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Veröffentlichungsversion / Published Version

Zeitschriftenartikel / journal article

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Empfohlene Zitierung / Suggested Citation:

Knoll, L. (2019). Sustainable Markets and the State: Taxation, Cap-and-Trade, Pay-for-Success, and Nudging. *Historical Social Research*, 44(1), 231-257. <https://doi.org/10.12759/hsr.44.2019.1.231-257>

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Sustainable Markets and the State: Taxation, Cap-and-Trade, Pay-for-Success, and Nudging

Lisa Knoll*

Abstract: »*Nachhaltige Märkte und Staat: Besteuerung, "cap-and-trade", "pay-for-success" und Nudging*«. Sustainable markets are heterogeneous phenomena, developed and implemented to keep up the idea of free economic choice against socialist and interventionist forms of environmental or social politics. This article is a plea to understand sustainable markets from the perspective of the state. It presents the history of welfare economics as an ongoing conflict about the question of how to solve the state-versus-market divide. It analyses and compares the welfare tax, the cap-and-trade mechanism, pay-for-success schemes like Social Impact Bonds, and nudging in order to demonstrate their dependence on certain historical state formations, and it links them back to welfare economic struggles between Pigou, Dales, Coase, and Thaler. In doing so it argues for the necessity to bring about the political morality of the micro-economic technicalities of commensuration / commodification. These technicalities organize roles and positions for economic actors and state authorities in very different ways. By applying the analytical concept of the conventions of the state, this article develops a framework to understand the diversity of sustainable state/market co-constructions.

Keywords: Welfare economics, convention theory, neoliberalism, impact investing, carbon markets, commensuration, commodification.

1. Introduction

In recent years, sustainable markets attracted interest from the social and economic sciences and they have been analyzed with quite diverse terminologies, from “civilizing markets” (Callon 2009) and “concerned markets” (Geiger et al. 2014) to “caring capitalism” (Barman 2016). Sometimes, the phenomena are understood as “quasi-markets” (Le Grand 2011) in order to denote that we do

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I want to thank the editors of this special issue Olivier Faverau and Rainer Diaz-Bone for their important feedback. The paper also profited from my collaboration with Anita Engels on Carbon Markets in the context of CliSAP, and the collaboration with Ève Chiapello on Social Impact Finance. It draws on insights from the Conference “Social Finance, Impact Investing, and the Financialization of the Public Interest” held on March 23–24, 2017, at the University of Hamburg, funded by the German Humboldt Foundation.

not necessarily see “markets,” but state guaranteed imitations of markets. The phenomena subsumed under the notion of sustainable markets are quite diverse. What they have in common is their attempt to solve welfare and/or environmental problems by private means. Most of them apply abstract notions of “the market” (connected to incentives, efficiency, entrepreneurialism, innovation, and/or flexibility) that are set against abstract notions of “the state” (connected to inflexibility, inefficiency, and/or wastefulness). Sustainable markets originate in a world view, which requires states to implement and to guarantee markets, and they are thus driven by a paradox: they require state administrations to avoid state intervention. The emergence of this “neoliberal” world view is as diverse (Mirowski and Plehwe 2009; Foucault 2010; Davies 2014) as the emergence of sustainable markets. As William Davies points out,

neoliberalism comes to appear far less homogenous and all-consuming than its critiques might fear. Different political and sovereign objects require different conventions of evaluation in order to be rendered measurable and economically calculable. (Davies 2014, 27)

This article analyzes the plurality of sovereign objects enshrined in the microeconomic calculative devices of sustainable markets. It shows how diverse the welfare tax, the cap-and-trade mechanism, pay-for-success schemes, and nudging craft the state-versus-market distinction, and how diversely they conceive of the economic actor. To do so, it develops the analytical notion of the conventions of the state. By combining the notion of state conventions introduced by Michael Storper and Robert Salais (1997, 207-23) with the work of Alain Desrosières (2003, 2011) on the conjunction of statistics, states, and markets, this article develops an analytical perspective that brings about the co-constructions of states and markets via microeconomic technicalities. As Michel Foucault put it, “the state does not have an essence. [...] The state is nothing else but the mobile effect of a regime of multiple governmentalities” (Foucault 2010, 77). This means that the state changes its appearance, its structure, its payment flows, and its sovereign objects during the establishment of commensuration and commodification processes (Espeland and Stevens 1998). At the heart of any sustainable market mechanism lays a statistical commensuration process that is not neutral. The statistical mechanisms of sustainable markets do not only define the role of the economic actors and the regulated object, but also the role and the responsibility of the state, and monetary flows between the state and market actors. The article argues that this plurality in commensuration can be explained by the differences between a Keynesian interventionist state, multinational ordo-liberalism, the public-private entrepreneurial state, and the psychological state (Jones, Pykett and Whitehead 2013; Pykett, Jones and Whitehead 2016). Each of these conventional state forms allows a certain welfare economic attempt to become historical and legitimate. The welfare economic struggle over the question of how to solve the state versus market problem needs to be linked back to historical state constellations

that make a certain state-market distinction more plausible than others. Analyzing sustainable markets from the perspective of the state helps to see the immense form-investments (Thévenot 1984) prior to the end-of-the-pipe situations of evaluation, incentive economics, choice, and consumption often focused in the realm of market studies. This change in perspective is important to see the power relations and the redistributive relations instituted by welfare markets.

