is determined by the real sector's equilibrium. In the presence of an exogenous increase in money supply, therefore, the clearing of the money market can be only carried out by nominal expenditure and income. Friedman (1956, 1971) thus restates the Quantity Theory. In his view, instability has a monetary origin, and consequently shocks become nominal. As far as maladjustments are concerned, Friedman (1968, 1977) rejects the money wage rigidity of the Neoclassical Synthesis. Firstly, the latter presupposes an unjustified money illusion; what matters in the labour market are real (not money) wages. Secondly, since equilibrium represents the optimal situation, money wage rigidity is inefficient and as such theoretically unjustified.[7] Friedman then assumes labour market equilibrium and introduces the concept of "natural unemployment", incorporating the phenomenon into general equilibrium. At this point, however, he still has the problem of justifying observed economic fluctuations. In this regard, Friedman points out that – if money wages are anchored to expected inflation and the latter is the same for firms and workers – the traditional labour demand and supply curves as functions of real wages remain unchanged, keeping unemployment at its natural level. Friedman then focuses on information asymmetries. Contrary to firms, workers do not have sufficient information to anticipate the price level. Being unable to foresee the increase (fall) in prices, they keep their requested money wage unchanged, accepting the fall (rise) in real wages. Workers' money illusion consequently implies a temporary increase (fall) in the traditional labour supply curve which stimulates (depresses) income and employment above (below) their full-employment levels. To sum up, Friedman's maladjustment concerns inflationary expectations (instead of money wages) and consequently remains nominal.

The next square of the Swedish Flag (NR) is occupied by Monetarism Mark II, or the School of Rational Expectations, also termed New Classical Economics. This school represents a refined version of neoclassical macroeconomics, according to which every aggregate relationship has to be based on intertemporal optimisation by

individual agents (specifically, of the representative agent). The leader of this school, Robert Lucas, shares Friedman's faith in the price mechanism. He too consequently adheres to the Quantity Theory according to which money supply (by assumption exogenous) determines nominal expenditure and income. In Monetarism Mark II, instability thus continues to have a monetary nature, and consequently shocks remain nominal. With regard to the propagation mechanism, by contrast, Lucas rejects Friedman's information asymmetries. Because information is a source of utility, it is a good which spreads through learning, imitative behaviours, consulting, and so on. Lucas then focuses on incomplete information: agents know the deterministic component of reality but do not know the random one. Specifically, Lucas adopts the assumption of rational expectations: by avoiding systematic errors, agents succeed in formulating expectations coherent with the model which rules the working of the economy, i.e. with general equilibrium solutions. To surprise them are random changes in the rate of inflation arising from stochastic changes in the growth rate of money supply. To have real effects, however, these surprises have to affect relative prices (those which determine individual behaviours). In Lucas's Monetarism Mark II, the maladjustment consequently becomes real. Specifically, inflationary surprises pose a problem of signal extraction: firms/workers mistake the increase in the general price level for an increase in the relative price of (in the demand for) their products/services and consequently increase their supply of goods/labour. In the short run, inflationary surprises thus exert expansionary effects on the real economy. In line with the policy ineffectiveness proposition (Sargent and Wallace, 1976), to sustain – even only in the short run – income and employment, monetary policy has to be unanticipated. By contrast, an anticipated monetary restriction can eradicate inflation without any real cost.

There is, however, a contradictory aspect of Monetarism Mark I and II that seems to pave the way to subsequent developments. The essence of both kinds of Monetarism consists in tracking economic fluctuations back to a money supply, which – according to the Quantity Theory inspiring them – should instead be neutral. This explains the transition to the Real Business Cycle Theory. In Prescott's (1986) view, the business cycles experienced by industrialised countries in the postwar period reflected random changes of productivity due to technological progress. As in Keynes's case, this time shocks become real. As regards the propagation mechanism, the promptitude characterising the publication of data concerning the money supply belittles the relevance of Lucas's inflationary surprises and of the related explanations of economic fluctuations. This time consequently maladjustments disappear: information is perfect, and the system is always in general equilibrium. Economic policy authorities need not worry: economic fluctuations are efficient ones.

Leijonhufvud's conclusion is that the return of the macroeconomic debate to Keynes' square is associated with radical repudiation of the Keynesian revolution. For our purposes, by contrast, the Flag represents a tool to analyse the influence of the mainstream's presuppositions on its vision and on its evolution (of which the increasing distancing from Keynes is only one aspect).

4. The misleading effects of the general equilibrium benchmark

In light of the foregoing analysis, the general equilibrium benchmark, first of all, focused the mainstream view on an artificial and counterfeit representation of the world with which it had very little in common. The neoclassical Olympus (with its Olympic demigods) *ex ante* and *a priori* excludes ignorance of the future and the boundedness of human rationality. Moreover, it relegates financial markets and their possible destabilising role to behind the scenes. Its perfection banishes real phenomena such as irrational exuberance. Its omnipotent auctioneer prevents endogenous instability, the insufficiency of effective demand, involuntary unemployment, and consequently banishes the need for intervention by economic policy authorities. All of this, however, is at odds with our concrete experience. We recently had a sizeable real estate bubble followed by a devastating financial crisis with considerable real effects, and it is thanks to Keynesian economic policies that we have overcome the crisis. As far as the assumption of perfect competition is concerned, it sweeps under the rug the iniquity and inefficiencies of income distribution that are so heavily afflicting our time, putting our democracies themselves at risk.

According to the previous Section, however, the general equilibrium benchmark not only misled the mainstream viewpoint: it also affected its evolution. Specifically, our survey of dominant macroeconomic theory shows that the several maladjustments adopted from time to time by the various schools of thought were all ephemeral. As a consequence, the several general equilibrium plus imperfections strategies did not resist long. This result is not surprising. Being incompatible with the neoclassical Olympus, maladjustments represented an easy target; from the beginning, they were consequently destined to be criticised and then removed. According to Section 3, this has been the case of the interest rate rigidity in Leijonhufvud's Keynes, of money wage rigidity in the Neoclassical Synthesis, asymmetric information in Friedman, and inflationary surprises in Lucas. As a result of these progressive exclusions, the benchmark of the mainstream finally came to dominate the scene entirely.

At the beginning of the new century, the gap between theory and reality consequently became so wide as to prevent the economics profession from grasping the evident symptoms of the crisis and from arranging in time the countermeasures that might have avoided, or at least mitigated, the disaster. On the other hand, before the crisis, Lucas himself admitted that:

> The problem is that the new theories, the theories embedded in general equilibrium dynamics of the sort that we know how to use pretty well now – there's a residue of things they don't let us think about. They don't let us think about the US experience of the 1930s or about financial crises and their real consequences in Asia and Latin America. They don't let us think, I don't think, very well about Japan in the 1990s.
>
> Lucas (2004, p. 23)

Put otherwise, mainstream economics is like a medical science devoted to Olympic demigods that are immune to any pathology. With hindsight, however, Lucas should also recognise that neither has the mainstream approach been neutral. It has actively contributed to the crisis, for instance by legitimating the financial deregulation that facilitated its occurrence (and that Trump has recently reproposed).

5. Some lessons concerning the future

One way to solve the current divergence between theory and reality consists in returning to the real world without any "blinkers", i.e. by abandoning the general equilibrium benchmark. The state of the real economy's health does not imply an invisible hand, but presupposes a balanced relationship between antigens and antibodies.[8] In light of past experience, moreover, any general equilibrium plus imperfections strategy seems destined to represent an only temporary expedient to justify observed deviations from full employment and economic fluctuations. Should we give up the crutch represented by the mainstream benchmark, the authors that admitted the limits of coordination like Keynes (together with his most authentic followers, like Minsky and other Post Keynesians)[9] could help us.

Our Keynes, however, cannot be located on the Swedish Flag as Leijonhufvud does. Instead of adopting general equilibrium as a benchmark, he rejects its pillars one by one. According to *The General Theory*, ignorance about the future precludes optimisation justifying behaviours or laws of a psychological nature. To quote Keynes:

> ... human decisions affecting the future ... cannot depend on strict mathematical expectation, since the basis for making such calculations does not exist; and ... it is our innate urge to activity which makes the wheels go round, our rational selves choosing between the alternatives as best we are able, calculating where we can, but often falling back for our motive on whim or sentiment or chance
>
> Keynes (1936, pp. 162–163)

In the presence of fallacies of composition like Keynes's paradox of thrift, macroeconomic aggregates do not represent a simple sum of individual behaviours and consequently have to be considered independently from the latter. As far as collective rationality is concerned, general equilibrium is only one of the infinite possible cases: the price mechanism does not grant it a magnetic property. The concept of underemployment equilibrium is itself questionable: the alternation of waves of optimism and pessimism may generate endogenous business cycles around an underemployment growth path.

In light of these considerations, it does not seem possible to locate *The General Theory* on the Swedish Flag. After all, Keynes himself feels the need to express his rejection of orthodoxy with unprecedented vehemence from the first chapter of his book (not by chance, a short and incisive page entitled "The General Theory"). To quote Keynes:

> I shall argue that the postulates of the classical theory are applicable to a special case only and not to the general case, the situation it assumes being a limiting point of the possible equilibrium positions. Moreover, the characteristic of the special case assumed by the classical theory happen not to be those of the economic society in which we actually live, with the result that its teaching is misleading and disastrous if we attempt to apply it to the facts of experience
>
> Keynes (1936, p. 3)

Considering the responsibilities of the profession in allowing the sub-prime crisis, the quotation takes on a prophetic connotation.

As regards finance, Chapter 12 of *The General Theory* seems to be equally prophetic. In that context, Keynes presents the Stock Exchange as a secondary market where existing capital goods may be sold, consequently becoming more liquid and less risky for their owners. This result, however, is only an individual illusion; for the economy as a whole capital goods continue to be as illiquid and risky as before. This fetish of the liquidity of investment is not without consequences. Firstly, it leads to a more sustained – but also riskier – capital accumulation and economic growth. Secondly, it allows entrepreneurs to transform themselves into speculators who buy capital goods with the sole aim of selling them at a higher price.

We thus come to the casino capitalism that the recent financial crisis has brought into the limelight. Keynes's rejection is again without remission:

> Of the maxims of orthodox finance, none, surely, is more anti-social than the fetish of liquidity ... It forgets that there is no such thing as liquidity of investment for the community as a whole. The social object of skilled investment should be to defeat the dark forces of time and ignorance which envelop our future. The actual, private object of the most skilled investment today is "to beat the gun", as the Americans so well express it, to outwit the crowd, and to pass the bad, or depreciating, half-crown to the other fellow.
>
> Keynes (1936, p. 155)

Now, what else is the securitisation of loans but the creation of a secondary market where they can be sold, consequently becoming more liquid and less risky for the individual bank that granted them, despite remaining just as liquid and risky for the system as a whole? This mirage fed the unprecedented increase in the volume and in the riskiness of loans that led to the sub-prime crisis. To sum up, the recent financial crisis seems to be a re-edition of Keynes's liquidity fetish. Given its adherence to reality, Keynes's auctioneerless economics might have helped us to prevent the crisis.

With regard to the future, a rethink in the aforementioned directions might be more appropriate now than ever. As an example, let us consider the surprising technological progress underway. According to the supply-side approach of the mainstream, the phenomenon represents manna from heaven:

as a consequence of higher productivity, it will turn into an increase of real wages, labour supply, employment, and income. In Keynes's demand-constrained economy, by contrast, the result would be a fall in employment, which in turn would trigger a cumulative contraction of the real economy. If Keynes were right this time too, the crisis would again catch the profession unprepared and off guard.

Notes

1 In recent times, mainstream economists have begun to discuss the real interpretative capacity and utility of general equilibrium models (see, e.g., Solow, 2010; Romer, 2016; Blanchard, 2016; Stiglitz, 2018). The prevailing opinion, however, seems to be that general equilibrium keeps representing a key analytical apparatus, although it requires a greater alignment with reality.
2 We refer to Tobin (1958).
3 As an example, see Leijonhufvud (1981).
4 The IS–LM model presupposes two simple simultaneous equations implying a stable equilibrium based on given expectations. In *The General Theory*, by contrast, relationships among macroeconomic aggregates are sequential rather than simultaneous. The transition from one step of the sequence to the other is not ruled by cosmic laws, but depends on the circumstances and thus on expectations. According to the latter, money may affect the interest rate but it also may not; the interest rate may affect investment but it also may not; the price mechanism may trigger the "Keynes effect" thus absorbing involuntary unemployment but it also may not; the system may tend to an under-employment equilibrium but it may also fluctuate systematically around it.
5 The definition comes from Tobin (1980, 1981).
6 As known, the term "liquidity preference" refers to the dependence of the demand for money on the interest rate arising from the conception of money as a store of value.
7 As if this were not enough, in an inflationary context like that of the 1970s, the downward rigidity of money wages has no empirical relevance.
8 The main task of our immune system consists in protecting us from harmful substances of both endogenous (cancer) and exogenous nature (bacteria and viruses). The lack of balance between antigens and antibodies may give rise on the one hand to immunosuppression (insufficient antibodies reaction) and on the other hand to hyperactivation (antibodies attack healthy cells, as in the case of autoimmune diseases). As far as the choice of the benchmark is concerned, the analogy between economics and the human body seems more fruitful than the analogy between economics and celestial bodies.
9 With regard to this issue, Marcuzzo's works represent a landmark.

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10 Reading popular histories of economics

Tiago Mata

Uneducating historians of economics

How to train the next generation of historians of economics? The apprentice historian has in 2018 a wealth of resources to exploit. If she wants to get a head start on the themes and problems that might grip the field in 20 years, she might leaf through the yearly supplements of *History of Political Economy*. If she needs to get acquainted with the canon of economics, she might travel to summer schools coast to coast, Italy to North America, offering initiation into the interpretative arts. She might then join scholarly networks, of senior, junior, or mixed membership, and invite the critical exam of her peers on work in progress. The historian-in-training of today can scan the horizons of the discipline, be socialized in collective reading, and shape community. The opportunities have never been as numerous.

These resources accomplish an initiation into scholarship. While graduate programs in the history of economics are closed or thinned, they ensure the preservation of our field. They deserve to be commended. They are also narrow in outlook . . . At the end of this essay I aim to have convinced my reader that writings on the history of economics are more diverse, puzzling, and unruly than the literature that circulates in conferences, summer schools, and webinars. The essay re-opens simple historiographical questions: Who writes history, how is it written, for whom?

To address these questions I must delimit a corpus. All the titles I discuss are classified as histories of economics (or of economic thought) by booksellers and library catalogues. I exclude no titles on grounds of the credentials of their authors or the reputation and vocation of their publisher. I consider only titles appearing after 1949, date of the publication of Joseph Dorfman's monumental *The Economic Mind in American Civilization*. In an argument to expound elsewhere, I contend that histories of economics before that date were remarkable for establishing and celebrating national schools of thought.[1] The territorial and linguistic frames suited assertions of national character of established repute by the close of the 19th century (Stapleton 2001; Mandler 2006). National studies of economic thinking of course continued to be

published beyond World War II, for instance Craufurd Goodwin's studies of Canadian (1958) and Australian (1966) economic thought, but these tended to be motivated by filling lacunas in the literature rather than discerning a cultural exceptionalism.

One explanation to the historiographical break c. 1950 might be postwar's cosmopolitanism. But if that explanation is too remote or faint, a more proximate one is that in the 1950s as the economics discipline gained eminence in policy analysis and newsworthiness (Mata and Medema 2013) that visibility changed the readers and stakes of the histories. It is then that we enter our era – a time when journalists, intellectuals, and scholars from all disciplines are readers and writers in the history of economics (for a recent survey of the latter see Fontaine 2016).[2] To my colleague the historian-in-training I propose that she allow herself to drift from the prescribed itineraries of the history of economics and follow me to explore this historiography that lays before us a wilder terrain.

This essay is organised along the deceptively trivial questions of who, how, and to whom history is written. My answers place narratives about economists and economics past at the borderlands between popular and scholarly media. I will show that it is not only difficult but likely also futile to attempt to demarcate content that is "popular" from that which is scholarly (with similar concerns as Topham 2009). Rather than setting out bibliographical criteria that might rescue texts from their disorder, I want to train our attention to the rich lives of histories when they successfully confound genres and reach out to publics (on the underlying conception of knowledge in transit see Mata forthcoming).

I consider only printed books and therefore my strategy has a whiff of antiquarianism. Most writing in economics is printed in scholarly article format, working paper, report ,or op-ed, not in books. The turn from books to articles occurred in the natural sciences as early as the 1840s (Frasca-Spada and Jardine 2000), for the social sciences in the last 50 years. In the past decade, economics has also figured regularly in podcasts, cable TV, and in a few but notable motion pictures, including two Oscar winners (*Beautiful Mind* and *Inside Job*). Similar observations apply to the history of economics, the preferred format is the peer-reviewed article. However, unlike economics, book publishing remains viable and sought after. Histories of economics are less regularly featured in audio-visual media, although every few years the BBC broadcasts a series on that subject, the most recent instance on the radio show/podcast *More or Less* in 2011.[3] The story of economics past has also appeared on screen as a result of a few cross media tie-ins. One notable example is *Commanding Heights* a book by Daniel Yergin and Joseph Stanislaw (1998) that in the heat of the pro-globalization, anti-globalization controversies of the 1990s promised to trace those antinomies to the (personal) rivalry between J. M. Keynes and F. Hayek. Soon after publication the story appeared as a series on USA's Public Broadcasting Service with the tag line of "How can a couple of cranky economists in their ivory towers change the world? Commanding Heights provides

the answer, with a sweeping view of 20th century economic history" (Yergin 2002). The narrative thus inhabited a book, a TV broadcast, a DVD box set, and an award-winning website (now defunct) addressing high school students. Fully aware that examining books may offer only a partial view of the cultural landscape, I will show that books preserve the vitality to carry us across a vast and fascinating cultural terrain.

Who writes the history of economics?

In a celebrated essay on the history of books, Robert Darnton described the life of a book as running "from the author to the publisher . . . the printer, the shipper, the bookseller, and the reader" (Darnton 1982, p. 67).[4] Setting a book free onto the world is a circuitous and multi-agential process and in the 20th century an activity with a financial bottom-line. Acknowledging the commercial dimension of print culture calls for an analysis of the ways publishers structure publishing.

In 2017, the writings of university-based historians of economics appear predominantly under the imprint of Routledge, Cambridge University Press, Oxford University Press, M.E. Sharpe, Edward Elgar, and occasionally in some of the other university presses such as Princeton, Harvard, and Chicago. These titles share a familiar pattern of being studies in depth, with small print runs, (laxly) marketed to specialists and libraries. It is unusual to find these texts in bookstores not domiciled on university campuses. With expensive price tags they procure a small profit and only after several years. Look to the stands that line up airports hallways or to the recommendations on Amazon and you will find a different kind of book, with a different kind of author and a different imprint.