The quite diverse market-building attempts analyzed in this article have their conceptual origins in the history of welfare economics, and their “in vivo”-forms (Callon 2009, 536) can be traced back to certain historical constellations (e.g., the cap-and-trade mechanism at the start of the global climate change negotiations in the 1990s, and pay for-success in the era of New Public Management and the politics of austerity). Thus, the performativity of economics-argument (Callon 1998) is combined with a state conventional argument (Storper and Salais 1997) highlighting the importance of state formations for the emergence of certain sustainable market-paradigms. Today, we find the Pigovian welfare tax, cap-and-trade mechanism, pay-for-success schemes, and nudging concurrently implemented, and they can be combined and compromised at the regional, national, or international level in manifold ways. They need to be understood as *contemporary* conventional forms featuring specific *historical* trajectories.

To show this, the article first outlines the history of welfare economics (Section 2). The history of welfare economics can be read as a history of a constant struggle over questions of how to improve and rectify the just market paradigm. Welfare economics is anxious about not giving the state power over free economic agents, but it is a conflicted subject how this can be achieved. This struggle unfolds as a complicated two-sided maneuver to repair the market without giving up the notion of the free market. The second section develops the analytical perspective of the conventions of the state (Section 3). This analytical framework allows grasping the diversity of economic statistical commensuration techniques at the core of the sustainable market mechanism and linking it back to state formations. The third section analyzes and compares the welfare tax, the cap-and-trade-mechanism, pay-for-success schemes, and nudging as state/market configurations (Section 4). It is shown that during centuries-old disputes over questions of how to solve the state versus market-problem, sustainable markets and the notion of the individual were transformed profoundly. Nonetheless, today, we can observe a renewal of the welfare tax, and we see multiple combinations and compromises between the different sustainable market attempts analyzed in this article. The proposed framework aims at strengthening comparative research on *contemporary* sustainable markets and the multiple ways they design the state-versus-market divide via technologies of commensuration.

2. The State-versus-Market Divide in Welfare Economics

This chapter is about the welfare economic struggle between Arthur C. Pigou, Ronald Coase, John H. Dales, and Richard H. Thaler on the question of how to solve the welfare problem by means of markets. These economists represent corner points in a more than a century-old microeconomic debate about how to solve welfare problems and how to define the capacities of states and individuals.

Pigou (1912) is one of the first microeconomists conceptualizing sustainable markets (besides the notion of sustainability was not used at his time).¹ Pigou developed his welfare economics in the era of John M. Keynes when state interventions were legitimate economic measures. Still, his welfare tax was not meant to serve redistributive or macroeconomic purposes, but as an economic activity steering instrument. Pigou (1920) defined inefficient market outcomes on the basis of a general equilibrium model. Negative externalities, or as Pigou labeled them “incidental uncharged disservices,” need to be corrected by sound market design. The Pigovian tax rate represents a Pareto-optimal point of intersection of marginal costs and marginal utility. Polluting factories are considered to adopt their production/output level to the point of their marginal benefit, internalizing the costs of the societal damage through the corrected price mechanism. The price mechanism can be corrected via taxation or via subsidy. The Pigovian tax, in other words, is “a tax (subsidy) per unit on the externality-generating activity equal to its marginal external damage (benefit)” (Baumol and Oates 1988, 55). Pigou (1928) endorsed the idea to reuse the fiscal income generated by his tax to create “positive externalities” through subsidization. This idea informed the “double-dividend hypothesis” (Pearce 1991; Jorgenson et al. 2013), which argues for earmarked reuse of the tax income to ease the burden for those being taxed, e.g., by green technology investment funds, or energy efficiency consultancy. Interestingly, this notion of the double use of the tax created a vital economic debate about the market distorting effects these interventions can have (Jiang 2001, 624). Another problem of the Pigovian tax is the information problem. Pigou admitted in a famous citation:

It must be confessed, however, that we seldom know enough to decide in what fields and to what extent the State, on account of (the gaps between private

¹ Sustainability is a versatile term with a younger career (Holden 2010). It entered the economic sciences after the Club of Rome introduced the ecological use of the term for economic thinking. It became a manifest multinational statement in the Brundtland Report, and developed into an economic accounting framework of triple bottom line, stating the equal importance of social, environmental, and financial goals. It later turned into forms of the so called “blended value proposition” (Emerson 2003), and impact investing (Barman 2015), where social and environmental goals are transformed into schemes of financial valuation (Chiapello 2015).

and public costs) could interfere with individual choice. (Pigou 1954, 6 cited by Hayek 1960, 333)

The welfare economic debate thus started problematizing the state as the locus of knowledge. The Pigovian tax, as Harold Demsetz (1996, 567) points out, is a “tax policy of an all-knowing, well-motivated state” informed by “the black-board plans of economists,” which was an anathema to many economists of his time. Demsetz argues that Ronald Coase’s transaction cost theory needs to be understood as a reaction to the Pigovian tax. He states:

The profession simply did not, and, I think, does not yet regard Coase’s positive transaction cost model as a serious attack on the state’s involvement in the resolution of externality problems. (ibid., 576)

For Coase, determining a just price was something that should be possible within the market itself. Ronald Coase (1960) argues that the problem of social cost may be read as a problem of reciprocity where the harmed person(s) and the one(s) responsible for the social cost (e.g., an industrial site emitting harmful gases to the environment) have the same interest in negotiating a solution/price to the problem. Those being harmed have an interest in not being polluted, and the polluter has an interest in keeping up his pollution in order to produce a good required by society. Both might negotiate a just price for compensation. Coase put it this way:

The question is commonly thought of as one in which A inflicts harm on B and what has to be decided is: how should we restrain A? But this is wrong. We are dealing with a problem of a reciprocal nature. To avoid the harm to B would inflict harm on A. The real question that has to be decided is: should A be allowed to harm B or should B be allowed to harm A? (Coase 1960, 2)

In so doing, Coase’s theory provides an “anthropological world-view” that “presumes that human beings are all possessed of the capacity to negotiate agreements” (Davies 2014, 54). From this line of thinking the “law and economics”-school emerged (Posner 1973). Here, an efficient price for compensation can be negotiated and fixed on a contractual basis. In case the bilateral negotiation fails due to transaction costs, the price may be identified via an economically trained jurisdiction. Furthermore, Coase argued that markets, in general, are not more efficient than firms (Coase 1937), which renders the question of market efficiency an empirical/ analytical problem. This, for example, had consequences for competition and cartel policy. Market efficiency can now be defined as an empirical problem of consumer welfare (Marty 2015). Via this conceptual turn, market dominance can now indicate efficiency and not necessarily, as it used to be, a proof for the unjust market power of a monopoly (Davies 2017). A-priori defined state interventions, even those implemented to guarantee markets, were delegitimized by the Chicago law and economics tradition. Thus, the economic line of thinking Coase founded is not about guaranteeing ‘markets’ (in the sense of a demand and supply-

mechanism), but rather economic activity, private initiative, entrepreneurship, and corporations.

In a different way, the economist John H. Dales (1968) thought about a solution to solve the problem of welfare via the construction of pollution rights. Like Coase, Dales wanted to solve the information problem by the market. Dales developed an argumentation, in which subsidies, taxes, and regulations, all create problems of the same kind:

In the end, the costs will be spread around, and the general population will pay for pollution control. This is why, when we are dealing with a large population and a large area [...], it seems more realistic to deal with society as a whole, rather than with groups. (Dales 1968, 83)

In this quote, the population is used as a justification for the necessity of an efficient price mechanism, which bears fewer costs on the society as a whole. It is astonishing how much Dales assumed the “administrative simplicity” (Dales 1968, 97) of his idea, considering the pivotal role of “the Board” (Dales 1968, 93) in markets for pollution rights. In the following quotation, Dales envisages a market for pollution rights:

Let us try to set up a ‘market’ in ‘pollution rights.’ The board starts the process by creating a certain number of Pollution Rights, each Right giving whoever buys it the right to discharge one equivalent ton of wastes into natural water during the current year. Suppose that the current level of pollution is roughly satisfactory. On this assumption, if half a million tons of wastes are currently being dumped into the water system, the Board would issue half a million Rights. All waste dischargers would then be required to buy whatever number of Rights they need; if a factory dumps 1000 tons of waste per year it will have to buy 1000 Rights. To put the market into operation, let us say that the Board decides to withhold 5 per cent of the Rights in order to allow for the growth of production and population during the first year, and therefore offers 475,000 Rights for sale. Since demand is for 500,000, the Rights will immediately command some positive price – say, 10 cents each. (Dales 1968, 93)

This system guarantees a just market not by defining the price (like with Pigou), but by limiting the overall volume of tradable emission rights. What is kept free from state regulation is “the inside of the market” (Knoll 2015). The choices over the emission reduction strategies, and the calculation of the costs for emission reductions, are left to the economic actors that can decide on whether to sell or buy emission quotas.

A fourth type of welfare economics is the “liberal paternalism” of Richard H. Thaler and Cass Sunstein. By their book “Nudge: Improving decisions about health, wealth and happiness” the authors draw upon insights from behavioral economics (Kahneman, Slavic and Tversky 1982) and cognitive and experimental psychology. In their view, the “homo sapiens” (Thaler and Sunstein 2008, 7) makes predictable mistakes due to fallacies and biases. The free agent is not considered to be rational, but an emotional and moral character, which means that his or her environment needs to be changed so that people would

adopt a new behavioral pattern unconsciously. In order to increase the welfare of human beings, they need to be “nudged” into the right direction. In their words, a nudge is a “choice architecture that alters people’s behaviour in a predictable way without forbidding any options or significantly changing their economic incentives” (Thaler and Sunstein 2008, 6).

Nudging suggest that it is possible to reshape the environments within which people make decisions in a way that makes it easier for them to adopt financial, health and environmental behaviours that are in their own best interests. Nudge has become popular because it suggests that it may be possible to address a range of social problems at minimal cost while also preserving people’s personal freedoms. (Whitehead et al. 2014, 13)

Thus, this welfare economic program is formulated against coercion *and* against economic steering effects adhering extra costs to economic agents. In the view of its inventors, this “liberal paternalism is not an oxymoron” (Sunstein and Thaler 2003), because it avoids coercion and extra costs for those being nudged. Nudging can take on a huge variety of forms, from design strategies, like arranging healthy apples in cafeterias within easy reach (Thaler and Sunstein 2008, 11), or arranging opt-out situations at corporate pension fund schemes (Thaler and Sunstein 2008, 111) and organ donation (Thaler and Sunstein 2008, 176), rather than opt-in situations of choice, which many people just forget due to laziness or a lack of attention. In some way, nudging is similar to a tax. It requires an all-knowing, well-motivated state informed by welfare economics. The difference is that rational choice has been replaced by irrational behavior, so that the “incentive structure” may comprise the whole set of the societal, organizational, emotional, and digital environment of an individual having a provable effect on behavioral patterns. By decoupling the welfare mechanism from price, a huge range of instruments comes into the range of welfare economics: from peer-to-peer education/pressure and social marketing and design strategies (Whitehead et al. 2014), to the design of more complex and collective social policy programs, like the mentioned pension fund interventions.