Recommended online and on bookstore stands, Sylvia Nasar's *Grand Pursuit* (2012) or David Warsh's *Knowledge and the Wealth of Nations* (2006) speak to us of the wondrous adventure of economic analysis and are as expansive in their timeframe and subject as some of the early and mid-century texts that once surveyed the history of the discipline (for instance, the many times updated and translated history by Eric Roll). Not all popular histories of economics sell by way of their comprehensiveness, and *Grand Pursuit* was commercially disappointing after the triumph of *Beautiful Mind*.[5] There is no sure formula for mass appeal, but there is today a correlation between scope and publisher. Stories of grand vistas and bold claims are to one side, to the other studies that are hyper-academic in motivation and language with strict constraints upon their length.

Until the 1980s the distinctions between the book markets of "trade" (for the mass public), "college" (for students), and "scholarly" remained fuzzy (as noted in Coser, Kadushin, and Powell 1982), they have since sharpened. The takeover of publishing companies by media conglomerates, the grip of retail chains over distribution, the changing habits of readers and the power of literary agents have together led to a polarization (Thompson 2013). To one side are the "best-sellers" (to which one might add textbooks)

negotiated with fat advances and rolled out in major promotional campaigns, to the other small print runs with no expectation of commercial success. Several publishers hold multiple imprints to manage the presence in those few and well delimited markets. Gone are the markets in between, for instance the metropolitan (café) culture catered by independent publishers/booksellers (Schiffrin 2001). My business history of publishing is necessarily brief and schematic but I hope sufficient to remind us that books are objects in markets and that markets change.

Darnton, a scholar of Early Modern France, answers the question "who writes" by noting that printers, shippers, and booksellers shape the materiality, personality, and reach of books. The name on the cover is never the only author. Today we must attend to retail chains, institutional subscription contracts, accountants, literary agents, and commissioning editors as silent authors. Once we think of historiography in the context of late 20th century publishing we can distinguish pathways lined with various actors that benignly edit the scope, language, and attitude of the historical imagination. Plotting a renewal of the history of economics requires cunningly engaging these pathways.

How is history written?

In that acclaimed essay, Darnton gives us another insightful steer when he remarks that authors are readers that "associat[e] with other readers and writers, they form notions of genre and style and a general sense of the literary enterprise, which affects their texts" (Darnton 1982, p. 67). The analysis of how writing about the economy has shadowed fictional genres has been a vibrant research topic of literary theory (see Poovey 1998, 2008), but to heed Darnton's plea one does not require a degree from an English department or to become an expert in the genealogies of genre. Instead, it requires that we attend to how writers associate and emulate.

Reflections on genre in the history of economics are unusual. The most sophisticated contribution comes from one of the editors of this volume (Weintraub 1999). In the 1990s at the instigation of Mark Blaug and others, ink and tempers were spilled over if history of economics should be written as "rational" or "historical reconstruction" (Blaug 1990, Backhouse 1992). Despite their differences the antagonists seemed to agree that genres must be justified and defined from first principles, preferably bearing philosophical credentials. My suggestion, following the trivial observation that writers read, is to trace out genres from expressions of admiration and evidence of emulation.

Among the top candidates for most successful books in the history of economics in the second half of the 20th century – in print since 1953 – is Robert Heilbroner's *Worldly Philosophers*. The book is a study of the "Great Economists" (its alternative UK title) including "a philosopher and a madman, a parson and a stockbroker, a revolutionary and a nobleman, an aesthete, a skeptic, and a tramp". Heilbroner has a novelist's care for characters and

the chapters are packed with endearing anecdote and caricature. Marx was an "angry genius". Keynes was "politically devout" and exhibited the "curious combination of an engineering mind and a hopeful heart". Twenty years after the publication of *Worldly Philosophers*, Leonard Silk, once an editor of *Business Week* but at the time an editorial writer at the *New York Times*, wrote a collective study of living economists that resembled the Heilbroner vignettes. Silk (1974) motivated his book as hoping "that by exploring the ideas, careers, and, to a degree, the personalities of these five economists . . . I might give a picture of the present state of economics". Paul Samuelson was "Enfant Terrible Emeritus"; Milton Friedman was "Prophet of the Old Time Religion"; and J. K. Galbraith proposed "Socialism Without Tears". The chapters weave an intimate coherence between lives, temperaments, and ideas.

Neither Heilbroner nor Silk wrote standard biographies from cradle to grave and beyond, nor were their chapters patterned as profiles in the style of those weekly churned in the well-tested formulas of the *New Yorker* or of management magazines. These were studies of personality that required being assembled as a set to make each individual intelligible. The collective portraits established that the economics discipline was a lofty endeavour that carried the humanity of its makers. By literary device at different times with different political inclinations, Heilbroner and Silk opposed a common view that economics is narrow and consensual and replaced it with the alternative conception of heart warming pluralism.

These histories shared with science journalism a vocation to dignify economists. Economists were deserving of admiration (and reporting) for their intelligence, moral and civic commitment. However, popular science and campaigns aimed at enhancing the "public understanding of science" call for a devout and distant admiration of scientific lives (Lewenstein 1992), by contrast the *Worldly Philosophers* reaches out to the views of the public and assigns them champions within the economics pantheon. It compliments readers' intelligence, greeting them with arguments for the many parties of a democratic polity. It does not attempt to dampen controversy and re-inscribes it as legitimate discourse.

Sometimes credited, other times not, a book like Heilbroner's becomes a model to adopt and adapt. There are also instances when one expects conventions to form but they do not. A series of "Penguin histories of economics" would presumably exhibit some continuity, each title similarly designed to be didactic, portable, and entertaining. However the three titles that have appeared with that heading share little in their justifications, organization, or tone (Barber 1967; Galbraith 1987; Backhouse 2002). One (W. Barber's) is a study of the analytical achievement of four systems of thought (Classical, Marxian, Neo-classical, Keynesian) while another (J.K. Galbraith's) sets out to show how ideas are embedded in events of their times and how economists only reluctantly update their beliefs. Both texts review a similar core of writings and authors, but the third history (R. Backhouse's) opens up the field of view to a multitude of authors and ideas. All three were successful books of very different appeal.

The haunting phrases that conclude Keynes' (1936) *The General Theory of Employment, Interest and Money*, make regular appearances in popular writings on economics, unsurprisingly also in histories. The belief that the "ideas of economists and political philosophers, . . . are more powerful than is commonly understood", is followed by the invitation to examine how "[p]ractical men, who believe themselves to be quite exempt from any intellectual influences, are usually slaves of some defunct economist" (ibid., pp 383–384). Keynes gifts us a tantalising hypothesis and a ready format, the study of the economic prejudices of statesmen. Many authors use the Keynesian aphorism in their prefaces and introductions as if it was a direct endorsement, but few have subscribed to his simple political sociology.[6] Biographies that illuminate ideas with tales of a good life are a staple of the non-fiction section of bookstores and scores have been written for the history of economics. They are about the lives of economists (or philosophers), not of the great men that they reached from their graves, to name only a few J. M. Keynes (Moggridge, Skidelsky), T. Veblen (Tilman, Spindler, Jorgensen and Jorgensen, Edgell), J. Schumpeter (McGraw), J. M. Clark (Shute), A. Gershenkron (Dawidoff), I. Fisher (Allen), Fisher Black (Mehrling). When the same scholar is the subject of multiple biographies, a common occurrence, the new treatment must prove itself original enough and maybe superior to its predecessor. Albeit not one constitutive of genre, that is another dialogue between old and new.

Looking over these patterns of choice it seems that economists' lives matter. The key to make sense of how lives are composed into narrative is not to distil ideal types from the mass but to see the dialogues between texts and authors, of editorial projects diverging and intersecting over time.

How are histories of economics read?

Economists are seen as the primary readership of the history of economics. Historians are regularly urged to match language, themes, and problems with the interests of contemporary economists. Earlier I pondered whether academic historians' mild ambitions were less a matter of will than a manifestation of the structures of contemporary publishing. Next I argue that beyond our close peers in faculties of economics there is a numerous, thoughtful, and enthusiastic public for the history of economics. Upstream the history of economics has multiple authors, downstream it has even more readers.

It has been over 40 years since Stanley Fish urged scholars to abandon the notion that "meaning is embedded in the artifact". His invitation was to transfer the responsibility of interpretation away from texts and onto readers, looking for "interpretative communities" as "made up of those who share interpretative strategies not for reading (in the conventional sense) but for writing texts, for constituting their properties and assigning their intentions" (Fish 1976, p. 483). "Writers are readers" was my claim in the previous section, and now my claim is that "readers are writers". Pre-modern and Victorian scholars of

the book thumb through marginalia in old books and decipher diaries and letters to interrogate the intimate experience of reading. Historians of the present have other resources.

One of the many communities of affinity that the worldwide web has empowered is book readers. Retail chains that want to add promotional momentum at least possible cost have encouraged these groups and bankrolled their online platforms. Goodreads.com was created in 2007 as a database of book reviews, scores, and recommendations submitted by its free subscription membership. At the time of writing it claims 65 million members, 68 million reviews of various lengths, and 2 billion books listed. In 2013 the company was bought by Amazon and its reviews, recommendations, and prizes now link to Amazon purchases; Amazon algorithmic recommendations and ads chase you to the Goodreads pages.

Anyone with an account on social media knows that in the late 2010s interactions online are often toxic. Book reviews on Amazon are notoriously so. The recommendations and reviews in Amazon.com of Nancy McLean's *Democracy in Chains*, an exposé of James Buchanan and public choice's participation in American right-wing politics, lists 508 reviews and several commentary threads (accessed February 2018). The reviewers are unequivocal and uncompromising in their appreciation and dismay, 74 percent of readers award the book 5 stars, 16 percent the lowest score of 1 star. Admirers and detractors volley accusations of intellectual crime. To them the book is either the cypher of our times, "magnificent" and "empowering", written by an eminent historian, or that same historian is failing the standards of scholarship and has produced a "intentionally misleading smearing job", "dishonest", a work of fiction. This vitriol is mostly absent from Goodreads where the book has 219 reviews and 875 ratings of a more balanced distribution.

Goodreads is an "interpretative community" (or even several communities) of readers sharing a passion for books and their interpretation. Setting Goodreads and Amazon side by side we must conclude that no forum can provide us with unfiltered access to the minds of the "average" reader. Every community (online or offline) has norms and recurring patterns of social interaction. Most reviews in Goodreads are casual and a paragraph long, the longer ones have structure and style, a bit of posturing, and emulate what book reviews look like in literary digests. The reviews repeat tropes and the repetition is in part a technical feature of writing one's thoughts crowded by dozens or even hundreds of other reviews of the same text. In Goodreads, unlike in Amazon, discussions are disabled, but members can "like" reviews which then move them up the list. The recognition through "likes" is the clearest social reward that encourages some affected argument. The limited scope of interaction indicates that the Goodreads format is a legacy from before Web 2.0 and social media.

Worldly Philosophers has been rated 4,935 times (average of 4.11 out of 5) and reviewed 326 times in Goodreads. Reading the reviews we glimpse at the book's field of circulation. One finds plenty of reviews by young college

students who were offered or recommended the book by teachers or peers when they struggled with their motivation to study economics. In number and emphasis these compete with two other groups of readers/reviewers experiences. Some report re-encountering the book after decades of neglecting it on their shelves. Some come to it with goals of self-education in economics. Self-identified "humanists" are delighted by the book, Jeremy writes on June 28, 2016, that "Like many weepy humanists, I don't read many books that deal with economics in a sincere, deep way (too dry, too mathy, the usual wimpy criticisms.) Heilbroner's overview is wonderful" and Erik in October 9, 2011 that "[m]y estimation of economic science lies somewhere between where I rate astrology and phlogiston, but I'm giving this a chance to convince me otherwise", he was convinced. There is a fair amount of protest (but also admiration) directed at how Heilbroner introduces Marx, and a string of readers surprised by discovering Keynes and his extraordinary intellect (e.g. J. C. Keely, July 16, 2008; Bruce, September 8, 2008; Jazli, July 27, 2017). In Goodreads each book is experienced in both personal (idiosyncratic) and public (argumentative) ways without unifying plots or sentiment, yet over and over we read that *Worldly Philosopher*s shines brightest because of the dreadful expectation that economics and economists must be dull. Reading the readers of *Worldly Philosophers* one encounters the history of economics as a moving and entertaining experience.

Academic books also get reviewed and rated. E. R. Weintraub and T. Düppe's *Finding Equilibrium* has 11 ratings (average of 4.36) and 1 review, P. Mirowski's classic *More Heat than Light* gets 32 ratings (average of 4.06) and 3 reviews, and his later and mass appeal *Never Let a Serious Crisis Go to Waste* gets 156 ratings (average of 4.15) with 15 reviews. The book whose reviews I want to probe in some depth is one of the most recommended and reviewed in "economics" lists with historical interest. Several of the top reviews of *Commanding Heights* (862 ratings, average of 4.04 and 65 reviews) recommend it as a companion, and counter, to Naomi Klein's *The Shock Doctrine: The Rise of Disaster Capitalism* published by Random House in 2007. As of this writing, *Shock Doctrine* has 27,435 ratings (average of 4.22) and has been reviewed 2,142 times.

Similarly engaged with the themes of *Commanding Heights*, Klein's book was discussed in all major newspapers, and she was profiled in magazines at the time of publication, the hallmarks of "best-seller" promotion (Macfarquhar 2008). Since the success of her 2000 book, *No Logo*, Klein has become a forceful voice in militant debates about globalization and corporate capitalism. *Shock Doctrine w*as described as a piece of investigative achievement, "to the point of investing over $200,000 of her advance payments in research operations, building a virtual academic institute in order to get the goods on such unsexy freemarket gurus as the late University of Chicago economist Milton Friedman" (Allemang 2007). Thus in most media outlets, the book was represented principally as investigative, partisan journalism.

The message of the book is that under the cover of spontaneous or induced crises, because these are periods of mass disorientation and suspension of

democracy, market ideologues push through anti-popular reforms of privatization and cuts in public services. As the *Washington Post* reviewer put it:

> [t]he imposition of radical, Milton Friedmanesque free-market capitalism, [Klein] claims, often takes place when the targeted population is reeling from some exogenous shock: either a foreign invasion, like the "shock and awe" takeover of Iraq in 2003, or a natural disaster, like the tsunami and Hurricane Katrina, or even an economic meltdown, as occurred in Southeast Asia in 1997 and Argentina in 2001.
>
> (Tharoor 2007)[7]

The centerpiece of Klein's book is the involvement of Milton Friedman and the University of Chicago's Economics Faculty in the regime of Augusto Pinochet in 1970s Chile. Economics, dictatorship, and corporate takeover blend in this narrative.

Goodreads reviewers found the book objectionable for many reasons. A scholar might review the book like Gordon (September 1, 2011) judging that:

> the fact that the book is well-crafted and well-researched does not make it a well thought-out piece of writing . . . It's neither good journalism nor a good piece of political/economic analysis. But it's a very good rant for those already in her camp.

Many among the critics found the analogy of "electric shock" and "economic shock" a semantic confusion (Manny, November 20, 2008). Many protested how Milton Friedman was portrayed, Justin Evans (December 11, 2013) writing:

> quite why she needs to find a Villain to pin it all on (i.e., Milton Friedman) is beyond me: . . . it often reads as if Milton Friedman pulled the strings in every major event of the late twentieth century, which, loathe his theories as I do, he did not do.

Yet, even among those that rejected the book's central conceit, there was admiration for the achievement of argument and synthesis.[8] Szplug (December 16, 2013) states that "[t]he evidence . . . is, at best, circumstantial and correlational, and it attempts to graft a veneer of evil onto the otherwise inflectionless economic policies" but she/he then concludes:

> there are plenty of volumes out there proclaiming the wonders of our recently erected globalized market system; those such as Klein's are a welcome tonic, sobering in their presentation, righteous in their outrage, and compelling in their urge for readers to question exactly how manipulable (sic) these recurrent financial crises are, both in the way they are brought-about and settled afterwards.

And Evan (October 8, 2007) suggests that "any intelligent person who has read Thomas Friedman and found his arguments somewhat persuasive, should read this book too, and decide what sounds most persuasive for themselves". These reviewers do not read or write about Klein in isolation but place her book in the range of arguments found in the opinion press and in non-fiction paperbacks. They respond to the implausibility of post-Cold War triumphalism, of "flat worlds" and "ends of history" (the likes of *Commanding Heights*).

Shock Doctrine gained a new lease of life with the crash of 2008, and several readers turned to the book seeking meaning to financial traumas of that Fall. Chloe (October 14, 2008) recommended it for "anyone curious as to why they are now unemployed". After the media fanfare was well over, the book continued to be reviewed, several of the most "liked reviews" are only a few years old. One finds reviews in English, predominantly, a handful in Spanish, and several in Arabic, all declaring the book "important", e.g. Amr Mohamed, September 1, 2013, deemed it "worth more than five stars". One finds lengthty reviews that are like school reading reports, giving a chapter by chapter account, but also open letters, a thank you note to the author (in arabic), and a few free-wheeling essays on how the ideas might be applied to new cases in the late 2010s.

Across this festival of subjectivities, two types of experience are reported frequently and with emphasis. The first speaks of the reader encountering the extreme events portrayed in the book. Reviewers call it "deeply disturbing" (Trevor, May 25, 2008); "so disturbing that I didn't even finish the book" (Greg Sedlacek, August 21, 2015); "chilling, writhing outrage of a book. A hideous, squealing beast of a book" (James, March 1, 2008). To some the disturbance is too difficult to bear and write only a note to record their trauma, to others the emotions resolve into a call to moral outrage. Trevor (the most "liked" review, with 212 "likes") concludes:

> [t]here are so many lessons in this book, but the major one is that if people stand up against these greedy lunatics then we can stop them. We can reclaim our dignity and redistribute some of what has (sic) plundered from us. The criminal waste of tax dollars by these corporations in both Iraq and New Orleans is almost beyond description.

The other salient experience only a bit less corporal and more intellectual in quality bears the tagline of "eye opener" (Peggy, January 4, 2009; Mosca, Dec 29, 2008; and many others), "eye opening" (Jenny, November 15, 2011; Steven Williams, November 6, 2015; and more), "a shocking eye-opener" (Tanja Berg, August 2, 2011), and on and on . . . What makes these readers describe the book as one of the most important books they have ever read (Ellie, August 2, 2014) are the surprising connections between Latin American elites and the University of Chicago, between corporate contracts and the aftermatch of war, richly described and documented. Some of this readership declares itself new to non-fiction, others express the confusion of not

understanding the world around them, and in particular how political events, ideologies, and economic policies intertwine. The book is a revelation of understanding, as Riya (January 8, 2012) puts it "this book literally turned my world upside down and changed my views on politics and economics. Mind = blown". The reviews of Goodreads testify that *Shock Doctrine* elicited a broad spectrum of responses, that these were thoughtful, a few sophisticated.

The readers of *Worldly Philosophers* and *Shock Doctrine* reveal to us how difficult it is to imagine or second guess a readership. To presume Klein's public to be leftwing and like-minded conspiracy theorists is to miss out on how the book elicited emotional labours of indignation and intellectual labours of understanding, not a comforting reaffirmation of prior beliefs but an upsetting startling experience. It is impolitic but also wrong to conceive the mass public as a throng of uneducated and unpolished masses and to trivialize the act of reading by assuming readers to be passive receptacle of ideas. If the readers of *Worldly Philosophers* shows us that the history of economics can entertain, the readers of *Shock Doctrine* of histories' capacity to become tools for deep understanding. Readers used Klein's book to unify the spheres of politics and economy, to make events in distant lands intelligible, events in the book and long after its publication, and thus a vast and bewildering global world gained coherence and cohesion in their mind's eye.

Unpopular histories

What value is there for the university historian to study popular narratives? In popular histories the scholar encounters a different kind of writing making sense of a record the scholar knows well, and possibly mild amusement (or irritation) at its mythmaking, for instance, reading Nasar's portrayal of Alfred Marshall as a Russell Crowe blonde genius. For those of us who write about a very recent past, that remains in memory of retiring or working scholars, one discovers in mass print usable information. Scribes, with the reputation of a David Warsh or the accolades and portfolio of a Michael Lewis, will get reclusive characters to tell their stories. Warsh's *Economic Principals* – the *Boston Globe* column, the book anthology, the on-going online magazine – is packed with valuable source information. Lewis's latest book, *The Undoing Project*, contains insights into the lifelong partnership of D. Kahneman and A. Tversky that I have not seen in scholarly paper. These are the uncontroversial, utilitarian (fun! and data!) reasons to read pop histories.

In this essay I gestured to a bolder defence of why we should attend to popular print and how we might do it. For this collection of historiographical essays I rehearse a perspective that sees books as objects circulating in culture and inscribed many times, by many actors. Adopting this perspective would align discussions of the historiography of economics with themes of the history of science, where books have been incorporated into the "material turn" and high and low brow print meet as equals as objects of study. In the simplest of terms, we should not prejudge what books merit being followed around in

culture and which must be put to rest.[9] One should not presume how texts are read, one should also not presume who reads them. Our disciplinary traditions, the philosophy of history, and most certainly our own assessment on the quality of a classic text are not to be trusted as judgments of the texts' social and historical importance.

What holds true for the great books of natural history and for the great books of political economy must also hold true for history books. As we learn to record how history books make their way in culture, we will be asked to reflect why some of them become objects of popular fascination. But more than seeking formulas for publishing success, the value of reading the history of economics amply is to exercise our imaginations and ambitions. When we set ourselves the goal of appealing to economists alone, when we commit to a vocation as guardians of disciplinary memory, we lose sight of the horizon of possible narratives that economic ideas and economic lives afford and the publics that they grip. Faced by the sublime (or anarchic) landscape of popular and learned cultures, we begin to ask novel questions about our work, its conditions of production and circulation.

The play of the historical imagination is not without rules and I have hinted at some of them. The business models of publishing edit the scope of historical writing and set it on alternate paths to pre-assigned publics. But the business models of publishing, like those of journalism, like those of most media, are always unravelling, again today, by force of digital consumption of content. What lies ahead for books and for their social lives remains uncertain. While publishers and ancillary professionals dictate limits, I have argued that authors look for companions and outlined how genres might be described through relationships of emulation between authors and texts. Finally, I have called attention to readers and to how they renew and extend histories by crafting emotional urgency to them and by enlarging them in argument. To think the practice of writing history is to remember that writing always begets more writing, that we are all readers among readers and writers among writers.

Rather than conclude by once more repeating Keynes' zombie proverb of 1936, I quote from one of Naomi Klein's reviewers, Shannon (Giraffe Days). On July 2, 2009 she wrote that:

> there is a kind of history that gets overlooked, that doesn't get taught in schools or universities aside from a fourth-year optional course that no one bothers to take. It's a history that is fundamental to understanding our world, both past and present and where the hell we're going. It's a history that touches everyone, regardless of class, gender, race or age, but that slips out the back door before anyone thinks to call it to account, put it on trial and expose its heinous crimes. I'm talking about economic history, the history of economics, and the power economics plays in everything that happens in the world.

Let's do that.

Notes

1 A notable contributor to this genre is Wilhelm Roscher's *Geschichte der Wissenschaft in Deustschland* of 1874, that through various translations ushered a greater appreciation for German economics which was often absent in the English and French surveys of earlier decades. For an earlier example of the national frame see Theodore Fix's entry "Economie Politique" for the *Dictionnaire du Commerce et des Marchandises*, 1855, Paris: Hachette.

2 One of the richest veins of popular writings on economics in America is magazines (Mata 2011), fitting my periodization see the remarkable "Economists" in *Fortune* (McDonald 1950).

3 If we observe that J. K. Galbraith's TV series *Age of Uncertainty* (a history of economics) preceded, indeed prompted, Milton Friedman's *Free to Choose* than one might say history of economics was televised before economics (Burgin 2013).

4 Darnton's 1982 essay was a culmination of a long trajectory in the analysis of books and reading that is usually said to have began with D. McKenzie's (1969) "Printers of the Mind", a challenge to the idea that there were fixed patterns to book production, and setting out a more erratic and complex process than previously assumed. Equally important was the literature from France that began even earlier, notably in Lucien Fevre and Henri-Jean Martin's *L'Apparition du Livre* of 1957.

5 The success of *Beautiful Mind* will forever be bound to the motion picture. One might observe the movie as echoing earlier representations of the genius and tormented mathematician, from *Good Will Hunting* (1997) to *Proof* (2005) and thus not speaking to popular conceptions of the economist but of the mathematician. Indeed, the movie never identifies Nash as an economist.

6 *Commanding Heights* is written in the style of the forgotten influence of dead economists, and in the next section we will encounter another title that lavishly attributes historical agency to economists. Of special note is also work on the history of finance, in particular that of Peter Bernstein, see Bernstein (1992).

7 Joseph Stiglitz reviewing for the *New York Times*, remarked "There are many places in her book where [Klein] oversimplifies. But Friedman and the other shock therapists were also guilty of oversimplification, basing their belief in the perfection of market economies on models that assumed perfect information, perfect competition, perfect risk markets. Indeed, the case against these policies is even stronger than the one Klein makes" (Stiglitz 2007). Christopher Hayes (2007) only complained that Klein was addressing the wrong economist and that she should have picked Hayek.

8 At least one reader trained in economics, expressed ambivalence. Riku Sayuj (October 25, 2011) felt "as strongly as the author that The Shock Doctrine is changing the world. But it runs in the face of all economics I have been taught and I find myself scorning and muttering 'alarmist'".

9 From a very different starting point, Kenneth Carpenter and the Reinert family working from the Foxwell-Goldsmiths collection are reclassifying the canon of political economy pre-1850 (Reinert, Carpenter, Reinert, and Reinert 2017). Their metrics are what books were most reissued and translated in that period. The surprising and disturbing finding is that the "most popular" book in political economy is not the *Wealth of Nations* or Say's *Traite* or his *Cours*, but Ben Franklyn's *Way to Wealth* (see the online exhibit at http://waytowealth.org/).

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1 Business cycles without periodicity?

Bertram Schefold

Introduction

This book is concerned with economic and theoretical cycles during the "long" 21st century which – the authors agree – starts with the downfall of the Soviet Empire and ends with the present. This means a time for most of the contributors that they have lived through. For myself, the "long" 21st century began in the middle of my academic career. Personal experience makes it tempting to recount history in subjective terms. Since the number of economists has grown considerably and communication among them has intensified in the same period, choices have to be made anyway: a book would not suffice if all important approaches were to be mentioned. At the time when this essay was planned, one felt overwhelmed by the impact of the last crisis. At the time of publication, one still strives to understand it better in order to overcome it definitely. For all these reasons, the authors were in danger of being historically and geographically parochial, but recent researches have made us aware of what one can discover only with some effort: that many crises of very different characteristics took place in all parts of the world during this quarter of a century. They include the crises in East Asia of the emerging markets, crises resulting from speculative activities in domestic or international markets and crises connected with the new markets based on information technologies, but also crises of the countries in transformation in Eastern Europe and crises associated with dramatic forms of inequality in developing countries, in particular in Africa. Reinhart and Rogoff (2011) have taken such a broader view, but we are concerned with the contrasts and the continuities between the revival of the theory of business cycles during the period under consideration and the older traditions of business cycle theory, which had been discussed in two previous meetings at Villa Vigoni.

Even with this traditional European (and American) focus, business cycles theory has become more diffuse. The idea of a regular cycle of given length (like the ten-year cycle of the 19th century) has disappeared almost completely, and the trigger of the cycle can apparently turn out to be quite different. One need not look to exotic places to see it. Relatively small events such as the housing bubble in the United States in the present case or stock market crashes

in the 1980s can lead to worldwide disruptions. But it is a question whether the economies are always so vulnerable. Is there a fundamental weakness in the growth process, which is the real cause of the depth of the present crisis? Why can an event such as an overproduction of houses in the United States, which would hardly have been noticed during the years of strong growth in the immediate post-war era, now lead to stagnation and recession? What are the channels of propagation? And finally, what are the costs of these crises? It is an outcome of the historical investigations (Reinhart and Rogoff 2011) that crises associated with a major disruption of the financial markets are costlier and take longer before a full recovery sets in. The broad result is that the origins of crises can be quite heterogeneous, but there are characteristic patterns of how they develop. It seems impossible to predict the outbreak and very difficult to predict the time it takes for recovery, but fundamental connections can be described and identified. In the beginning of the period under consideration, there was a strong opposition between Keynesian and neoclassical approaches. The latter had begun to incorporate the theory of rational expectations. Today we find that compromises between those approaches have been struck which almost form a continuum.

Selective, as we have been and must be, we shall start with some broad ideas of the rational expectations revolution. We shall confront this with the radical Minskyian position and with the compromise struck by the French disequilibrium school (Malinvaud), thus going back to the 1970s and 1980s. It can incidentally be shown that a simple variant of that theory can be used to compare and confront a Keynesian and a neoclassical interpretation of the present European crisis, as it affects the North and South unequally. We then recount a simple model of real business cycles and indicate where new Keynesian elements may come in. We conclude with a novel model by Blanchard and others explaining "reverse causality" as an expression of how weak growth processes may render the economy more vulnerable and lead to cyclical behaviour.

Rational expectations

It is impossible to deny the importance of the rational expectations revolution, for which Lucas (1988) was largely responsible. (He also was one of the progenitors of the endogenous theory of growth by introducing human capital to explain total factor productivity in the neoclassical growth model.) He opposed the Keynesian assumption that agents have given static expectations so that policymakers can rely on them, anticipating given reactions in order to influence the course of events by introducing discretionary measures. According to the theory of rational expectations, agents use all information at their disposal; they therefore adapt their expectations according to the policies pursued by the authorities. Agents anticipate, for instance, the consequences of a rising quantity of money, which follows from central bank policies. If the policy is known, they expect prices to rise, and activity and employment stay constant. This meant that the well-known Phillips curve was modified. It had

consisted in a negative correlation between inflation and unemployment, based on historical observations. But if the consequence of the rise of the money supply is anticipated, prices rise at once and the Phillips curve becomes inelastic. Friedman (Phelps 1967) had predicted a similar final outcome on the basis of adaptive preferences. Rational preferences meant that this outcome was realised immediately.

It took some time before it was discovered that a similar idea had already been used by the mediaeval bishop and scholar Oresmius, who said that the depreciation of a currency by means of debasement could lead to a gain of the prince, who ordered the debasement, only if the merchants were surprised by this move and did not know about the debasement, for otherwise they would raise prices at once, so that the debased coins had only as much purchasing power as corresponded to their reduced content of precious metals (Schefold 1995). Our present experience (up to January 2018) contradicts the scenario envisaged by Lucas completely: the European Central Bank dramatically augments credit and the money supply by buying securities, and yet the markets do not react with notable increases of either inflation or output. We shall return to this point in a new Keynesian context in the next section. Here it may suffice to say that it can, in the face of a monetary expansion, also be rational not to raise prices under the pressure of competition, in particular from foreign countries, if many prices are set by organs of the state, the state being slow to react, and if trade unions are weak. And it is rational not to increase output if one foresees that other agents do not raise demand. Lucas himself admits in his book of 1987 (Lucas 1988, p. 13) that "rationality" can be defined precisely only in the context of a given model. He even says in an associated footnote that the definition of "rational" as a "use of all information" is "vacuous" and that the identification of "rational" with the hypothesis that people "know the true structure of the world they live in" is "silly" (Lucas 1988, p. 13).

Lucas argues, in essence, that the process of accumulation should be seen as a dynamic game, in which the actors take into account the actions of all others, including the policymaker. He introduces a "useful" economic model where states of the economy s_t at time t are transformed into future states by a function F:

$$s_{t+1} = F(s_t, e_t) \tag{1}$$

Here e_t are exogenous shocks from some fixed distribution. Both s_t and e_t are vectors. A policy change means the transition from one F to another F'. This is described as a policy action $z_t = z_t(s_t)$. The agents i also act according to s_t: $a_{it} = a_i(s_t)$. Hence:

$$s_{t+1} = F(s_t, e_t) = H(z(s_t), a(s_t), s_t, e_t) \tag{2}$$

The agents choose their actions from a set of possibilities, they evaluate the result of the actions taken in each period and a representative agent eventually

maximises the return generated over an infinite horizon, according to his expectations and discounting the future.

There is no room here to reproduce the result of the intertemporal maximisation. The main point Lucas wanted to make can be stated without going into the details and without adding the specifications needed to render the calculation feasible (for instance, introducing the Phillips curve).

Keynesian policy is identified by Lucas with the discretionary fixing of certain numbers, like the magnitude of a budged deficit, in order to influence specific situations, each of which is historically unique. The theory of rational expectations, by contrast, is concerned with deriving policies that lead to repetitive patterns of reactions. The result of the intertemporal maximisation can, on the one hand, be used to estimate the growth process with the characteristic deviations from the trend that results from the shocks. The triumph of the rational expectations revolution was in part due to the fact that real business cycle models (RBC) were or seemed quite successful in reproducing the curious mixture of regularity and irregularity in the deviations from the trend. On the other hand, Lucas affirmed in his book that these deviations were small and should not be a major concern for the economist, for to make them still smaller by discretionary means – as opposed to policy rules – would only detract from the major structural problems. He noted that unemployment in the United States was of the order of magnitude of seven per cent at the peak of the cycle. These seven per cent were the problem, he thought, not the one or two per cent added during a recession. Consumption smoothing was inefficient, as Kydland and Prescott had shown (Lucas 1988, p. 106). The book ends with the assertion that macroeconomics was going to be dissolved into microeconomics: "The term 'macroeconomic' will simply disappear from use and the modifier 'micro' will become superfluous." In the end, the economists did not go quite as far.[1]

Keynesian approaches and rationing

I here want to discuss Minsky and Malinvaud. They were active essentially prior to 1990, but their work was an important influence on economic thought around 1990 and may be discussed here. It was very important at least for my perception of macroeconomics in those days.

A theory of rational expectations in the sense of Lucas is not possible if uncertainty is such that rational expectations cannot be formulated and economic action must be based on other assumptions. Hyman Minsky described the situation as follows:

> Keynes wrote that in dealing with uncertainty, "in practice we have tacitly agreed, as a rule to fall back on what is, in truth, a *convention*" (Keynes 1936, p. 152, emphasis in the original). But in a capitalist economy the aspect which is least bound by technology or by fundamental psychological properties, which is most clearly a convention or even fashion,

> subject to moods of optimism and pessimism and responsive to the visions of soothsayers, is the liability structure of both operating and financial organisations.
>
> (Minsky 1976 [1975], p. 128)

Minsky continues saying that ingenuity is used to develop and introduce financial innovations just as it is used in production. In each state of the economy, one acts as if it were to continue indefinitely. Credit is easily granted in the boom, but in the depression, people have experienced the dangers of being in debt and are afraid of incurring new debts. However, neither boom nor recession last indefinitely. "Each state nurtures forces that lead to its own destruction" (Minsky 1976 [1975], p. 128).

Uncertainty means that the action of the agents cannot be based on the anticipation of the action of others over a long period of time. Since the future is unknown, only the short run behaviour of others can be guessed; hence, one is trapped in states of optimism during the boom and of pessimism during the recession. As recent experience shows, even prolonged efforts of a central bank to change the state of mind of the public can be in vain. Minsky then was led to consider a consequence, which had also been observed by others such as Clower (1965) and Garegnani (1964): the decisions on consumption and investment are constrained by the budget available to households and entrepreneurs. Both could spend more than is available from their current income, using own wealth or credit, and both can – and mostly do – to some extent spend less and save. However, according to the neoclassical equilibrium conception, households spend exactly as much as corresponds to their equilibrium income at full employment, saving being taken into account by means of an intertemporal allocation over a given time horizon, and the actions of firms adapt to the demand for goods and the supply of factors of households over time. It can be shown that a general equilibrium exists in the form of prices for goods and factors such that full employment obtains, the corresponding income can be spent and leads to production such that the expenditure buys the commodities produced, and the incomes so generated are equal to the full employment income.

Unemployment is the main manifestation of the fact that the market clearing which we observe in reality (not always, but on average and as a tendency, market clearing for goods may be granted) does not correspond to the full employment equilibrium predicted by the neoclassicals. As for labour, there are effective budget constraints. If we neglect saving and credit taking by households, they can spend wages only, if they get them; that is, if they are employed. The unemployed have no access to credit and can only spend what they get by some form of social security or private charity. The budget constraint is vey flexible for firms.

Minsky was most successful in his description of the boom phase, during which an ever-more-daring liability structure is being built up, using financial innovations. The real growth is constrained by technical possibilities and by

the rise of real wages. The debt base by contrast may grow and accelerate, being constrained only by mutual trust, and the growth of the financial system overtakes that of the real economy. Hence, financial crises become possible when this liability structure is fragile; they can, but need not, be triggered by overinvestment in the sense of real capital growing faster than demand for it. As I argued in Schefold (2017), the economists of the 19th century, even Marx, doubted the possibility of a crisis triggered merely by financial factors. Why should trust suddenly wane? Why should a loss of trust affect many, if it affects a few? Earlier economists sought the explanations in factors exogenous to the financial system such as bad news (a war, a natural calamity) or, as a recurrent possibility, overinvestment in the "real" economy. Keynes's explanation was ambiguous. He wrote that, "when disillusion falls upon an overoptimistic and overbought market, it should fall with sudden and even catastrophic force" (Keynes 1936, p. 316). Why is the market "overoptimistic and overbought"? This could be interpreted as the traditional – and, I repeat, even Marxian – overinvestment theory (Spiethoff 1925).[2] But Minsky thought that Keynes meant an overexpansion of the financial system which could, in principle, take place even during a phase of reasonably steady growth of the real economy.