What we have seen so far is that the blackboard plans of economists change over time. They are, in one way or the other, defending the state-versus-market divide, even though these defenses lead to constellations in which the very concept of the free market vanishes in order to keep up the notion of the free individual. What we can learn from this is that neither the structures and the design of markets, the free agent, nor the state are historically fixed. They change during the course of critique and justification (Boltanski and Thévenot 2006) and they cannot be analyzed independently from each other.

3. States, Markets, and Statistics in Convention Theory

In order to understand the diversity of the sustainable market phenomenon this article harnesses convention theory. Convention theory addresses the importance of analyzing markets from the perspective of collective configurations designed and justified to ensure the common good (Boltanski and Thévenot 2006). Markets are thus analyzed from the perspective of the (public and private) bureaucracy built and altered to establish plural conventional forms of *justice* and *justesse*. Furthermore, convention theory identifies moral configurations within quantitative tools that guarantee market infrastructures. By outlining the history of economic methodologies and statistics these tools unfold their inner moralities and hierarchies. In the words of Ève Chiapello, conventionalists “consider that quantification systems have a history, and that it is possible to sketch out that history by identifying some major turning points in the conception of the phenomena” (Chiapello and Godefroy 2016, 156). The sustainable market phenomenon thus tackles two conventionalist strands of thinking: the notion of the convention of the state, and the historicity of the tools of commensuration enshrined within microeconomic methodology.²

The notion of the convention of the state was introduced by Michael Storper and Robert Salais (1997, 207-23). This concept understands markets from the perspective of the state. Akin to Michel Foucault, for whom the “state is not a universal nor in itself autonomous power,” but “the mobile effect of a regime of multiple *gouvernamentalities*” (Foucault 2010, 77), the notion of the conventions of the state offers a perspective to bring about the plural *gouvernamentalities* enshrined within market and/or economy constructions. For Storper and Salais (1997),

[t]he state, like other institutions, is essentially a convention between persons, but unlike other institutions, all State conventions must define the way the ‘common good’ is constructed for the society. (Storper and Salais 1997, 208)

This means that the institutions of the state are shaped by built-in conventions defining the coordination modalities, the relationships and the hierarchies between legal and technical devices and economic agents in order to guarantee a just economy. Storper and Salais further state:

[...] conventions [...] shape what the State is actually able to do in pursuit of the common good. Conventions of the State are mobilized, like other conventions, in situations of economic action. [...] Such a reading allows us to go beyond the tired ‘states vs. markets’ paradigm to suggest that the considerable variety and diversity of frameworks of collective action should

² For this conventionalist tradition of identifying the inner morality and historicity of economic models, see for example Eymard-Duvernay and Thévenot (1986) and Favereau (1989).

be at the center of philosophical as well as analytical debates about how states function in the economy. (Storper and Salais 1997, 209)

In their work, Storper and Salais distinguish three types of state conventions: the absent state convention, the external state convention, and the situated state convention. The absent state convention, as Storper and Salais put it (1997, 211), opposes the state to the market. State interventions are rejected, since they are believed to “block [...] actors from realizing their individual potential” (Storper and Salais 1997, 211). The external state defines the common good from the outside. For Storper and Salais this is exemplified by “postwar economic planning [...] rooted in a widespread expectation that the State will insert itself from outside and above society to supply elements of coordination” (Storper and Salais 1997, 210). The external state is based upon “the notion of a rationalizing and organizing State-from-above” driven by “engineers who manage the State’s technical agencies and administrations” (Storper and Salais 1997, 211). The situated state guarantees procedures for collective negotiation processes and the collective identification for solutions.³

This notion of the convention of the state provides a perspective on economic activities grounded in deeper historical and state guaranteed configurations. Alain Desrosières systematically introduces statistics into this picture (Diaz-Bone 2016, 62). In so doing, he shows that different state types have their own ways of statistically organizing and guaranteeing markets. He claims that

[t]he history of economics has been punctuated since the eighteenth century by controversies about the relation between State and market; doctrines and policies, closely or less closely interrelated, succeeded each other [...]. The historiography of economic thought, specifically the works which deal with the reciprocal interactions between the State and the science of economics, pays little notice to the differences between modes of statistical description specific to the various forms that the relations between the State and the market have taken throughout history. In short, the history of economic policies and that of statistics are rarely presented, let alone analyzed, jointly. (Desrosières 2011, 43)

Thus, he develops a typology that enrolls the connectedness of state types with economic statistical tools. In his view, it is important to “‘re-endogenize’ the discourse of rationalization along the lines opened up by the modern-day sociology of science” (Desrosières 2011, 42) and to “[bring] to light its diversity, its contradictions, controversies, and points of fracture” (Desrosières 2011, 43). This is important as he points out, since “the history of the tools of rationalization, despite what the rationalizers sometimes claim, is as turbulent