More or less contemporaneously with Minsky and post-Keynesian research, there arose a school of neoclassical economics that took up the question of the effective budget constraints in order to modify general equilibrium so as to take Keynesian states of unemployment into account as states of disequilibrium due to quite different causes than the financial system, namely due to price and wage rigidities. Malinvaud wrote an influential synthesis of this approach. It was criticised by Cambridge economists, and I myself got involved in the debate at one point (Malinvaud 1977; Kahn 1977; Schefold 1983). I here want to summarise an aspect of the discussion which may help to shed light on a current debate.

The model is as follows: there is a production function to produce output Y by means of labour, capital being constant in the short run so that we may write $Y = F(L)$. The value of output is distributed as wages and profits. Kahn introduced the post-Keynesian theory of distribution, i.e. the idea to have profits determined by the expenditure on investment and by the government, so that we may write:

$$pF(L) = wL + P = wL + G \tag{3}$$

with p price level, w wage rate, L labour employed, P profits and G exogenous expenditure (government and investment). The equality, causally interpreted, means that exogenous expenditure determines profits and employment, since all profits are saved and all wages spent on consumption. The equality holds as an equilibrium condition and defines a curve in the space of prices and employment, with the wage rate regarded as given:

$$p = wL / F(L) + G / F(L) \tag{4}$$

Assuming diminishing returns, this curve is *U*-shaped; it divides the plane into two areas; below the curve where prices are low, there is excess demand at given prices, and above, demand is deficient.

On the other hand, the real wage p/w is equal to the marginal product $F'(L)$ in competitive conditions. One can introduce an element of imperfect competition by assuming a mark-up. In the simpler case, if there is no mark-up, $p = w/F'(L)$. This marginal cost curve rises and cuts the *U*-shaped equilibrium curve in the minimum of the latter, as can easily be shown. The point of intersection of the two curves may be called the point of effective demand *PED*; here the *two* conditions formulated by Keynes in the *General Theory* in the Chapter III on effective demand are simultaneously fulfilled. The Keynesian underemployment equilibrium has employment corresponding to effective demand, which depends on the level of exogenous expenditure and the level of expenditure out of wages. Keynes assumed that the Marshallian condition of price equalling marginal cost was also fulfilled. In the present construction, this condition corresponds to his supply curve. There was unemployment, if the labour supply $\bar{L}$ which we here assume to be inelastically given, is to right of the point of effective demand. This is drawn in Figure 1.1.

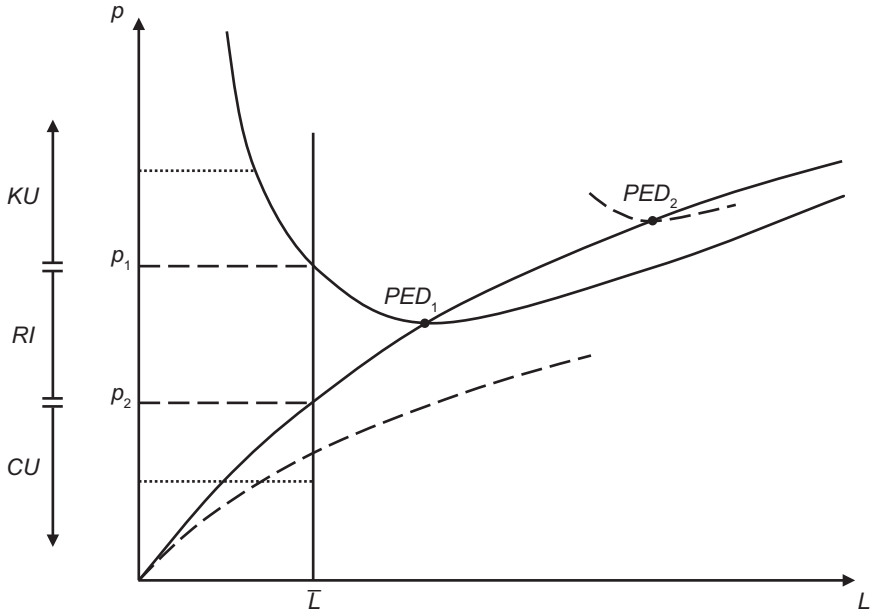

Figure 1.1 Different kinds of equilibria according to Schefold (1983), based on Malinvaud (1977) and Kahn (1977). *KU* domain of prices leading to Keynesian unemployment, *RI* domain of prices leading to repressed inflation, *CU* domain of prices leading to classical unemployment. PED_1 point of effective demand initially. PED_2 point of effective demand resulting if autonomous expenditure *G* is increased. This reduces Keynesian unemployment resulting at price p_1. The price level is lower at p_2, where classical unemployment results. This is lowered if the marginal cost curve moves to the right, drawn as dotted curve.

Different kinds of disequilibria result, given exogenous expenditure, depending on the level of prices. At an intermediate level of prices, the point of effective demand is, with the labour supply assumed here, to the right of full employment. At these prices, there is repressed inflation: excessive demand leads to full employment at prices which are above marginal cost. Since we considered the wage rate as given, this situation can be stable only to the extent that it is possible to control prices. If prices are still higher, there is Keynesian unemployment in that an equality of demand and supply of goods obtains at these prices, but they are above costs. Effective demand in real terms is, at this level of prices, too low to employ the entire labour supply. At low prices, such as at p_2, effective demand is high in real terms but, given increasing marginal cost, the level of employment is limited by the condition that the real wage equals the marginal product or that prices equal marginal cost.

This latter constellation was introduced by Malinvaud as "classical unemployment." He claimed to have had an important idea in that he thought to have shown in a unified framework how unemployment could result not only from deficient demand, but also from excessive cost, and he suggested that, in a more general model, there might be deficient demands in some sectors (meaning an equilibrium of demand and supply of the corresponding goods such that labour was not fully employed as here at prices p_2) and classical unemployment in other sectors, due to excessive costs, as here at prices p_2 . His intended model was much more complicated than the present simplification, in that it was fully disaggregated. A generation of especially French economists struggled with the task of representing the various disequilibria properly with their interconnections. By contrast, Kahn took the main step to simplify the model, but it was not fully transparent, because he reckoned in wage units. He criticised Malinvaud for a variety of shortcomings. He criticised the lack of a representation of expectations, of a proper investment function and of an explicit dynamics. Malinvaud would answer to these criticisms with new ideas which we cannot discuss here (Malinvaud 1980). But the main point made by Kahn was that classical unemployment could not exist, because, he thought, prices could not be kept constant. In our diagram we are, at p_1, far in the region of excessive demand. So it seemed natural to assume that prices would rise, and a process of inflation might eventually lead into a situation of Keynesian unemployment, if not to repressed inflation.

I found Kahn's argument entirely convincing, although a similar argument could be advanced against repressed inflation: what assumption would suffice to demonstrate that prices could be controlled and actually would stay constant? In the happiest days of Postkeynesianism, we were content to believe that the essential outcome was Keynesian unemployment. Of course, the arguments were all based on real balance effects and given monetary investment. These assumptions could be and were doubted, and the doubts gave rise to further discussions.

Is there anything to be learned from these controversies, which few young economists know today? Going through the old papers, I was struck by the observation that there was something, after all, in Malinvaud's ideas, if we

reconsider them in the light of recent experiences, especially in Japan and Southern Europe. For we find that prices *can*, after all, be kept constant in the face of excessive effective demand. Governments run deficits, especially in Japan, but also in Europe, where governments repeatedly overstep the constraints by the Maastricht Rules. This is counteracted to some extent by private saving to pay for old debts. Would it help to stimulate demand even more, in line with the attempts of central banks to ease credits?

The price level is fairly constant,[3] in part because of falling oil prices and in part because many prices are administered by the state, but I think primarily because of worldwide competition. Whoever wants to sell cars on the world market can do so, provided they are sufficiently cheap and of adequate quality. And so countries are in many sectors in a situation resembling that of p_2. In order to sell more, productivity would have to increase, and/or the wage rate would have to fall. This is indicated in the diagram by a shift of the marginal cost curve to the right. If productivity could be raised sufficiently, which would be better than lowering real wages, full employment would be reached.

But politicians and many economists argue that government expenditure should be raised instead, so as to fight unemployment in the Keynesian manner. This will not help in a situation such as the one drawn in this diagram. If autonomous expenditure G is raised or if other countries increase imports (in the actual situation: if Germany invests more, which would be good for the infrastructure of that country), the point of effective demand for Italy moves up and to the right. That will help to reduce Keynesian unemployment, if one is in a situation such as at p_1. But if one is in a situation such as at p_2, the situation will not be affected at all: the marginal cost curve will not move, if productivity does not improve, and the price level cannot be raised because of global competition.

So this diagram seems to provide an rationalisation of the debate which has been going on since about 2010, when it was discovered that unit costs had developed in very unequal ways in different European countries since 2000, as shown in Figure 1.2 (see Schefold 2014).

I do not claim that this simple model provides a solution to the debate, but it does provide an instrument for diagnosis, which may help to clarify what different authors mean. It is true that classical unemployment vanishes, if there are constant or increasing returns (this was a point made by Schefold 1983, pp. 241–244), and one may object to the use of a production function. But, as stated, the core of the argument remains valid, if mark-ups are introduced instead of the neoclassical marginal cost condition and if firms are in each sector ordered in the short run according to productivity so that a rising cost curve can be drawn for the corresponding market as a whole. What, if not costs and quality, prevents Japan or Italy from returning to the export-led booms of 40 or 60 years ago?

From the new Keynesian model to reverse causality

We return to the mainstream in the history of macroeconomics and business cycles. The real business cycle models have been supplemented by introducing

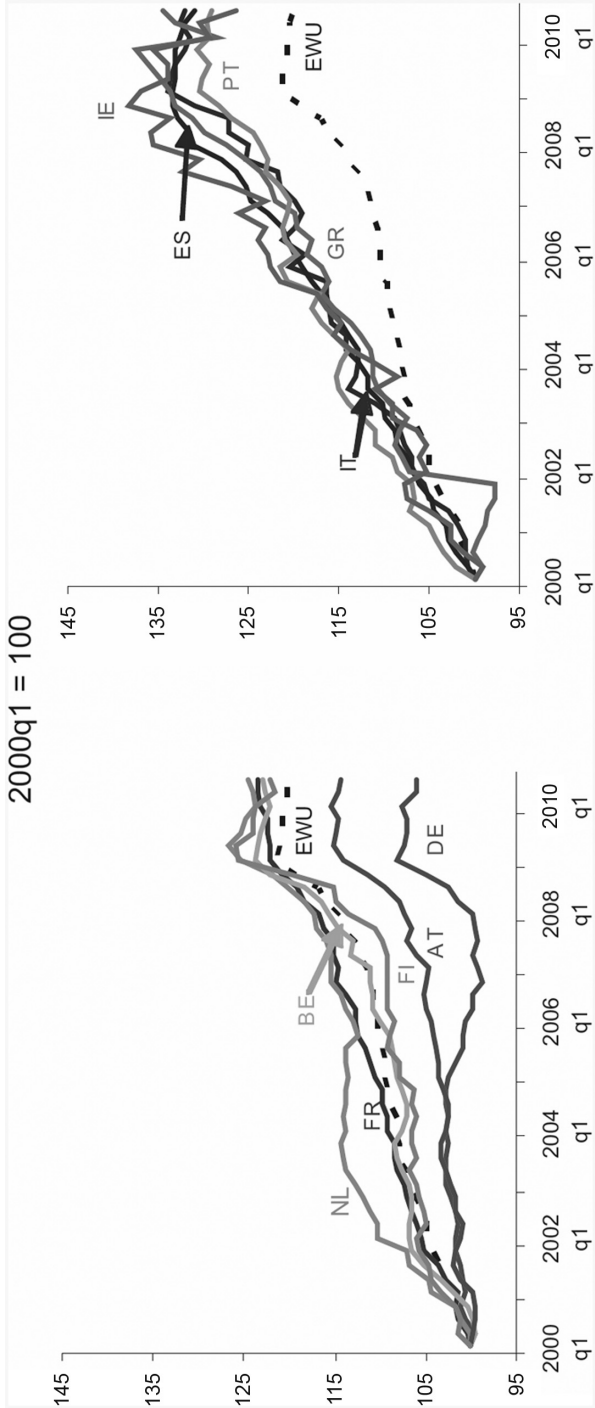

Figure 1.2 Development of unit costs in different European countries between 2000 and 2010, relative to national productivity

Source: Niechoj, Stein, Stephan and Zwiener (2011, p. 13)

market failures, in particular sticky wages and prices, which in turn were explained in different ways by menu costs, imperfect competition, coordination failures, search and matching theory, bounded rationality, efficiency wages, and others. In order to illustrate this intellectual development, it is useful to start from a representative model of real business cycles and to introduce complications successively. The point of departure is a neoclassical growth model with stochastic technical progress. The difference to the Solow model consists in the introduction of a stochastic component for total factor productivity and a labour supply which is responsive to the changes of the wage rate relative to the trend. Such a model has been presented by Robert King and Sergio Rebelo in the paper "Resuscitating real business cycles" (King and Rebelo 1999). The model can be made to fit real data for output rather well (Figure 1.3). It is, unsurprisingly for Keynesians, not equally successful, as far as labour is concerned. A detailed discussion of the paper must be omitted for reasons of space.

We want to conclude with a recent publication which links business cycle analysis and the trend of growth. The deep impact of the recent crisis has here displaced the idea that the business cycle consists of relatively minor fluctuations which, as in Lucas, are thought not to be worthwhile to control. Blanchard, Cerutti and Summers (2015) start from the admission that the great financial crisis entailed a fall of output such that the leading economies have remained far below the prerecession trend. This is not surprising, if one believes that each crisis is a different animal and that growth consists of upswings of different character and duration. But neoclassical theory predicts a trend with small fluctuations. Here, the fluctuation, if it can be interpreted as such, is large. How to explain its lasting consequence? Is it hysteresis? Is "hysteresis" an explanation, or is it just a name for the phenomenon? At any rate, the cost of the output shortfall seems to be much higher than typically assumed. The authors now demonstrate that the same may be said of many recessions. They present a survey of about 23 developed countries over 50 years and find that in two-thirds

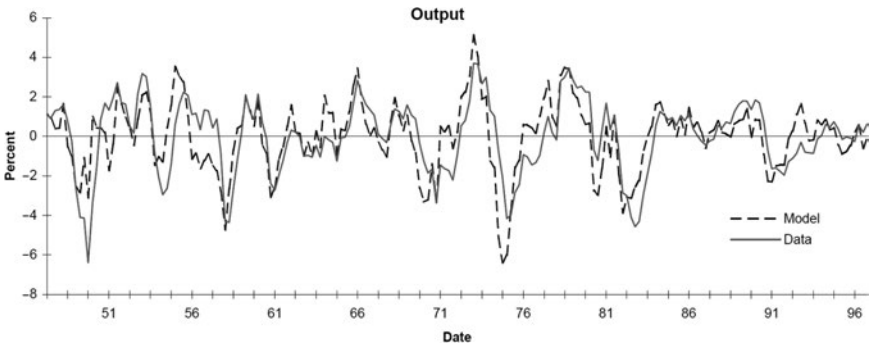

Figure 1.3 Simulation of the model and real output in the King/Rebelo model

Source: King and Rebelo (1999), figure 7, p. 959

of the recessions, output is lower than according to the prerecession trend even after the economy has recovered, and in half the cases output growth follows a lower trend than prior to the recession. Hysteresis is one explanatory hypothesis, if it is taken to mean a reduction of the propensity to invest due to the experience of the crisis or a similar later modification of initial conditions. Another is reverse causality, according to which it is the perspective of a long-term trend of output to fall which causes the recession in the first place.

The set-up expresses a belief in a certain permanence of fundamental data, especially of preferences and the trend of productivity, which are only shattered by shocks, but not changed permanently. Recessions are associated with different shocks. Changes of oil prices and financial crises as triggers are examples. A specific focus is on demand shocks:

> even in the case of recessions associated with intentional disinflations, which probably represent the purest case of demand shocks. We find that still nearly two thirds are associated with lower output later and that a significant fraction of those are associated with lower output growth.
>
> (Blanchard, Cerutti and Summers 2015, p. 4)

Hysteresis had been discussed by Blanchard and Summers earlier (1986). It may be due to institutional changes resulting from the crisis, such as tougher capital requirements or unemployed workers becoming unemployable. The analysis of the empirical basis, not to be described in detail here, is based on the following schematic idea: the sequence of data for actual output is confronted with a trend extrapolated from output during the four years preceding the recession. This is corrected on the one hand for unusual stimulating factors such as unusual growth of credit, and on the other hand a correction takes place to represent a declining trend of growth. This adjusted trend is then compared with actual growth during the four years following the recession so as to discover output gaps relative to this adjusted trend. A variety of tests show that the output gap can be observed across countries and phases of post-war growth, confirming the hypothesis of hysteresis.

Or are initial supply shocks the causes of slower growth, inducing, for instance, long-run changes in the behaviours of banks, more risk aversion and less efficient intermediation? Then, reverse causality is regarded as a possible explanation. It presupposes an exogenous decline of the growth potential that is anticipated by households and firms, and this leads to the recession, which thus initiates the phase of slower growth. "Firms appear to over-accumulate capital during periods of expansion. . . . [This is] what one would expect if firms and households took some time to realise that productivity growth had actually slowed down" (Blanchard, Cerutti and Summers 2015, p. 13). We here find a similarity with the old overinvestment theory (Spiethoff 1925).

The paper contains an extensive attempt to control for these rival hypotheses per type of recession. Among the results, the most important seems to be that lower output relative to the prerecession trend is found in two thirds of the

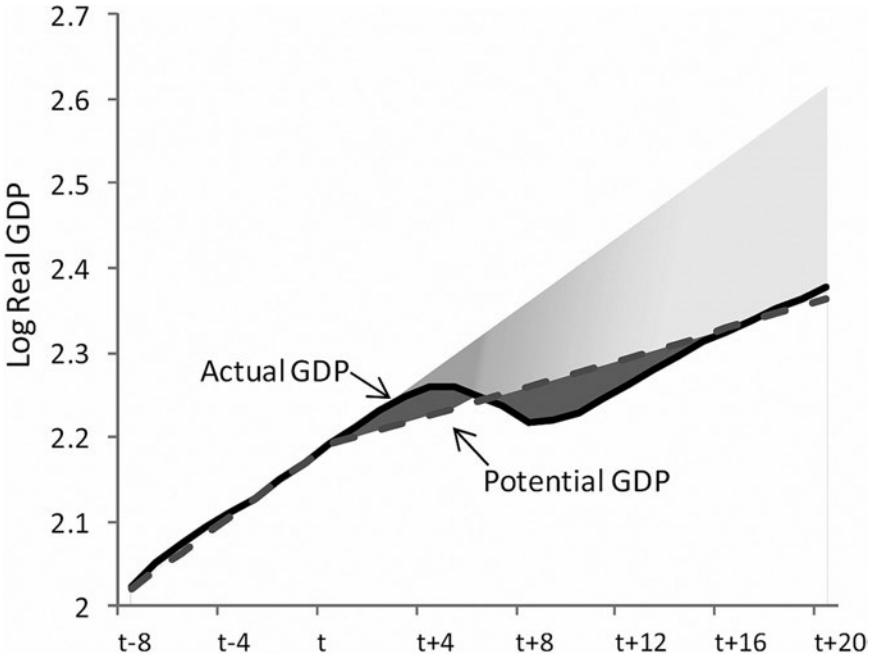

Figure 1.4 Decreases in growth, recessions and output gaps, according to Blanchard, Cerutti and Summers (2015). Agents anticipate the decline in the growth trend ("potential growth"); this causes the recession. But if the authorities calculate the output gap without having noticed the change of the trend, they will overstate it.

Source: Blanchard, Cerutti and Summers (2015, p. 26)

recessions. The phenomenon shows even in the case of deliberate disinflations (recessions caused by a financial policy oriented towards a reduction of inflation). The conclusion is that deviations from the adjusted trend are more dangerous than is usually thought in the case of hysteresis; hence, monetary policy should become more active to avoid lasting increases in unemployment, but a theory of an optimal monetary policy in the case of hysteresis does not seem to exist. If there is reverse causality, there is the danger, according to the authors, that potential output loss is overstated and that the action of the authorities is excessive, for it is their basic belief that the fundamentals of long-term growth cannot be influenced. The case of an overstatement is illustrated in Figure 1.4.

Conclusion

The paper by Blanchard, Cerutti and Summers (2015) can be seen as the expression of a new neoclassical synthesis. Contrary to the view taken by Lucas,

Keynesians do not rule out the possibility that the experience of a crisis has an irreversible effect on the dynamics of investment; crises then determine a trend which is visible only ex post. Here, growth is still represented as a moving equilibrium determined by resources, techniques and preferences; these fundamentals determine a trend, which is only disturbed, not altered by recessions. But hysteresis is the expression of the recognition that accidental crises can have a lasting impact, after all. Reverse causality, by contrast, recognises that there might be an inevitable slowdown of the trend. It is not to be influenced by demand management. It is only perhaps to be improved by structural reforms, and it manifests itself through anticipation in recessions.

The historian of economic thought will note that, over the course of 30 years, the opposing camps of Keynesians of various persuasions and neoclassicals have merged to some extent. A remarkable example is provided by the recent paper "Reconciling Hayek's and Keynes' Views of Recessions" by Beaudry, Galizia and Portier (2018). According to their interpretation, Hayek saw recessions mainly as periods during which an overinvestment of the past had to be liquidated; government intervention could not mitigate this necessary process without causing new distortions. The paper models such a process of liquidation but shows that some Keynesian policies can nevertheless be beneficial.

In this changed environment, "method" seems to have become more important than "ideology." The papers have in common that they do not expound an abstract theory, but formulate models that are in most cases immediately put to empirical tests using historical data. It is these methods with their associated standards of performance that seem to define modern mainstream economics. The elder historian of economic thought may regret that standards of theoretical rigour and elegance as well as of sociological interpretation are partially lost in this merger, but has to accept the fact that younger colleagues do not seem to feel that something is missing. Methods also change because of the growth of research institutes. Spiehoff's famous article (Spiethoff 1925) was edited by Edgar Salin 30 years after its first appearance (Spiethoff 1955) with only small amendments but in two volumes, the first containing the text, the second the statistical materials which Spiethoff had collected in a lifetime of study. It shows what an individual could perceive and may be contrasted with the systematic collection and analysis by the research institutes that originated a little later in the 1920s (Kulla 1996). As a result, after almost a century of institutionalised research, our modern perception starts not from single data but from statistical constructs of increasing sophistication which cannot easily be verified or challenged by a particular observer.

As far as the theory of business cycles is concerned, the diagnosis is clear: the triggers of business cycles can be many and diverse, and so are the propagation mechanisms. The length of the cycle is indeterminate, but they recur, and to speak of boom and recession is still a matter of course despite the absence of regularity in the form of the cycle. It remains to be seen which theory will be adequate as the 21st century actually unfolds.

Notes

1 For a comparison between fictional changes in rates of growth and consumption smoothing, see Section III of Lucas (1988).
2 Two quotes from Schumpeter may suffice to highlight Spiethoff's importance. In his *Theory of Economic Development* (English edition), Schumpeter (1961 [1934], pp. 214–216) compared *his* "theory with by far the most thorough effort in the field, that of Spiethoff – little as it is capable of comparison with the latter in thoroughness and perfection." According to the *History of Economic Analysis* (Schumpeter 1971 [1954]), "Spiethoff was the first to recognize explicitly that cycles are not merely a non-essential concomitant of capitalist life" (p. 1127). Only Marx had a similar insight.
3 The present paper was first presented in April 2016, and completed in January 2018.

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5 German, American and French influences on List's ideas of economic development

Harald Hagemann

5.1. Introduction

Friedrich List (1789–1846) is probably, besides Karl Marx (1818–1883), Germany's most famous economist of the 19th century, although both were not professional academics. "What is the value of a science which does not illuminate the way practice should walk?" was a statement List made repeatedly.[1] According to his self-estimation List was an independent and original thinker who appropriately could be called a "theorizing practitioner". Life and work were strongly intertwined, and the combination of theory and practical application was characteristic of List throughout his life. List was active successively as a civil servant, short-time professor of administrative practice at the newly founded faculty for state economy at the University of Tübingen in 1817–1819, journalist, railway promoter and American Consul to Leipzig, restlessly agitating public opinion with his reformist spirit in favor of industrial development. As expressed in his formula "Through Wealth to Freedom", economic progress for List was inseparably linked with his liberal convictions.

List lived in Germany, from 1825–1832 in the United States, and repeatedly for longer periods in France at a time when England was the leading economy in the world or "dominant nation" (List [1837] (1983), ch. VI). He considered France and the USA as the first followers; the French economy without doubt the first contemporary follower, but the US economy, as sometimes predicted by List, had enormous potential to forge ahead of the British economy in the long run, a prediction which materialized about half-a-century after List's death. List wanted to promote Germany to a leading industrial nation but considered her only as a contemporary manufacturing power of third order, which intends and is capable of advancing to one of second order (List [1837] (1983), ch. V).[2]

List's three more elaborated treatises of political economy, his *Outlines of American Political Economy* ([1827] 1965), *The Natural System of Political Economy* ([1837] 1983) and *The National System of Political Economy* ([1841] 1885) were published in the three countries where he spent most of his life, being influenced by contemporary economic developments, authors

and policy debates. Despite these influences, which affected the elaboration of his ideas, there exist convincing arguments that the origin of List's national-economic theorems, which culminated in the *National System* ([1841] 1885), is already contained in the memorandum on tariff arguments that he presented in April 1819 to the merchants assembled at the Bundestag in Frankfurt.[3]

At that time, when Germany still consisted of a conglomerate of 39 individual states, the democratic movement was characterized by the fact that liberal and national ideas were almost inseparably linked, somehow expressing also the experiences of the Napoleonic period. Accordingly, we find List as a liberal and democrat who emphasized that respect for human rights and civil liberties should accompany industrial development, and as an author and activist in whose conceptions there is a sharp accentuation of the nation as the decisive economic unit in between individualism and cosmopolitanism.

In the following I first trace German, American and French influences in List's writings and ideas in *Section 5.2*. These influences were formed in economically ascendant nations which had entered into a catching up-process towards the leading British economy at List's time and after. Germany in particular lagged behind before an enormous catching up-process, which would have impressed List, took place between national unification at the end of the French-German war in 1871 and 1914. Core elements of List's approach are discussed with the theory of productive forces in *Section 5.3*, his stages theory of economic development in *Section 5.4* and the infant industry argument in *Section 5.5* before some conclusions are drawn in the final *Section 5.6*.

5.2. German, American and French influences

From a history of economic thought perspective List's work is not easy to classify because he sits on a fence between different "schools". In his early period he was certainly strongly influenced by Mercantilism and German Cameralism, as represented by his Dean Friedrich Carl Fulda at the Tübingen Faculty, and less so by romanticism. List distanced himself from British classical political economics, in particular Adam Smith, and later from rising socialism, although in the wake of the July Revolution 1830 in Paris he had been influenced by early French socialists, especially by the Saint Simonians. List did not only fight against the dominance of England as the leading economy but also against British hegemony in political economics. However, as Waentig (1910, p. X) has already stated in his Preface to the republication of the *National System*, "although reluctantly" List "was not for nothing apprenticed to Adam Smith". A main mediator and driver of the diffusion process of Smithian ideas in Germany had been Georg Sartorius (1765–1828) at the University of Göttingen who also dealt with Lauderdale's objections against Smith's distinction between private wealth

and the wealth of nations and a too passive role of the state.[4] As Keith Tribe has rightly emphasized in his insightful treatise on German economic discourse, Sartorius, despite his allegiance to Smithian principles, had already pointed out the necessary modification of general economic principles, such as the theory of value, with respect to nations, customs, climate, etcetera and thereby stated "his adherence to an 'empiricist' approach to economic analysis that was quite consistent with the arguments put forward by Friedrich List" (Tribe 1995, p. 167).

List's work has often been classified in the mercantilist tradition as, for example, Werner Sombart has done in his *Modern Capitalism* (II/2, p. 919). Surely, his ideas and conceptions were conditioned by the afterglow of mercantilist and cameralist doctrines and the economic and political situation in Germany after the end of the Napoleonic wars. The work of the Scotsman, Sir James Steuart's *An Inquiry into the Principles of Political Economy* ([1767] 1966), a leading contribution of late Mercantilism, was not only well known in Germany (and even commented on by the famous philosopher Hegel) but also for a greater part written in his exile years in Tübingen from 1757–1761. Steuart's work, which is characterized by a broader historical and sociological perspective, was later appreciated by the members of the younger historical school. His belief that the government has an important role to play in the management of economic development also fits well with List's conceptions.

The notion and emphasis on productive forces had a long tradition in Germany and also took central stage in the work of Adam Müller (1779–1829), the leading representative of the German Romanticist school of economic thought, even more hostile to Smithian ideas than List and a personal enemy of List. Eisermann (1990, p. 38) rightly points out that List and Müller have to be considered as the "Janushead", in other words the double-sided nature of the same transforming historical-sociological movement. Whereas Müller embodied the backward-looking feudal-conservative viewpoint and characteristically became a close associate of Metternich (List's most influential lifelong enemy[5]), List conceived the forward-looking perspective of the rising industrial bourgeoisie, one not equal to the dominant British competitors at an early stage of industrial development.[6] Although Müller had been trained as an Anglophile by Friedrich Gentz in his younger years, he never was impressed, as List was, by the British role model of industrial development and political liberalism, but shaped his reactionary views in opposition to the French Revolution and Napoleon.

After his release from prison List had to emigrate and arrived in the USA on 10 June 1825. There he was primarily engaged in the industrial development of Pennsylvania in the following six years and ran directly into the contemporary American tariff controversy, which was at its peak. Whereas the cotton or tobacco producers in the southern states did not suffer from England's dominance as the world industrial leader and the related "free trade imperialism", representatives of the northern states,

such as Pennsylvania, were convinced that industrial development could not take place successfully under the conditions of free trade and therefore opted for protective tariffs. The Pennsylvania Society for the Encouragement of Manufactures and the Mechanic Arts, which had its headquarters in Philadelphia, became the spearhead of the protective tariff movement or the so-called "American System", a conception originating with Alexander Hamilton as early as 1787, and later elaborated in a series of state papers such as his 1791 *Report on Manufactures*. There Hamilton energetically proposed to promote economic development, in particular manufacture, and he favored an active role of the government to strengthen this process. Hamilton, who died in a duel in 1804, surely had a strong influence on economic writers such as Mathew Carey, Daniel Raymond and Friedrich List.

Earlier in Germany, List had primarily fought for the abolition of internal duties at the borderline of the 39 states and for the introduction of a customs union. In America emphasis shifted to the requirement of levying high import tariffs for the protection of young industries. The infant industry argument, which originated with Alexander Hamilton, certainly belonged to List's "American heritage". Immediately after his arrival in America List had joined Lafayette on his second American tour. In the course of the next three months List became acquainted with the most prominent American politicians and leading northern industrialists. After a short period as a farmer he mainly worked as a journalist, as the editor of the *Readinger Adler*, a German-language newspaper in Pennsylvania.[7] This gave him ample time to write his *Outlines of American Political Economy* ([1827] 1965). These comprise a series of twelve public letters to Charles J. Ingersoll, the Vice Chairman of the Pennsylvania Society, which first appeared in the *National Gazette* of Philadelphia under the title "The American System", soon after published as a pamphlet (without letter XII). In these *Outlines* ([1827] 1965), his most important American publication, List points out the fundamental distinction between political and cosmopolitical principles. As a strong and enthusiastic advocate of the "American System" and with his common patriotic spirit, he soon became a leading representative of the protective tariffs movement in public opinion, attacking the cosmopolitan system of free trade as upheld by Adam Smith and Jean-Baptiste Say.[8]

List's *Outlines of American Political Economy* were also inspired by Daniel Raymond (1786–1849) and his *Thoughts on Political Economy. A Theory of Productive Power* ([1820] 2019) was the first systematic treatise of economics in the USA, as forcefully argued by Erik Reinert (2015) recently,[9] thus supporting Tribe's earlier statement that "the similarity of the arguments is evident" (Tribe 1988, p. 24).[10] As the subtitle suggests, Raymond in 1820 elaborated a theory of economic development based on productive power. He also attributed a key role to state and governmental intervention to promote economic development. Furthermore, as Hamilton, Raymond argues in favor of an adequate balance of agriculture and

manufacture for a harmonious development. Like List, Raymond rejects the arguments of Smith and his followers as focusing exclusively on the individual and private wealth and thereby neglecting the nation as an organic entity. Political economy should place the nation and not the individual into the center. Raymond and List alike confront the theory of productive power with the theory of value, and they both reject Smith's classification of productive and unproductive labor.

In his *Report on Manufactures* Hamilton ([1791] 1966) had pointed out that manufacture should take the lead in the development process. A nation could only increase its wealth on the basis of a prospering manufacturing sector, because productivity increases are more likely and higher than in agriculture. Whereas Hamilton ([1791] 1966, pp. 247–9) in this argumentation followed Smith's reasoning against the Physiocrats, he departed from Smith in favoring a system of protective tariffs to shelter the young American manufacturing companies against the dominant European, i.e. mainly English and French, competitors in their infant stage. A free international trade system would victimize them and prevent the building up of a manufacturing industry that confined America to agriculture.

These arguments had a stronger influence on List, who certainly had studied Hamilton. List's *Outlines* deserve "a place of honor in American economic literature" (Notz 1926, p. 261). Accordingly, Paul A. Samuelson (1960, p. 34) "would add the name of Friedrich List to the array of important American economists". The strong impulses List received in America are also reflected in his later main works, the *Natural System* and the *National System* whose "author was as much American as German" (Tribe 1988, p. 23). Furthermore, "America was to him a great practical school of experience" (Notz 1926, p. 261), and List transferred the knowledge he had acquired as a railway pioneer in Pennsylvania and co-founder of the Little Schuylkill Navigation Railroad and Coal Company to his subsequent activities in Germany.

List lived in Paris from October 1837 to May 1840, after being urged aside as a railway pioneer in Saxony and failed attempts for a political rehabilitation in Wuerttemberg. List had been in France quite often before as, for example, in 1824 when he became friends with Marquis de Lafayette, or after the July Revolution in 1830 in which Lafayette also played an important role. Furthermore, as a young man he was deeply inspired by the ideas of the French enlightenment. In particular List, a lifelong liberal, considered Montesquieu as a kindred spirit whose articulation of the theory of separation of powers, the executive, the legislative and the judicial, which also had a deep impact on the fathers of the American constitution, remained a powerful influence on List. On the other side, List felt deep animosities against French centralism whose negative consequences he experienced during the Napoleonic occupation when his hometown Reutlingen lost its status as a free city.

List's second main treatise *Le Système Naturel d'Économie Politique* ([1837] 1983) was his contribution to the first of two prize competitions announced by the Académie des Sciences Morales et Politiques.[11] The *Natural System* was rather hastily written, since List had less than two months to meet the deadline of 31 December 1837. "Natural" was intended in the sense of the French enlightenment as the "rational" or "reasonable". List gave his essay the leitmotiv "*Et la patrie, et l'humanité*", a motto which he took over from the freemasons and which reflects that patriotism should be embedded in humanism, in other words a clear statement against aggressive nationalism.

The question raised by the French academy reads: "What circumstances must a nation consider if it intends to proceed to free trade or to modify her customs legislation to balance the interests of the national producers with those of the masses of consumers in the fairest manner?" List's answer links up with his *Outlines* but also contains new elements and aspects. For the first time there is an explicit although short chapter (3) on the "Theory of Productive Powers", later extended in the *National System* (List, [1841] 1885). The most novel element is that the *Natural System* is characterized by List's stages theory of development in an extensive way. French influences show up in the rationalist and cosmopolitan flavor of the argument which, as in *Outlines*, from the perspective of an advanced catching up-economy is directed against England as the dominant nation.

List was already at the age of 48 and his decisive economic and political views were shaped long before. In the elaboration of these views French influences were not as strong as German or American ones. Nevertheless, they existed in line with List's empiricist-historical approach. Among French authors who exerted a greater influence on List are Jean Antoine Chaptal (1756–1832) and Charles Dupin (1784–1873), who had both been supporters of Napoleon's economic policy and were leading French protectionists.[12] List certainly had read Chaptal's study on French industry (1819), because he referred to it in an 1820 memorandum to Metternich. Chaptal, a professional chemist and co-founder of the École Polytechnique in Paris in 1794, served Napoleon as a Minister of the Interior and advisor. As a kind of modern Colbert, he pursued the administration of industry, enhanced also by urgent French needs in the period of the continental blockade, by stimulating the installation of new machines, the introduction of new production processes by dissemination of scientific discoveries via industrial exhibitions and the *Société d'encouragement pour l'industrie national* which was founded in 1801. In Letter III of his *Outlines* List ([1827] 1965, p. 177) praised Chantal for having done "more for the promotion of the industry of France than ever one man did in any other country".