³ Storper and Salais refer to the German principle of subsidiarity allowing codetermination (*Mitbestimmung*) and the autonomy of wage bargaining (*Tarifautonomie*) to illustrate this state type. Other than the absent state and the external state, the situated state convention takes the plurality of the common good as a given, and does not suppress disputes in the name of market individualism or state planning.

and nonlinear as the history of the ways of viewing society” (Desrosières 2011, 43). To bring about the plurality and the historicity of statistics, he distinguishes different state-statistical systems (Desrosières 2011, 45):

- The *engineer state* uses statistics as a means to understand the necessity of production quantities based on input-output tables. It is a planning state with a long-term vision about demography, which determines the production in physical quantities based on technocratic reduction of cost planning, and optimization.
- The *liberal state* uses statistics to ensure free competition and market transparency in order to install a free-trade policy. Its statistics concern trade-levels and prices and the measurement of possible dominant market positions and market shares.
- The *welfare state* is based upon the assumption that the labor market is a specific market, which requires protection. Its statistics are about wage, employment, unemployment levels, and sampling surveys of workers’ household budgets, based for example on consumer price indexes.
- The *Keynesian state* uses statistics in order to identify the global demand and to combat the cyclical crisis of the market. It supervises and manages the gap between global supply and demand through monetary and budgetary policies. It relies upon national accounting and economic budgets.
- The *neoliberal state* moves from rights to incentives and it turns its administrations into agencies, and distributes the decision-making centers into polycentric networks connected via contractualization. Its statistic “relies on microeconomic dynamics [...] accepting the main hypotheses of the rational expectations theory” (ibid., 46).

What Desrosières’s work adds to the analytical concept of the conventions of the state is the identification of the plurality of rationalizing and quantifying tools that lay at the heart of political economies and modern state formations.

The perspective of the conventions of the state is a fruitful concept for the analysis of sustainable markets. It allows to see that the aforementioned welfare economic icons are located within the realm of the absent state convention outlined by Storper and Salais *and* within the neoliberal state convention outlined by Desrosières. They are built upon the state-versus-market distinction *and* in order to guarantee this divide, they apply microeconomic methodologies and statistical tools of commensuration and commodification. The statistical mechanism of commensuration – “the transformation of different qualities into a common metric” (Espeland and Stevens 1998, 314) – and the commodification process attached to it, are created to keep up the state-versus-market divide against socialist and interventionist solutions for environmental and social problems. But it is important to note that the sustainable markets analyzed in this article entail elements from other historical state forms, too. This article shows that we can identify *different* ‘neoliberal’ modes of microeconomic commensuration, from the welfare tax, over the cap-and-trade

mechanism, pay-for-success schemes, to nudging. All of them feature the notion of the absent state guaranteed via diverse microeconomic political programs. But they take on alliances with other and older state forms of the times of their historical emergence, like the interventionist or Keynesian tax state, the ordo-liberal market guaranteeing state, the entrepreneurial New Public Management state. In order to understand the appearance of microeconomic developments, it is important to understand the multiple state forms they are nurturing and nurtured by. The psychological state identified by Jessica Pykett and her coworkers, for example, offers an adequate description of the state form nurturing nudging as an adequate welfare policy tool (Jones, Pykett and Whitehead 2013; Pykett, Jones and Whitehead 2016). Thus, this article highlights the wide range of conventional forms we can find *within* the rather broad categories of the “absent state” outlined by Storper and Salais (focusing on the aspect of the state-versus-market divide) and the “neoliberal state” outlined by Desrosières (focusing on the aspect of microeconomic commensuration and incentive structures).

Such a state-centered perspective is important to elucidate the often overlooked power relations established via sustainable markets and their seemingly neutral quantitative instruments. The analytical perspective of state conventions combined with a perspective elucidating the inner logic of the tools of quantification guaranteeing the microeconomic methodology allows to see the plurality of sustainable markets. The way just prices come to be guaranteed by the state can vary tremendously, so does the very figure of the free agent and/or the very figure of ‘the state.’ They appear to be encapsulated within the diverse technical commensuration processes. Commodification processes can be built upon these quite diverse statistical and methodical “sovereign objects” (Davies 2014, 27), which define power relations and establish specific “financing circuits” (Chiapello 2018). They define who needs to be paid how much and why by whom, depending on the technical definition of ‘the free actor.’ The following chapter demonstrates this intertwinedness of questions of ‘the state’ with microeconomic methodologies.

4. *In Vivo*-Sustainable State-Market Configurations

The welfare economic attempts of Pigou, Coase, Dales, and Thaler are quite diverse. But they have a common adherence to the absent state convention and to economic methodological individualism. They put the concept of the free individual center stage, and they are united by the desire to prevent interventionist, coercive, situational or collective solutions to the welfare problem. Even though they may be defined by these commonalities, they differ in important dimensions. They are linked to a specific historicity in the sense that their in-vivo forms, the moment the microeconomic blue-prints became suc-

successful political instruments, are linked to a specific state type featured by a specific historical world-political constellation. This means that economic instruments find their ways into politics in historical moments prepared for them. They are to be understood as state and microeconomic co-constructions and they ally with elements of other established state conventions: The welfare tax with the interventionist tax state, the cap-and-trade mechanism with ordoliberal multilateralism, the pay-for-success mechanism with a state that considers itself an entrepreneur engaging in bilateral contracts, and nudging with a paternalist state that invests into unconscious and pre-reflexive conditions for well-being, happiness, and health of its citizens.