Dupin, who was a leading French protectionist, was just five years older than List. His main work was published parallel to List's *Outlines* and focused on the recovery of the French economy in the decade after the end of the Napoleonic wars (Dupin 1827). List considered Dupin as congenial

in advocating for France the same kind of economic policy List recommended Germany to adopt, in other words to promote the productive forces for economic development. List referred to Dupin several times in his *Natural System* as, for example, in Chapter 12 on "The Productive Powers of Industry" which begins with the statement: "Industry is the mother and father of science, literature, the arts, enlightenment, freedom, useful institutions, and national power and independence" (List [1837] 1983, p. 66). List did not plagiarize Dupin but he took him mainly as supporting his own views, not least because Dupin played a key role in drafting the more detailed questions of the prize competition of the French Academy of Moral and Political Sciences. In the end, the prize was not awarded, which disappointed List, but his contribution was among the three out of 27 submissions that were classified as "*ouvrage remarquable*". It took four more years before the subsequent *Das nationale System der politischen Ökonomie,* written in Paris in 1839/40 but published in Germany in 1841, brought List the success and recognition he had been desperately looking for.[13]

5.3. The theory of productive forces

From the beginning List pitched his theory of productive forces, which in its most elaborated form is contained in Chapter 12 of the *National System*, against Adam Smith's theory of value, which he considered to be too static in character. Thus, we read on the first page of his chapter: "*The causes of wealth* are something totally different from *wealth itself* ... The *power of producing wealth* is therefore infinitely more important than *wealth itself*".[14] The prosperity or wealth of a nation, according to List, does not depend on the accumulation of exchange values or riches but on the development of her productive forces. List illustrates his case with the comparison of England, but also the recovery processes of post-Napoleonic France, of the United States after the Civil War and of Germany after many devastating wars with the "rich and mighty but despot- and priest-ridden Spain" (ibid., p. 133) which "has sunk deeper into poverty and misery" due to a lack of productive forces.

List held an evolutionary view of economic development. Focus therefore is on central elements which are important for the *creation* of wealth in the long run. With his theory of productive forces, he attempted to comprehend the preconditions of economic growth, but he was unable to transform his vision of economic dynamics into a theoretical model. However, List was not interested in theory for its own sake but in the application of his theory of productive forces for economic policy, and this purpose was served rather well.

If one looks at the core elements of List's category "productive forces" one cannot avoid the impression that it has a lot in common with the notion of "social capability" in Abramovitz's classic paper (1986), which initially

was strongly criticized as a "catch-all variable" which is empirically almost impossible to measure. Numerous attempts in the last three decades to measure the key factors that constitute social capability as a requirement for a successful catching-up process of initially backward economies, allowing for the efficient use of the modern production technologies available in the advanced nations, have identified that, besides real capital, human capital and institutional factors such as the rule of law play an important role.

List provides on the one hand a long mix of factors, on the other hand, however, he emphasizes time and again three core elements: mental or intellectual capital – today's human capital – the role of institutions and the importance of railway networks for the integration of larger economic areas.

List could observe that with the foundation of the University of Berlin in 1810, with Wilhelm von Humboldt as the key architect, an enormous amount of intellectual capital was mobilized after the losses of material capital in Prussia's defeat against Napoleon. List does not talk yet of "human capital", but in his American period he had already coined the notion "capital of mind".[15] The role of human capital for List is important in his critique of Adam Smith's distinction between productive and unproductive labor as well as in his early emphasis on services in contrast to material goods. List's metaphor that the upbringing of pigs would be productive, whereas the education of humans by teachers or professors would be as unproductive as the doctor who saves his patient is famous, as is the extended critique against McCulloch that a Newton, Watt or Kepler would be less productive than a donkey, horse or plough animal.[16] Thus intellectual capital is decisive for long-run development:

> The present state of the nations is the result of the accumulation of all discoveries, inventions, improvements, perfections and exertions of all generations which have lived before us: they form the intellectual capital of the present human race, and every separate nation is productive only in the proportion in which it has known how to appropriate those attainments of former generations and to increase them by its own acquirements.
>
> (List [1841] 1885, p. 142)

In his "The 'National System of Innovation' in historical perspective" Chris Freeman ascribes to List a "clear recognition of the interdependence of tangible and intangible investment" but also asserts that

> [i]t was thanks to the advocacy of List and like-minded economists, as well as to the long-established Prussian system, that Germany developed one of the best technical education and training systems in the world . . . one of the main factors in Germany overtaking Britain in the latter half

> of the nineteenth century, but to this day is the foundation for the superior skills and higher productivity of the German labour force in many industries.
>
> (Freeman 1995, p. 6)

List's early emphasis on the crucial role of institutions is remarkable. He clearly illustrates this in the confrontation between the long-run political and economic developments of Spain and England. The parliamentary system, the rule of law, public control of governmental administration, freedom of press and a kind of subsidiarity principle on the level of the communes are major components of List`s explanation of the much better performance of the English economy. It is clear that in his considerations on institutional factors List has a more macroeconomic perspective with an emphasis on nations. He therefore could not be regarded as a precursor of the "New Institutional Economics" which is linked to neoclassical equilibrium concepts. But List clearly was a forerunner of the German Historical School or American Institutionalism of the Veblen-Commons type.

List was advocating the generation and application of technical progress as a key source of economic development. Productivity increases are a decisive means for the growth of the wealth of nations. List's ideas of development are characterized by an organic systems approach with the nation in the center. Without having yet a clear theoretical conception of economies of scale, emphasis on communication and transport networks as a rich source of productive power without doubt make List a precursor of modern network economics (Shapiro, Varian 1999). As a railway pioneer List perceived that the construction of a German railway network would foster a prospering domestic market and German industrial development, and thereby induce a successful catching-up process to the leading British economy. List, who had already been a pioneer American railway builder, after his return to Germany became the driving force of the railway construction between Dresden and Leipzig, an important traffic junction, which opened in 1837.

It is List's early emphasis on a railway and communications network linking the major centers of economic activities as an efficient driver for the creation of strong national economies for which his work stands out against other contemporary works. Thus he points out: "The needs of industry and communication will compel the railway systems of the larger Continental nations to assume the form of a *network,* concentrating on the interior principal points and radiating from the center to the frontiers" (my italics).[17] In his reflections on why England acquired the position of the leading nation, List repeatedly pointed out how much productive power had been increased due to an extensive street and canal system.[18] A century later, interestingly, it was Joseph Schumpeter who frequently emphasized the important role of railways for economic development, as stated by his student

Wolfgang Stolper (1988, p. 17): "Railroads ... opened new territories and markets and thus led to new possibilities throughout the economy."

5.4. Stages theory of economic development

In his *Natural System* List had elaborated a scheme of economic development as a sequence of stages of agricultural, manufacturing and commercial activity, which he also applied in the *National System*. In the second of List's three main stages (following the earlier primitive and pastoral stages) the establishment of manufacturers contributes decisively to the development of agriculture, whereas in the third stage, which according to List only fully developed in England during his time, in the agricultural-manufacturing-commercial period, industrial production reaches its most advanced state and internal and external trade dominate.

List elaborated his stages "theory" of economic development mainly to be applied in the context of economic policy. As a young man he had observed in Wuerttemberg, in France and elsewhere the flourishing of new industries during the Continental blockade and their subsequent collapse after the end of the Napoleonic period when cheaper exports from the dominant British industry with their economies-of-scale effect were flooding the market. List's stages theory of economic development is strongly linked to his trade policy and infant industry argument, as is his theory of productive forces. Thus in his *Outlines* List had already referred to the positive effects of free trade among nations on the same stage of economic development.

List's stages theory of economic development did not only fit the interests of the bourgeoisie in the catching-up countries, but with his observation that nations pass through different stages of economic development and with his scheme he also became the "father" of the stages doctrine, which is a common characteristic of the German Historical School from Roscher to Schmoller, Karl Bücher and Sombart's *Modern Capitalism* (1916).

List criticized classical economics for not having shown how the prospering nations have reached their higher stage of development, or for what reasons other nations were falling behind. Roscher (1874, p. 978) attested that List already had a "first-rate historical mind", but that his historical erudition was not always drawn from literary sources, which explains some theoretical lacunae. List often declared that for a long period he had been "a very faithful disciple" of Adam Smith and "that the fundamental principles of the science could only be discovered by his researches in the economy of individuals and of mankind".[19] However, it then has to be pointed out that Books III and IV of *Wealth of Nations* already contain a stages theory of economic development in which Adam Smith ([1776] 1976) formulates an embryonic model in which an economy develops through a series of stages from agriculture to manufacture and commerce. As Landesmann (1991) has shown in his critical assessment, there is a certain ambiguity in Smith's approach. Smith's model of unbalanced growth

focuses on employment productiveness, in other words a development strategy that advocates the creation of maximum employment for productive workers as quickly as possible. There exists, however, a certain ambiguity because a development strategy that focuses on output productiveness, as in Smith's discussion in Book I whereby productivity growth in manufacture is due to an increasing division of labor, may lead to different results if the ranking of sectors changes in the course of the development process.

It might be added that the conception of stages of economic development can be found also in the writings of James Steuart ([1767] 1966), whose work was known to List. Steuart's sequence resembled that of Smith: from a hunting stage via a pastoral stage to a commercial stage in which the subsistence economy finally is superseded by an exchange economy. Cities grow and a national market emerges. The difference is that governmental intervention plays a greater role in Steuart's view in the evolution of commercialization and industrialization than in Smith's, where this development is more a spontaneous process. With emphasis on a more active government, List's ideas are closer to Steuart's than to Smith's.

5.5. The "infant-industry" argument

In his April 1819 memorandum to the newly founded German Association for Trade and Commerce, List made a strong plea for the abolition of barriers to trade and for the generation of free trade within Germany. He considered the abolition of internal tariffs also as a precondition for German (economic) unification. On an international level List favored free trade only among nations on the same stage of economic development. His proposals to protect the building up of infant industries are clearly part of his American heritage and date back to Hamilton. He also applied these to France and Germany as the other main followers of the dominant English economy, which later made List's argument attractive to other nations entering into a catching-up process, for instance China in recent decades.

As a liberal List always considered free trade and economic freedom as highly desirable for an international civil society (and a final world economy of economic equals), but a valuable ideal in historical time only appropriate to and for a group of nations with some degree of equality in their stage of development. If this condition was not met, some form of protectionism aimed at the optimal development of national productive forces was necessary: the infant-industry argument.

List favored temporary but not permanent protective tariffs, and he explicitly excluded agriculture from protection. For him it was not a departure from liberal principles but a tool to shape society by fostering its development potential. He might have underestimated the problem that tariffs once introduced as a temporary protection have a tendency to become permanent due to vested interests acting in the political sphere. A careful reading of his *National Economy* shows that List was by no means a

narrow-minded nationalist or chauvinist. If the author would have been an Englishman, List candidly declares, he would hardly have called into question the basic principle of Adam Smith's theory.[20] It is therefore completely misleading to denounce List as a professional protectionist or even autarkist, or to refer to him as backing these policies in a general way.

List did not witness the final abolition of the corn duties in Britain in the year of his death. Two years later, in the Paulskirchen parliament of 1848, the trade debate was one of the most controversial. The followers of List, mainly from southern Germany, finally got a majority for the levying of tariffs to protect domestic industries, whereas the *Zollverein*, the customs union that had been established under Prussian leadership in 1834, initially favored free trade ideas. It can only be speculated what List's position would have been three decades later when, in 1878/79, unified Germany completely re-orientated her policy from free trade towards protective tariffs. This caused heavy controversies at the 1879 meeting of the *Verein für Sozialpolitik* in Frankfurt. Due to an unusually high attendance of industrialists and agricultural protectionists, the liberals lost the final vote in the general assembly. Schmoller, who in his younger years had favored a liberal trade policy, now followed Bismarck in his re-orientation of trade policy towards protective tariffs. List, in his plea for an accelerated diffusion process of industrial capitalism, probably would have favored a lower level of protective tariffs, since Germany was not a backward manufacturing country of third order anymore, but had not yet reached the same stage of development as England or the rising US economy. No doubt exists, however, that half-a-century later List's name was misused in Nazi Germany and Imperial Japan. "I am far away to assert that hatred and envy against other nations should be preached to the nation", List[21] had stated a century before.

5.6. Conclusion

List aimed at a synthesis of liberalism and nationalism, but he was neither a libertarian nor a nationalist. Despite his critique of Smith and Jean-Baptiste Say as cosmopolitical economists, List considered himself as a cosmopolitan, as a citizen of the world, "but our cosmopolitanism rests on a sound basis, on nationality ... We are citizens of a nation before we are citizens of the world".[22] He wanted to "serve especially to benefit my German Fatherland",[23] as he said in the Preface to his *National Economy*. For that purpose List became a prophet of industrialization, advocating policies designed to direct the German economy to the highest stage of economic development, the agricultural-manufacturing-commercial stage, which had been attained by England as the dominant nation.

As List stated himself, he had "studied the book of life". Scientifically he was an *autodidakt*, a self-educated person with a grand vision of a national situation, which Schumpeter (1954, p. 504) compares with the vision of

Keynes a century later. List "was a great patriot, a brilliant journalist with definite purpose, and an able economist who coordinated well whatever seemed useful for implementing his vision" (ibid., p. 505). List was unable to transform his vision into a theoretical model. His audience was the informed public opinion. As he states, his *National Economy* "offers the means of placing theory in accord with practice and makes political economy comprehensible by every educated mind".[24]

As a theorizing practitioner List was successful. In his history of economics in Germany, Roscher had already stated that "the great theoretical importance of Friedrich List can only be understood on the strength of his even much greater practical importance" (Roscher 1874, pp. 970–1). In a similar direction Schumpeter argues eight decades later when he comes to the assessment: "List made no original contribution to the analytic apparatus of economics. But he used pieces of the existing analytic apparatus judiciously and correctly. And this, too, spells *scientific* merit".[25]

Notes

1 See, e.g., List (1927–1936, vol. VI, p. 40).
2 List's assessment of the ranking of the leading industrial economies is widely confirmed by the list of 160 major innovations from the early 19th century to the 1970s in van Duijn (1983, pp. 176–9).
3 See Eisermann (1990, pp. 20–1).
4 See Hagemann (2018, pp. 125–6).
5 See Wendler (2014).
6 For an excellent early comparison of List with Müller see Roscher (1874, pp. 975–8), who elaborates that despite some important similarities, including also emphasis on the nation, differences prevail. List and Müller criticize Smith from completely different viewpoints.
7 On List in America see Notz (1925, 1926), Schafmeister (1995) and Wendler (2015) for greater details.
8 On "Friedrich List and the Critique of 'Cosmopolitical Economy'" see also Tribe (1988).
9 Reinert ([1820] 2019) also edited and introduced a new edition of Raymond's classic work.
10 See Reinert (2015, pp. 523–31) for a direct confrontation of excerpts from List and Raymond documenting this similarity.
11 On the second prize competition, which focused on the diffusion process of steam power and the new means of transport and their effect on the economy, social life and the power of nations see Wendler (2014, p. 9), who had also discovered List's essay "Le Monde Marche" in the Institut de France in Paris in 1983.
12 For a more detailed discussion see Henderson (1982). Henderson also argues convincingly that F.L.A. Ferrier was much less an inspiration for List's doctrines than stated by Marx. See also Eisermann (1990, pp.53 ff.).
13 The *Natural System,* which had been re-discovered by Artur Sommer in the archive of the Institut de France, was first published only as late as 1927.
14 List ([1841] 1885, p. 133; italics in original). Characteristically Chapter 12 is entitled "The Theory of the Powers of Production and the Theory of Value". For some more recent assessments of List's theory of productive forces, written

in the bicentennial year of his birth, see Werner and Mauch (1989) and Schmidt (1990).

15 See vol. II, p. 117 of List (1927–1936).
16 List ([1841] 1885, p. 142).
17 List (1927–1936, vol. 3.1, p. 264). Vol. 3 of *Schriften, Reden, Briefe* contains List's contributions on railways as, for example, the essay "Das Deutsche Eisenbahnsystem zur Vervollkommnung der Deutschen Industrie" (The German railway system for the perfection of German industry, pp. 347–77). The transport system of every country or space is considered by List as an organized whole with main branches, side arms, etcetera, which only as a clearly structured entity increases the productive forces of a nation substantially. "An isolated canal is like a single railway line – a stump without arm and fingers" (Ibid, p. 391).

See also Henderson (1983, part 3) for a summary of List's activities as a railway pioneer. Henderson (p. 278) also reproduces List's map of the development of the Central European rail network until 1855.

18 See, for example, List ([1837] 1983, ch. 27).
19 List (1927–1936, vol. 2, pp. 109 and 102).
20 See Ibid, vol. 6, p.47.
21 Ibid, vol. 9, p.115.
22 List (1927–1936, vol. 4, p. 396). See also List ([1837] 1983, p. 122).
23 List ([1841] 1885, p. XXXI).
24 Ibid, p. XXIX.
25 Schumpeter (1954, p. 517; emphasis in the original).

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16
AUSTRIAN SCHOOL WOMEN ECONOMISTS

Giandomenica Becchio

Three generations of Viennese male economists worked in Vienna, either at the university or in private economic institutions, between the 1870s and early 1930s (Mises 1984). They are responsible for constructing the foundations of the Austrian School of economics. These men were a cohesive group of economists who developed an economic theory combining human and social dynamics with classical liberalism. To the first generation belonged founding father Carl Menger (1840–1921), who in 1871 published his *Principles* (Menger 1871), Eugene Böhm-Bawerk (1851–1914), and Friedrich Wieser (1851–1926). Their immediate followers (the second generation) were: Joseph Schumpeter (1883–1950), Gottfried Haberler (1900–1995), Hans Mayer (1879–1975), and Ludwig Mises (1881–1973). In the third generation are Friedrich Hayek (1899–1992), Paul Rosenstein-Rodan (1902–1985), Ludwig Lachman (1906–1990),[1] and Fritz Machlup (1902–1983), (Holcombe 2014; Boettke and Coyne 2015).

The Austrian School of economics focused on building an economic theory describing the spontaneous dynamics of individual economic action and innovation in a framework of free institutions guaranteeing economic growth and social development. From a methodological perspective, the common feature of Austrian scholars was their peculiar way of reasoning, known as methodological individualism. An implication of methodological individualism is the necessity to understand individual decision-making processes in order to explain macroeconomic phenomena. In the Austrian School of economics, methodological individualism is rooted in the application of dispersed knowledge to decision-making processes (as in Menger's passage from individual needs to economic laws), and in the importance of introducing time to understand economic phenomena (as in Böhm-Bawerk's description of production processes, and in Wieser's notion of marginal utility). Schumpeter, Mises, and Hayek made methodological individualism even stronger. From a theoretical perspective, they fought against any form of planned economy, even during Europe's interwar years, and later against Keynesianism as well. They considered any form of economic policy as a rupture of the spontaneous, although imperfect, economic order. Furthermore, they stressed the importance of creativity in economic activity, especially in Schumpeter's notions of entrepreneurship. This notion of creativity specifically contrasts with the static mechanism of expected utility/profit function maximization as depicted in neoclassical economics.