Table 1: Sustainable Markets and the State

Sustainable market mechanism	Tax	Cap-and-Trade	Pay-for-Success	Nudging
<i>Political / ideological context</i>				
Historical situation	New Deal, World War I + II	End of Soviet Union, UN Earth Summit, transnational liberal world society	Austerity, New Public Management, financial crisis	Post-liberal era, digitalization
Facilitating state	Interventionist state, tax state, investing state	Ordo-liberal state guaranteeing markets	Entrepreneurial state engaging in 'public-private partnerships'	Psychological state, paternalist state
Corresponding welfare economics	Pigou	Dales	Coase ⁴	Thaler
<i>Sustainable market mechanism</i>				
Techniques of commensuration / commodification	Fixing of the <i>price</i> , free choice on the <i>volume</i> (production levels)	Fixing of the <i>volume</i> (cap), free <i>price</i> building mechanism (trade)	<i>Volume</i> and <i>price</i> (including statistical methods of control) defined in	<i>Volume</i> (behavioural effects), no <i>price</i> (no
Design of the free individual	Polluters rationally adapt the <i>volume</i> of production to the cost	Polluters <i>trade</i> emission rights, calculate CO ₂ abatement costs	Entrepreneurs, rational and equal negotiators of bilateral contracts	Unconscious, irrational, and emotional
Center of control	State budget, budget law and politics	Centralized transnational ratification process of reduction targets, emission	Intermediary, contract, evaluator, jurisdiction in case of conflict	(Public or private) designer of the nudge,
Monetary flows, financial circuit	Businesses to state (polluter pays)	Selling and buying among emitters	State to businesses	Non-monetary (no coercion, no additional

Source: Own Composition.

⁴ Ronald Coase being the microeconomic predecessor for pay-for-success schemes is less straightforward than the alignment of the other three welfare economists with their respective sustainable markets. So, what makes Coase the microeconomic informant of this

Table 1 outlines this interconnectedness of state formations and sustainable markets. The diverse sustainable market mechanisms are explained by an ideological-political context containing of a historical world-political situation, a facilitating state formation, and a corresponding welfare economic paradigm that brakes through, and becomes identified as state of the art microeconomics of its time. The sustainable market mechanism (which is in the case of nudging not necessarily a ‘market’ anymore, even though it is designed as a market-repair work), applies specific techniques of commensuration and commodification, a specific design of the free individual, specific locus of control, and a specific monetary cycle or “financial circuit” (Chiapello 2018).

4.1 Techniques of Commensuration / Commodification

At the heart of any sustainable market mechanism are quite specific commensuration and/or commodification methodologies. These technicalities are aligned with assumptions about the economic actor and his or her abilities to calculate or negotiate rationally and with assumptions about the abilities of the government.

In-vivo configurations of the Pigovian *welfare tax* today often rely upon the concept of the “double-dividend” (Jorgenson et al. 2013), or make specified use of the income streams related to the tackled problem, in order to prevent a political misuse of the tax. An in-vivo example for the Pigovian sustainable market mechanism is the noise tax on airplanes at France’s nine biggest airports. Here,

[t]he amount of tax due per departure depends on the tax rate applicable at the departure airport (reaching from € 2.00 to € 35.00), the aircraft’s maximum take-off weight (MTOW), its certified noise performance (as specified in the aircraft’s noise certificate) and time of departure.⁵

state type? I want to highlight two Coasian elements featured by the entrepreneurial state. First, Coase’s claim was that negative externalities are a problem of bilateral negotiation. Thus, the private contract being the decisive locus for commensuration is clearly a Coasian line of thinking. Of course, Coase did not consider the state a business partner. He rather wanted to avoid the state as an interfering external instance to the welfare problem. But since the state later became entrepreneurial through New Public Management reforms, the Coasian heritage is ready to be applied to the state, too. Second, with transaction cost economics, Coase argued for a strict empiricism in solving the question of efficiency. This translates into an impact-orientation and evaluation and measurement of market processes. Coase’s influence on competition policy and the impact-turn in this field may underline this argument (Marty 2015; Davies 2017). Still, this culture of evaluation does not translate into the measurement of transaction costs in most pay-for-success arrangements (see Gustafsson-Wright et al. 2015, 35 for Social Impact Bonds). The strict claim for empiricism rather translates into impact measurements and calculations of impacts and effects that can be linked back to payment flows. I do not make a performativity argument, here. I rather want to argue that we see elements taken up, twisted, and re-used that can be traced back to Coase.

⁵ See <<http://www.fccaviation.com/regulation/france/noise-tax>> (Accessed June 14, 2018).

The government uses the revenue to soundproof houses that are exposed to noise levels beyond 70 decibels. Another example is the carbon tax in British Columbia in Canada, which started in April 2018. The “carbon tax rate is \$35 per tonne of carbon dioxide equivalent emissions. The tax rate will increase each year by \$5 per tonne until it reaches \$50 per tonne in 2021.” Since different fuels generate different amounts of greenhouse gas emissions the tax rate is turned into specified price tags, e.g., for gasoline, diesel, and natural gas. The income streams are used to “increase the Low Income Climate Action tax credit” and to provide tax relief for those “facilities that meet a performance benchmark based on the lowest emitting facility globally.”⁶ Here, the price tags are defined by state experts in order to steer free economic actors’ choices combined with interventionist and redistributive formats of governance. The calculative burden lies upon the state experts that have to define the “marginal external damage” and an economic sound reuse of the income streams aligned with the double-dividend hypothesis.