Economists of the Austrian School, from Menger to Hayek, had a great influence on Viennese students of political economy in the early twentieth century. Among them, many

women economists had a significant role. The aim of this chapter is to identify four generations of the Austrian School of women economists from the first decade of twentieth century to 1970s, and to determine their role in the history of the Austrian School. There is a particular focus on their novel theoretical contribution as well as on their ability to extend and disseminate the Austrian paradigm.

A time-period taxonomy of the four generations of Austrian School women economists

The Austrian School women economists shared with their mentors and colleagues the main features of Austrian economics: economic theory focused on an individual's plan for coordination and decentralized knowledge; the disutility of any monetary policy as well as of any governmental intervention to minimize distortions; the fundamental role of innovation to explain the link between growth and development; and a specific interest in the history of political economy.

Starting in the early twentieth century, four generations of Austrian School women economists arose (see Table 16.1). The first two generations were Viennese economists active between the early twentieth century and 1938 before the massive emigration due to the *Anschluss*. The first generation (up to 1919) was formed by students of Böhm-Bawerk and Mises, although they received their academic training and degrees outside Austria due to the persistent ban against female students in Austrian universities. The second generation (active during the interwar period) finally had the opportunity to enroll in and graduate from the University of Vienna: formally students of Mayer, they were massively influenced by Mises. The first and second generations of Austrian School economists share some peculiar features: besides all being Viennese, they belonged to the Jewish middle class and were subjected to stringent anti-Semitic attitudes in academia (and society in general); they strongly supported classical liberalism as the non-negotiable vision for their economic analysis; and they were very active in fighting for women's emancipation, especially for their participation in the public sphere (Klausinger 2014; Timms 2009). The third generation of Austrian School women economists were no longer

Table 16.1 Austrian School women economists in chronological order

First generation:	Else Cronbach (1879–1913)
Students of Böhm-Bawerk's and Wieser's at the University of Vienna	Louise Sommer (1889–1964)
1900–1919	Toni (Kassowitz) Stolper (1890–1988)
Second generation:	Marianne Herzfeld (1893–1976)
Students of Mises' extramural seminars	Martha Braun (1898–1990)
1920s-1930s	Helene Lieser (1898–1962)
	Gertrude Lovasy (1902–1974)
	Elly Spiro (1903–2001)
	Ilse (Schüller) Mintz (1904–1978)
Third generation:	Marjorie Grice-Hutchinson (1909–2003)
Students of Hayek's at the LSE (1930s–1940s) and of Mises' at NYU (1950s–1960s)	Vera Smith Lutz (1912–1976)
	Mary Sennholz (1913-2017)
	Bettina Bien Greaves (1917-)
Fourth generation:	Sudha Shenoy (1943–2008) and many more active since the 1990s
The Austrian revival associated with Hayek winning the Nobel Prize: (1974 onwards)	

from Austria: it was formed by Hayek's students at LSE (1930s–1970s) and by Mises' students at NYU (1938–1960s). A fourth, more recent generation began after the so-called Austrian revival in the 1970s with the work of Sudha Shenoy.[2] The number of Austrian School women economists significantly increased in the first two decades of the twenty-first century.

The first generation

It was not easy for female students to study economics in Vienna before World War I. Although in 1897 they had been admitted to the school of philosophy, they could not be officially enrolled in economic programs offered at the school of law. This was the main reason that the first generation of Austrian School women economists received their degrees either in Germany or in Switzerland, in spite of the fact that they were students of Böhm-Bawerk and Wieser. Members of this first generation were educated in the so-called fin-de-siècle Vienna, a period of seeming prosperity, which dramatically changed after the World War I.

Else Cronbach (1879–1913) was a student of Böhm-Bawerk and Wieser, and received her Ph.D. in political science in Berlin. She became involved in the foundation of the future *Nationalökonomische Gesellschaft* along with her friends and colleagues Ludwig von Mises, Emil Perels, and Karl Pribram (Pribram 1913). As Mises recalled, the *Nationalökonomische Gesellschaft* was founded in 1918 and represented, besides Mises' *Privatseminar*, an occasion to regularly discuss economic problems. The society was dismissed in 1938 by Hans Mayer (Wieser's successor at the University of Vienna) due to the anti-Semitic ban against Jews. Cronbach authored several publications on international trade, until her career was abruptly interrupted by her death at the age of 34 (Nautz 1997).

Louise Sommer (1889–1964), a student of Wieser and deeply influenced by Menger's work, received her Ph.D. in 1919 at the University of Genève, where she lived during the interwar period, earning her livelihood teaching as an adjunct and working as a freelance journalist. Her research mainly focused on economic history (Sommer 1920, 1925), history of economic thought (Sommer 1927a, 1960), methodology (Sommer 1932), and international economics (Sommer 1935, 1950). A close friend of Mises, whom she met after World War I, she shared with him the conception of socialism as a liberticidal principle (Hülsmann 2007).

Antonia (Kassowitz) Stolper (1890–1988), enrolled in 1911 at the school of law as the only female student, however, she was forced to move to Berlin to get her Ph.D. (1917). A student of Böhm-Bawerk and Wieser, she mainly worked on macroeconomics (national policy). In 1921, she married Gustav Stolper, the editor of both *Der Österreichische Volkswirt* and *Der Deutsche Volkswirt*, the most respected liberal economic journals in German-speaking countries of that time.

The second generation

In 1919, Viennese female students were finally allowed to register in the school of law in the University of Vienna, where they might also be enrolled in political economy programs. Hence, starting from the interwar period, Austrian female students were either granted access or allowed to get a Ph.D. in *Nationaloekonomie* in Vienna. Unfortunately, it was Mayer, not Mises, who got Wieser's chair. Hence, from 1920 to 1934, both male and female students of economics were officially Mayer's students, but mainly trained by Mises in his extramural meetings.[3] Among Mises's circle of attendees, there were many female students: Marianne Herzfeld, Martha Braun, Helene Lieser, Gertrude Lovasy, Elly Spiro and Ilse Mintz attended his weekly seminar. Lovasy and Mintz were also involved in the Austrian Institute for Business Cycle

Research, founded by Mises and Hayek in 1927 (Feichtinger 2001; Nautz 2000b; Hülsmann 2007; Klausinger 2016a).

Marianne Herzfeld (1893–1976) received her Ph.D. in history in Vienna and worked as a secretary in the Austrian Banker's Association until 1938, when she escaped from Vienna to Scotland.

Martha (Hermann) Braun (1898–1990) studied under the supervision of Wieser, Weber, and Mises. In 1921, her Ph.D. in political economy was one of the first for women graduates in Vienna, with a dissertation on monetary economics. In the 1920s, she worked in the Viennese Chamber of Commerce. She was forced to emigrate to the United States in 1939 (after a year spent in London), where she was employed as an economic analyst on behalf of the State Department (1944–1947). From 1947 to 1969, she taught at Brooklyn College in New York. After her retirement, she lectured at New York University.

Helene Lieser (1898–1962) obtained a Ph.D. in economic policy in 1920 in Vienna, where she was a regular member of the *Nationalökonomische Gesellschaft*, until her expulsion in 1938, and worked in the Austrian Banker's Association up to 1939 when she left Austria.

Gertrud Lovasy (1902–1974) earned her Ph.D. in Vienna in 1928, with a thesis on cartels in the Austrian iron industry. In 1938 she left Vienna. In 1939, she reached the United States where she worked on international cartels at the International Monetary Fund (Lovasy 1947).

Elly (Offenheimer) Spiro (1903–2001) obtained her Ph.D. in economics in Vienna in 1922. She reviewed several books for the *Zeitschrift für Nationalökonomie* and attended Mises' seminar until 1929, when she moved to Frankfurt. Escaping from Germany in November 1938, she settled in San Francisco in 1941 and stayed in touch with Mises, Machlup, and Hayek (Nautz 2002).

Ilse (Schüller) Mintz (1904–1978) was the daughter of Richard Schüller, one of Carl Menger's top students. After gaining a Ph.D. in 1927, she worked at the Institute under Hayek's supervision before escaping to the USA in the 1930s. She studied statistics at Columbia, earning another Ph.D. in 1951. Member staff of the National Bureau of Economic Research from 1951 to 1973, she focused her work on business cycle theory and foreign trade policy (Nautz 2000c).

The third generation

The *Anschluss* (1938) was the traumatic event that ended the Austrian School of economics in Austria and affected the destiny of its women economists. In fact, the third generation of Austrian women economists was formed by Hayek's students at the LSE (1931–1945) and Mises' students at NYU seminars (1951–1969). Although none were from Vienna, women economists of the third generation were considered 'Austrian' in the sense that they were educated on the basic principles of Austrian economics.

Two women economists emerged at the LSE: Marjorie Grice-Hutchinson, whose works dealt especially with history of economic thought, and Vera Smith Lutz, who mainly studied monetary economics and economic development. Grice-Hutchinson (1909–2003) was enrolled at the LSE as a Ph.D. student in economics and completed her degree under Hayek's supervision. He suggested she work on the historical manuscripts from the School of Salamanca. Smith Lutz (1912–1976) was a British student of both Robbins and Hayek at the LSE, receiving her Ph.D. in 1935 as Hayek's protégé: her thesis criticized the central banking system (Smith Lutz [1936] 1990).

At NYU, Mary Sennholz (1913–2017) and Bettina Bien Greaves (1917–) were regulars at Mises' seminars, and both spent many years at the Foundation of Economic Education (FEE) working to enhance the Austrian School of economics tradition. Sennholz edited a volume about Mises on the occasion of his 60th birthday (Sennholz 1956), and authored a biography

of Leonard Read (Sennholz 1993); her last book was a collection of articles she edited for *The Freeman* (Sennholz 1997). During Bien Greaves's tenure as editor of *The Freeman* (1955 to 1999), Bien Greaves focused her interests on the effects of taxation on growth and unemployment during 1955–1970. From the 1970s to her retirement, she continued to edit many publications on the free market economy, and she compiled a monumental bibliography on Mises (Bien Greaves and McGee 1993). Also, Bien Greaves wrote a syllabus on a basic course in economics for high school students. The syllabus was basically a handbook on the Austrian School principles of economics: it begins from the analysis of individual needs to clarify the nature of economic principles (prices, savings, entrepreneurship, labor, money, credit, competition, etc.), enriched by examples from the history of economic thought and economic history (Bien Greaves 1975).

The fourth generation

The last generation of Austrian women economists started in the 1970s during the so-called Austrian revival, which took place in the United States (Vaughn 1994) and more recently developed outside the United States. The Austrian revival began after Hayek won the Nobel Prize in Economics (1974), and continued, especially through the initiative of Lachman, Kirzner, and Rothbard, who had been Mises' students. Under their supervision, a conference in South Royalton (Vermont) was organized by the Institute of Human Studies in 1974; one year later, Lachman and Kirzner started the 'Austrian Economics Seminar' at NYU to pave the way for an easier circulation of ideas among Austrian scholars.[4]

During the meeting of the South Royalton conference (1974), particular attention was given to Austrian methodological issues, such as the definition of human action and the role of markets in an anti-neoclassical perspective. Monetary issues, such as free banking and the role of monetary institutions to challenge Keynesian neoclassical theory were also priorities in the agenda (Dolan 1976). Among attendees, there was only one woman economist: Indian scholar Sudha Shenoy (1943–2008). According to an interview Shenoy gave a few years before her death, she had always been a Hayekian scholar (Shenoy 2003). Perhaps she was influenced by her father who was a student of Hayek at the LSE. She applied Hayek's economics not only to monetary themes against Keynes' legacy (Shenoy 1972), but also to the analysis of the economies of Eastern Europe (Shenoy 1989) and developing countries (Shenoy 1963, 1971, 1991).

The fourth (and current) generation is an entirely new generation of women academics associated with Austrian economics that might shed new light and perspective on their economic proposals. Most of them earned their Ph.D.s at George Mason University, and are especially working around the commonalities between Austrian economics, the Virginia School and institutionalism of the Bloomington School. Among them is Karen Vaughn, who, in 1996, was elected as the first President of the Society for the Development of Austrian Economics, and whose current research interests include a pro-market view of feminism. Other fourth-generation Austrian women economists include Bobbi Herzberg, Emily Chamlee Wright, Jayme Lemke, Diana Thomas, Shruti Rajagopalan, Abby Hall, Liya Palagashvili, Meghan Teague, Arielle John, Neera Badhwar, and Audrey Redford. Deirdre McCloskey might be included in the fourth generation of Austrian women economists. In the mid-1990s during an AEA meeting, McCloskey proudly announced: "I am an economist in transition . . . I am transitioning from a Chicago [neoclassical] economist to an Austrian economist."[5] Although very serious, she joked about her personal experience as a transgender person; in fact McCloskey referred to herself crossing from the world of a male economist embedded into the traditional neoclassical Chicago School to an Austrian woman economist; this crossing she described as

emblematic of the necessity to re-think economics by introducing a 'feminine eye' against the discipline's male orientation, as well as recognizing a feminine style of reasoning in economics (McCloskey, 1993).

Main theoretical contributions by Austrian School women economists

Austrian School women economists focused their research on topics specific to Austrian economics, and extended Austrian concepts to their specific research fields (see Table 16.2). The Austrian women made contributions of substance to the development of the Austrian School paradigm. Although it is not possible to cover the entirety of the Austrian contributions from these women economists, a broad picture of their work drawn from a meaningful sample of their research is feasible, with special, but not exclusive, focus on their original contributions. Table 16.2 provides a schematic overview of the research topics undertaken by the Austrian School's women economists which are emphasized here.

Stolper was a fierce adversary of any form of government intervention. But the other first-generation women economists were somewhat open to some measure of government intervention in the economy when contingent social problems were particularly urgent (Cronbach 1907, 1910; Sommer 1935; Braun 1929). Cronbach and Braun were inclined toward minimal intervention of the state to guarantee decent conditions for life of agricultural and industrial workers in Austria and in Germany. Sommer advocated government to give some order to international trade. Braun advocated government to partially moderate the effects of business cycles, although she was against any form of taxation on industries.

Second-generation economists were particularly interested in understanding the hyperinflation that ensued after World War I and studied the general rise of unemployment that followed in Central Europe. They gave special attention to monetary issues: advocating against any monetary policy that favors inflation in order to reduce unemployment.

Second-, third-, and fourth-generation economists, who were students of Mises and Hayek during the interwar period and immediately thereafter, fought against regulation in international trade. They also explained the damage caused to development and growth by interventionism. These contributions include some originality concerning the business cycle and development in emerging countries. The battle against interventionism, especially after World War II, was in particular directed against any Keynesian policy.

Table 16.2 Some research topics of Austrian School women economists

On monetary theory and policy	First generation: Cronbach, Stolper, Sommer Second generation: Herzfeld, Braun, Lieser, Lovasy Third generation: Smith Lutz, Bien Greaves
On international trade	First generation: Sommer Second generation: Lovasy
Against Keynesianism	Second generation: Smith Lutz Fourth generation: Shenoy
On development and the business cycle	Second generation: Mintz Fourth generation: Shenoy
History of political economy	First generation: Sommer Second generation: Spiro, Lieser, Third generation: Grice-Hutchinson, Bien Greaves, Sennholz Fourth generation: Shenoy

Last, but not least, these women gave particular consideration to the history of political economy, seen as a necessary complement to theoretical analysis.

On monetary theory and policy

Research on monetary issues was central for Austrian School women economists since Stolper's Ph.D. (1917) (Table 16.2). They converged on the idea explained by Mises and Hayek that any attempt to cure depression by monetary policy would worsen circumstances from the initial situation. This is particularly valid in frantic periods during and after war. In fact, the nature of money, which obeys the laws of supply and demand, would simply make any monetary policy useless and often dangerous.

During the interwar period in Germany and Austria, hyperinflation became a dangerous economic and social problem. Stolper wrote several articles in the *Deutsche Volkswirt* against the Weimar government program, which was prone to an active monetary policy in order to reduce unemployment. She insisted that the prosperity brought about by inflation was an illusion because the value of real wages would decrease and, consequently, the middle-lower classes would suffer economically. Furthermore, businessmen would shift from their productive activities to speculation, and this would increase unemployment.

Like Stolper, both Lieser and Herzfeld demonstrated the social damages of inflation in Vienna: they insisted on the disutility of inflation in reducing national debt and unemployment. Lieser's thesis (1920), supervised by Mises and Spann, adopted an historical example, showing that monetary policy adopted during the Napoleonic wars in Austria (1811–1816) worsened the initial situation of hyperinflation and led to two periods of bankruptcy within a few years (Nautz 2000a). Herzfeld further attacked the general idea that inflation creates prosperity and wealth (the 'inflationist view of history' as defined by Mises): a reduced purchasing power is the main consequence of inflation, incorrectly considered a necessary condition of economic progress. Economic theory shows that any monetary policy (inflationary or deflationary) merely promotes financial growth for a segment of the population to the detriment of others. Furthermore, inflation leads to ill-conceived investment of capital and overconsumption, and ends with an inevitable breakdown of the currency system (Herzfeld 1926).

A turning point in research concerning the impact of inflation was Braun's first book (1929), an attempt to apply a micro-foundation analysis for economic policy (Leischko 2002; Backhaus 2005). Her approach was no longer historical, but essentially theoretical: she developed a microeconomic analysis to show inopportunity arising from state interference in market forces. For example, she criticized the practicability of Pigou's theory of taxation on industry due to the increase of manufacturing and production overhead. In her book, Braun distinguished economics as a theoretical discipline derived from economic policy, which rests outside economics: monetary policy, which is part of the theoretical component of economics, must remain free from any political interference, although a moderate state interventionist policy could be pursued for some contingencies.

The same theoretical approach was pursued by Smith Lutz in her doctoral thesis, which was enriched by historical examples concerning the central banking system in England, Scotland, France, USA, Germany, and Belgium. She worked under the supervision of Hayek at the LSE (Smith Lutz [1936] 1990). In her thesis, mainly based on Mises (1928), she proposed a system of free banking. The privately circulated currency of commercial banks was supposed to compete with the nationally issued currency, given the fact, at that time, that national monetary systems usually performed poorly. Smith Lutz's thesis is an historical reconstruction on the genesis of the central bank in Europe and in the United States. In this reconstruction, she showed that the system of central banking—in contrast to free banking—had prevailed because of a "combination

of political motives and historical accident which played a much more important part than any well-considered economic principle" (Smith Lutz [1936] 1990, 5). According to Smith Lutz, central banking had been established as a monopoly for political reasons connected with the exigencies of state finance. Once established, "the superiority of central banking over the alternative system became a dogma" (Yeager 1990, 19), reinforced by the expectation that under a multiple banking system, there will be regular failures of individual banks, as well as monetary instability (inflation). Smith Lutz pointed out that crises often originate from the central banking system. She supported the idea that private banks keep stable reserve proportions:

> [T]he major fluctuations come from changes in the amount of cash provided by the central banks. We find that the commercial banks keep relatively stable reserve proportions and that their lending activities follow fairly closely (except in the pit of the depression) movements in central bank money.
>
> *Smith Lutz 1990, 52*[6]

The battle against the use of monetary policy to moderately increase inflation continued after World War II. Bettina Bien Greaves shared with Mises the idea that government regulation and control of economic life is opposite to freedom. This antipathy toward government intervention covered many policies, including manipulating prices, fixing wages, hampering imports or exports, and, above all, managing the money supply. For Bien Greaves, freedom flourishes within capitalism; state control makes people unable to cooperate on their own.