The *cap-and-trade* mechanism, instead, is designed to avoid the price-defining government. It creates a limited number of tradable emission rights (cap) to be distributed (allocated) among the market participants (polluters, emitters). It organizes free trade of emission rights among emitters and thus monetary flows between sellers and buyers of emission rights. Commensuration is therefore designed as a cascade-like top-down process, which is best explained by the in-vivo market for greenhouse gas emissions in Europe established by the EU Directive 2003/87/EC for greenhouse gas emission allowance trading. The European scheme is linked to an even bigger cap-and-trade market, the Kyoto system. The Kyoto Protocol commits the State Parties to reduce greenhouse gas emissions between 2008 and 2012, in relation to the base year 1990 by 5.2 percent. This cap is identified via a multilateral process organized via the United Nations Framework Convention on Climate Change (UNFCCC). The European emissions trading scheme for industrial sites and energy companies (EU ETS) is linked to the Kyoto targets via a “burden sharing agreement,” which partitions the European Kyoto target of 8 percent between the Member States, e.g., Germany committing to taking 21 percent, and the UK committing to a 12.5 reduction target, and France to a +/- zero target of the Kyoto-target (Skjærseth and Wettestad 2008). These diverse national targets inform the National Allocation Plans controlled by the European Commission in the EU ETS (Ellerman et al. 2007). The allocation plans define the methods of allocation for a defined trading period, from Phase I (2005-2007), to Phase II (2008-2012, the Kyoto Phase), to Phase III (2012-2020, the post-Kyoto phase), and Phase IV (2021-2030). The “accuracy, consistency and certainty” (Bowen and Wittneben 2011) of this top-down commensuration process is an issue of ongo-

⁶ See <<https://www2.gov.bc.ca/gov/content/environment/climate-change/planning-and-action/carbon-tax>> (Accessed June 14, 2018).

ing conflicts (Knoll 2014). This top-down process is continued at the national level, where diverse institutional trajectories and production regimes collide (Engels, Knoll, and Huth 2008). Till today the European trading scheme suffers from a significant over-allocation. Generally, in existing trading schemes scarcity is difficult to be achieved (Carbon Market Watch 2015). Three allocation methods are applied in the EU ETS (Ellerman et al. 2007): grandfathering (free allocation based on historical emission levels), benchmarking (free allocation based on accomplished or not accomplished climate friendliness), and the auctioning of emission allowances by the state. Only in case of auctions the state generates income. Still, the main focus is the trading mechanism among polluters.

The commodification process of the *pay-for-success* mechanism is crafted within bilateral contracts, not on an international or national level like the cap-and-trade mechanism, or the tax. Pay-for-success schemes link the payments (price) with results, either in terms of measurable outputs (or impacts), or in terms of savings (which can be used to pay back the investor taking over the performance risk of an intervention). Other than classical public-private partnerships, pay-for-success is built upon a commodification mechanism, where the environmental/ social and the financial dimensions appear to be interlinked via a contracted impact-business model. The specific commensuration formula for the outcome evaluation of Social Impact Bonds (SIBs), a specific payment-by-result model defined to identify public “cashable savings,” is defined like this:

Number of outcomes avoided (improvement due to SIB) X unit cost per outcome = potential savings to commissioners. (UK Government 2012, 19)

The first Social Impact Bond in Peterborough developed an intervention to reduce the reoffending rates of ex-prisoners (Nicholls and Tomkinson 2015). This project provides social support to three defined cohorts of 1,000 prisoners of adult male offenders with less than 12 month imprisonment released from the prison. If the SIB reduced reoffending by a threshold of 10 per cent for any of the three cohort of the ex-prisoners, or 7.5 per cent across the entire group, the investors would receive a return of 2.5 per cent per annum (Nicholls and Tomkinson 2015, 347). The success of the program is identified by comparing the results of the intervention with the reoffending rates of a control-group released two years before. In the end, this pay-for-success contract delivered a return on investment of 3 per cent (Anders and Dorsett 2017). Another program, the Reconnections SIB in the UK, tackles the issue of loneliness of elders who use health care institutions for reasons of loneliness, and it shares these cost savings with the investors. It calculates

that chronic loneliness may cost commissioners £12,000 per person, of which approximately 40% occurs within five years (GP visits, A&E visits, hospital admissions, residential care, some costs associated with depression and diabetes). (Social Finance Limited 2015, 10)

The program is set up to decrease the level of loneliness among a defined group of elderly people “by a period of personalized volunteer-led support to access community-based activities or informal networks” and “low-level cognitive behavioural therapy” where required (Social Finance Limited 2015, 15). The level of cashable savings is calculated on the basis of estimated costs of loneliness for the public sector (Social Finance Limited 2015, 11). It is important to mention that the state is considered as a private business partner in these pay-for-success models. Many of these schemes do not publish the core of their business models entailing the commensuration and commodification technicalities since they are considered private (Gustafsson-Wright et al. 2015, 55-129).