On international trade

International free circulation of money and commodities was another common feature for Austrian School women economists. Again, like the argument on monetary policy, first-generation economists were more open to possible intervention in regulating international trade. For example, Louise Sommer dealt especially with the European situation. Deeply influenced by political realism, Sommer claimed that inequality is inevitable in political and economic relations, and international commercial policy is not an exception. She claimed that international stability cannot be grounded in a hypothetical desire for equality. Instead, she introduced a 'scheme of preferential tariffs' and generated calculations of total export trade for each European country in order to find a proper balance (Bidwell 1937). Later, after World War II, Sommer considered the Monnet-Schumann plan. This plan was the French-German agreement on steel and coal trade introduced in 1947 for the partial restoration of national economies and the reconstruction after World War II. For Sommer, the Monnet-Schumann plan was "an important approach to the final aim of the unification of Western Europe" (Sommer 1950, 80).

Economists of the second generation were definitely against any form of government intervention in regulating the economy. Mises-trained Gertrude Lovasy (1941, 1962; Lovasy and Zassenhaus 1953) is the most emblematic example. In her first publication on international trade with imperfect competition, Lovasy (1941) analyzed Chamberlin's book and Robinson's work on monopolistic/imperfect competition. According to Lovasy, monopolistic/imperfect competition is characterized by decreasing costs of production as well as downward sloping demand curves, which can be influenced by producers. She explained that international trade can exploit decreasing costs by increasing trade volume, but the existence of imperfect substitution across international products reduces international trade volume (Lovasy 1941). For Lovasy, international trade expansions result from taking advantage of decreasing costs and international trade contractions result from imperfect substitution. In the 1950s and 1960s, Lovasy worked on the

possible consequences of fluctuations in international trade as well as on the relation between inflation and export in a worldwide context. She was intolerant toward the intergovernmental cartels that were accepted by American policy of that time (Pauly 2003).

In a later publication, Lovasy combined her critique of monetary policy as inflation-inducing with an effective policy of regulation in international trade. In several papers on the relation between inflation and export in Western countries, she focused her attention on the unexpected consequences of inflation hampering the increase of exports and delaying their diversification. According to Lovasy, inflationary prices can spread to the export sector, but mainly through adjustment of wages to cope with a higher cost of living: the immediate consequence is thus an increase of costs that discourage exports. Lovasy insisted that inflation has a dangerous long-term effect: it makes investment more expensive, which reduces exports, and can lead to price control policies on basic living commodities. Although the effect of inflation on exports may be adjusted by a gradual devaluation of the exchange rate, continuous devaluation causes a lack of confidence in the currency (Lovasy 1962).

Anti-Keynesianism

The attack against Keynesian economics especially involved Hayek-trained Smith Lutz (Graziani 1983) and Shenoy. Smith Lutz's book, *Theory of Investment of the Firm* (Smith Lutz and Lutz 1951), tried to merge neoclassical economics and Austrian theories. The book introduced time, as an extension of Böhm-Bawerk's emphasis, into a standard model of investments in an anti-Keynesian perspective by "integrating the theory of production with the theory of capital as the latter applies to the individual firm" (Smith Lutz and Lutz 1951, 4). As Smith Lutz wrote later, their purpose was to "develop a unified theory of production and investment under a cost minimization (and profit maximization) behavior criterion" (Smith 1959, 61).[7]

In her works on the relation between monetary factors and the rate of employment (Smith Lutz 1952), she defended the classical dichotomy between real and monetary factors. Her defense used Modigliani's model against the Keynesian view that the amount of money and liquidity preferences are determinants of the real levels of macroeconomic variables. She analyzed the role of monetary factors in wage policy under perfect competition and imperfect competition, as well as the dependence of monetary factors on saving schedule and on real demand for cash balances, and found that they are not related with a reduction of unemployment. Against unemployment, Smith Lutz advocated free market dynamics. According to her there were two ways of fighting against unemployment:

> One is to attack the elements of monopoly power in both the labor and the product markets directly. The other is to introduce government control over the real rate of earnings by physical means (rationing), which is in effect another indirect method of restricting the power of organized labor to bargain for a given level of real wages.
>
> *Ibid., 272*

Lutz Smith came out against this second way of fighting unemployment.

Smith Lutz's interest in macro dynamics was developed in the analysis of workers' well-being. In the 1960s, she compared some European nations, in particular Italy (Smith Lutz 1962) and France (Smith Lutz 1969), to understand the effects of unions in determining wage policy. In her book on French economic planning (1969) Smith Lutz claimed unions were still convinced that capitalism is based on class struggle and they never realized that there are other social constraints in the improvement of the conditions for the working class. Therefore, she

presented her theory on wage dualism. Wage dualism arose from increased wages concentrated in the large-firm sector; consequently labor demand in this sector fell through substitutes of capital. This process led the unemployed toward the small-firm sector, driving wages lower than wages in a hypothetical unified labor market. This misallocation of resources will generate, as an inevitable consequence, a decrease of GDP. Contrary to a Keynesian approach, which would have explained this problem as resulting from lack of aggregate demand, Smith Lutz insisted on the necessity to transform the local economic system, based on agriculture, into a modern industrialized system. Her advocacy for transformation was not with a specific public economic plan, but emphasized private sector development. Following a peculiarly Austrian argument, Smith Lutz strongly defended the free market against any form of planned economy because of the role of uncertainty in determining any decision based on policy. Smith Lutz considered "economic development as a spontaneous product of the market, provided that the market is left to act according to its natural rules without hindrance or interference" (Graziani 1983, 23).

Another fierce adversary of Keynesianism among Austrian School women economists was Shenoy, who at the Royalton conference (1974) presented a paper on inflation, recession, and stagflation that was later co-authored with O'Driscoll (1976). They attacked both Keynesianism and monetarism for relying on the general assumption that, over the long term, the real side of the economy is in equilibrium, and that monetary factors influence "only the price level or money income and not the structure of relative prices or the composition of real output" (O'Driscoll and Shenoy 1976, 185). The authors suggested, as the only possible alternative to Keynesianism and monetarism, a development of Hayekian analysis based on the fact that any monetary changes in real terms will break the spontaneous economic order.

More important in her battle against Keynesianism is Shenoy's contribution to *A Tiger by the Tail* (Shenoy 1972). This paper is a historical reconstruction of the debate between Hayek and Keynes after the publication of Hayek's *Prices and Production* (1931). Shenoy recognized that the main fault of Keynes' macroeconomics was his neglect of the real structure of production and his insistence on aggregative macro concepts. According to Shenoy, Hayek's approach to macroeconomics, based on an analysis of the structure of relative prices and their interrelations as an allocative tool, is much more able to explain macro dynamics than Keynes' macroeconomics.

On development and business cycles

This research field, which is peculiar to Austrian economics, was central especially in Mintz (1959, 1970) and Shenoy (1963, 1971).

Mintz presented development as a consequence of Schumpeter's notion of innovation, which is inevitably linked with the business cycle. For Schumpeter, innovation leads to high profits; profits push imitators to enter the market; imitators increase supply and profits decrease; later imitators are unable to pay their debt, and crisis begins; at some point new innovation will stop the crisis. As a result, business cycles do not need any intervention.

In her book on the relation between trade balances and business fluctuations, Mintz considered the business cycle as the unavoidable consequence of economic development dynamics. She coined the term 'growth cycles', calculated as deviations from long-run trends, in order to explain that there are two different types of business cycles: business cycles that are essential in economic development (in Schumpeter's terms), and sectoral business cycles which affect only certain economic indicators. According to Mintz, and this is her original contribution to that debate, both cycles give shape to what she called the inevitable 'growth cycle.' Hence any government's attempt to reduce instability, even in smaller sectors, might alter the structure of the economy as a whole by reducing the phase of expansion: depression phases in naturally induced

cycles have a short-term negative impact while the unattended consequence of a government policy to reduce depression might have much worse consequences in the long run (Mintz 1970).

Shenoy addressed development using the Hayekian notion of spontaneous order. Shenoy (1963) applied Austrian ideas to the economy of India. She employed Hayek's argument against socialist control of an economy in order to criticize the Indian government's economic plan. The Indian government's intention was oriented to strengthen heavy industries, but, according to Shenoy, this plan was bound to fail for three reasons: (1) it would weaken exports; (2) it would create inflation to cover a budget deficit; and (3) it would increase corruption, because the system of issuing import licenses would have been distributed by unfair means; i.e., through collusion between potential licensees and government. In Shenoy (1971) on the Indian economy, she suggested the abolition of industrial licensing and capital issues controls, as well as the refusal to introduce any form of exchange and price regulation or trade and distribution control, especially those applied to road transport and textiles.[8]

According to Shenoy, development works only in a spontaneous way through innovations, not in a designed way planned by a political agenda. Spontaneous innovations generate a better capital structure, "which gradually emerges over time in the context of privately evolved legal rules" (Shenoy 1991, 20). This is what happened in the modern age for Western countries: industrial revolutions happened as consequences of a combination of the accumulation of capital, entrepreneurial spirit, and the rule of law. Thus the only duty government has is to guarantee private property and individual freedoms. Any other governmental intervention is regarded by Shenoy as a possible cause of perverse capital structure, which leads to structural underdevelopment. The high level of corruption among politicians, and their lack of any specific competence or knowledge, might stop or delay development, and structural underdevelopment was bound to arise.

History of political economy

Austrian women's contributions to the history of political economy span all four generations. Sommer, Spiro, Grice-Hutchinson, Bien Greaves, Sennholz, and Shenoy specifically devoted a consistent part of their research to the history of political economy. Sommer wrote on mercantilism, cameralism, and Galiani (Sommer 1927b, 1935), and on methodology (1928, 1932). Spiro's dissertation was on the nature of the credit as discussed by Owen, Proudhon, and Solvay (Nautz 1997). Bien Greaves and Sennholz worked on liberalism with Mises and Leonard Read.[9] The most original contributions (both related to the typical Austrian approach to economics) were Grice-Hutchinson's research on the School of Salamanca (1952) and Shenoy's book on early modern England ([2001] 2010) which attempts to analyze consumption, distribution, and production in terms of Austrian economic theory.

Under Hayek's supervision, Grice-Hutchinson wrote her thesis on the nature of markets and monetary theory in the School of Salamanca founded by Francisco de Vitoria in the early XVI century (1952). Scholars of the School of Salamanca were well known in Spain, but almost forgotten abroad. Hayek was interested in introducing them to an English-speaking audience because he considered them as forerunners of the Austrian School. Grice-Hutchinson presented the Salamanca scholars as the founders of the subjective theory of value, later developed by Jevons, Walras, and Menger; she also considered the significant influence they had on Adam Smith via Pufendorf and Grotius. According to Rothbard, her book was fundamental to understanding the historical tradition of the "subjective-value analysis based on consumer wants alongside the competing objective conception of the just price based on labor and costs" (Rothbard 1976, 52).

Besides their subjective-utility approach, Grice-Hutchinson highlighted that Salamanca supported free markets over protectionism and a minimal role of the state in economic policy and

fiscal matters. She explained that the School of Salamanca arose in a very peculiar period of Spanish modern history: a period when a massive quantity of gold and silver had been transferred from the New World colonies to Europe. This phenomenon increased inflation and made usury more evident. As Grice-Hutchinson wrote:

> The School's original contribution to monetary theory consists, in its formulation of a psychological theory of value applied to both goods and money, of the quantity theory, and of a theory of foreign exchange that closely resembles the modern purchasing power parity theory.
>
> *Grice-Hutchinson 1952, 47–48*

Hence, Salamanca illustrated a subjective theory of value, which attempted to analyze the psychological motives of economic activity. Furthermore, they regarded money as a useless measure of value, since its own value is subject to fluctuations. In fact, they refused the classical distinction between intrinsic and extrinsic value of money.

Grice-Hutchinson was the first to identify that the School of Salamanca provided a quantity theory of money: Martín de Azpilcueta Navarro, in 1556 and a dozen years before Jean Bodin, explained that the inflation in the sixteenth century occurred as a consequence of the gold and silver arriving from the New World. More surprisingly, scholars of the School of Salamanca initially formulated a basic purchasing power parity on the theory of exchange. When they were asked to solve the monetary phenomenon according to which "when money was sent from foreign countries to Spain a considerably larger sum was usually repaid in Spain than had been delivered abroad" (Grice-Hutchinson 1952, 54) but not vice versa, they suggested a subjective theory of value: "since the agio could not be explained by objective factors, it must be derived from a variation in the subjective value of money in the different countries" (Grice-Hutchinson 1952, 55).

In her Ph.D. thesis, Shenoy ([2001] 2010) applied some specific features of the Austrian School of economics to a particular case study; namely, the history of early modern England. She adopted Menger's organicism, Mises' market process, and Hayek's catallaxy in order to explain the rise of complex phenomena. Complex phenomena such as language, customs, or money, arise spontaneously in an "un-designed [and] historical-developed social order" (Shenoy [2001] 2010, 11). Specific manifestations of complex phenomena such as French, the custom of marriage, or the American dollar, inevitably need to be coordinated by a legal set of rules. In fact, following Hayek's line of thinking, Shenoy considered catallaxy and common law (as a system of private case-law) as two sides of the same coin, and she considered the interdependence between theoretical analysis and historical studies as fundamental in order to understand human action. In her analysis, Shenoy explicitly adopted Austrian categories to criticize neoclassical economics.[10]

Concluding remarks

The story of the four generations of the Austrian School women economists has been neglected for decades, with the exception of some references in Mises' memoir and a few other very recent publications on the Viennese milieu around the Austrian School of economics. Although they failed to accede to academic positions in Vienna, mainly due to a combination of adverse conditions (initially, a ban against women in academia, later the racial ostracism against Jews, and a persistent and generalized suspicion against classical liberals), their contributions were often original, and their work played an important part in the history of the Austrian School as a whole.

Embedded in the complex Austrian society between the end of the nineteenth century and the interwar years, the first two generations of Austrian School women economists frequently handled the economic problems of their time from a theoretical perspective. Their research revealed that they shared the typical features of the Austrian School of economics, especially the disutility of any economic policy (with some exceptions), in keeping with their more influential and well-known male counterparts. Furthermore, in some cases, they were able to make original contributions to some typical Austrian themes: e.g., the case of Braun's pioneering study on the micro-foundation of monetary economics; that of Sommer's study on international economic relations; Mintz's analysis of business cycles; and Lovasy's investigations into the effects of inflation on international trade.

The third and fourth generation of Austrian School women economists developed their economic analysis mainly under the influence of Mises and Hayek in London and in the United States. Like their Viennese predecessors, they were authentically 'Austrians' because of their adherence to Austrian ideals. The third and fourth generations also enriched the Austrian tradition with some original ideas, such as Smith Lutz's theory of wage dualism, and Shenoy's application of Austrian economic categories to the analysis of growth and development in developing countries.

Their contributions extended the Austrian ideas by applying the commonly accepted Austrian paradigm into new contexts (new historical studies, specific histories of economic thought, as in Cronbach, Sommer, Spiro, Grice-Hutchinson, Bien Greaves), into new fields (development economics and economies of developing countries—such as India—as in Mintz, Lovasy, Shenoy). They also disseminated Austrian economics, especially in their battle against Keynesian economics and in their works on monetary policy (as in Stolper, Braun, Herzfeld, Lieser, Lovasy, Smith Lutz, Shenoy).

For the reasons mentioned above, Austrian School women economists have a special place in the history of women's economic thought as well as in the broader field of the history of economics. They made noteworthy contributions as scholars, as members of a cohesive school of economics, whose role in the history of the discipline has been and still is enormous. As classical liberals, Austrian School women economists of the first and the second generations were also impressive examples of the broader story of women's cultural emancipation, which took place in Europe from the end of the nineteenth century. These women defied the limitations that culture imposed on their gender, participating and contributing to deep academic inquiry from a classical liberal perspective; and, as classical liberals, Austrian School women economists of the following generations never stopped fighting for freedom and liberty through their contributions to economic theory.

Notes

1 Although German, Lachman is embedded into the Austrian School of economics' tradition for his theoretical and methodological works. Furthermore, he was first student, then colleague, of Hayek in the 1930s at the LSE.

2 Shenoy has been chosen as emblematic of the latest generation of Austrian School women economists mainly because she has had a significant role in the so-called Austrian revival and because she applied, for the first time, the Austrian economics perspectives to underdeveloped economies.

3 During the interwar period in Vienna, economists of the historical Austrian School (1871–1938), like many other Viennese scholars, were very active mainly outside academia: they attended informal seminars, opened to scholars with different backgrounds who often were regular attendees of several circles. This kind of audience created a network of peers whose cultural exchange made Vienna a unique place for the development of a pluralistic approach within social disciplines (Craver 1986; Hülsmann 2007; Mises [1978] 2013; Dekker 2014, 2016; Klausinger 2016; Wright 2016).

4 Kirzner realized his Ph.D. in 1957 under the supervision of Mises, and he spent his entire career at NYU, where he became full professor in 1968, until his retirement in 2001 (Ebeling 2001). That seminar, renamed Colloquium on Market Institutions & Economic Processes, is still scheduled at NYU, under the supervision of Mario Rizzo.
5 As reported by Boettke in www.coordinationproblem.org/2011/12/mccloskeys-transition-to-austrian-economics.html (retrieved on June 2, 2018).
6 As retrieved from http://oll.libertyfund.org/titles/smith-the-rationale-of-central-banking-and-the-free-banking-alternative.
7 According to Vernon Smith's review, Smith Lutz failed to solve the problem "that no production function analysis is possible when processes employing durable goods are analyzed . . . [because] the cost minimization problem, properly formulated, does apply" (Smith 1959, 62).
8 Shenoy's fight against protectionism and planning in the Indian economy is better understood in the context of the cultural and historical frameworks. Since the 1930s, a planning apparatus for Indian economic development had been set up in India, and it was renewed after Independence in 1947 especially involving the industrial sector. There were very few opponents to this economic policy; among them, the liberal economist Bellikoth Ragunath *Shenoy*, Sudha's father, later joined by his daughter and others (Bauer 1998; Shenoy 2003; Manish et al. 2015).
9 Read was the founder of the Foundation for Economic Education, one of the first Libertarian institutions in the United States.
10 In contrast to neoclassical economics, Shenoy explicitly followed McCloskey's argument that economists are not scientists, but story-telling historians: "neoclassical economists are even further removed from even the remotest possibility of learning about the issues involved in studying human action" (Shenoy [2001] 2010, 60).

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