The pay-for-success model, in general, is open to quite an array of actor constellations and return-models. The commensuration process is defined as bottom-up, from contract to contract. Generally, the private contract structure allows a huge variety *on the financial side* and *on the impact side*:

- The World Bank, for example, discusses financial vehicles that may enter the pay-for-success model. Its legal report states: “Future contracts should also utilize financial engineering technology and tools, including swaps, credit ratings, tranching debt, guarantees, and alternative bond issuances” (Fariello et al. 2016, 144). The pay-for-success model often involves “blended finance” or what is called “creative financing” with quite diverse roles (debtors and creditors taking over quite diverse default risks and guarantees, etc.) for service providers, foundations, professional financial investors, banks, and public authorities (Nicholls 2014).
- On the impact side, the possibilities are as diverse as on the finance side. The UK National Audit Office (2015), states that a “[g]ood evaluation starts at the planning stage, with a clear statement of what commissioners are seeking to achieve and how value for money will be assessed” (National Audit Office 2015, 33). Value for money commensuration techniques are flexible. The assessed tools range from “control group with similar characteristics subject to alternative provision,” over a “control group with similar characteristics subject to no intervention,”⁷ a “modelled counterfactual for alternative provision,” an „estimate of non-intervention rate [...] (estimate of what would have been achieved without intervention),” to weaker versions of a “baseline of performance at start of scheme” and “commissioners’ expectations of performance” (National Audit Office 2015, 35).

The monetary flows in pay-for-performance schemes are highly contract dependent (see for example Tse and Warner 2018 for a comparison of three Social Impact Bonds in the US). These contracts need to be attractive for pre-

⁷ This method requires a defined group of potential service users to be excluded from the benefits of the social program, but still needs to be evaluated (Gustafsson-Wright et al. 2015, 31).

financing private investors and therefore often overestimate the impact or overpay the investor (see for example Neyland 2017; Tse and Warner 2018). It is highly unlikely that the state saves money from these interventions in the long run.

Nudging is not about commodification, but the welfare economic tools involve processes of commensuration. Nudging is not about building markets, but about making people better market participants. Its technicalities aim at better understanding behavioral patterns of defined groups of people and the way their behavior can be influenced in a positive way. It is about causal effects of policy interventions, which are not necessarily conscious to those being affected or nudged. Statistical knowledge is created to understand well-being as a problem of behavioral evidence (Davies 2015). The technicalities of commensuration thus produce knowledge about

how lasting many of the effects are; how effects that work in one set of circumstances will work in another; and whether effects that work well with one segment of the population will work with another. (Halpern et al. 2010, 10)

The UK Government, for example, established “The Behavioral Insights Team,” which produces knowledge on “Why do parents bring children with minor illness to emergency and urgent care departments,” “Improving transition out of the Armed Forces: Engaging families through behavioural insights,” and “The impact of improved transparency of foreign money transfers for consumers and SMEs.”⁸ The tackled policy fields are wide-ranging. In methodological terms, nudging is rather pragmatic and individualized. It applies statistical methods from other disciplines, like experimental neuroscience (Pykett 2017) and defines them for each project or intervention. Each project needs to define “What exactly means ‘effective’?” and “Which level of scientific evidence is ‘enough’?” (Reisch 2018). Digitalization and “big-data” can help to satisfy this hunger for data on behavioral patterns and it may be used to reach large groups of people. In Uganda, for example, the Text to Change initiative (financed and partnered by Celtel, Merck, the local NGO AIDS Information Centre, and the Dutch Ministry of Foreign Affairs) uses mobile phone prompts in order to encourage people to make better health choices and receive regular medical check-ups and immunizations to fight the HIV transmission. An interactive quiz is designed and used to nudge people’s interests into the desired direction (Whitehead et al. 2014, 33).⁹

The next section aims at linking the emergence of these diverse sustainable market mechanisms to the historical state formations of their time. This is not to say that these sustainable markets are outdated, but to say that these contem-

⁸ See <<https://www.behaviouralinsights.co.uk/publications>> (Accessed August 10, 2018).

⁹ See <also <http://images.aarogya.com/aids/pdf/unandzain.pdf>> (Accessed August 10, 2018).

porary forms have their specific moments of historical origin grounded in certain conventional state formations.

4.2 Historical Situation and the Link to State Conventions

As I said earlier, all the sustainable market mechanisms discussed in this article adhere to microeconomic methodology and are based upon the conceptions of the absent state, assuming a divide between the state and the market (or the free economic actor). But they do so in a very specific way, which can only be explained by the moments of historical origin, where they had to establish alliances with other pre-existing state conventional forms.

When we think of the historical context of the Pigovian *welfare tax*, it is certainly not a coincidence that it was a successful sustainable market idea in times of an interventionist planning welfare state. Even though taxes devised to organize redistribution versus taxes devised to internalize externalities are very different from each other, the Pigovian tax requires a centralized administrative taxing infrastructure which makes it an obvious instrument to be implemented. Furthermore, the Pigovian tax draws on a culture of state expertise of a planning or interventionist state that understands itself as a competent actor able to gather the necessary statistical information to model marginal private utility and marginal cost levels, which then translate into the total marginal cost for the whole society. Pigou himself acknowledged the difficulties of an all-knowing state, but he did not see an alternative to it.

Different from that, the *cap-and-trade* mechanism is based upon a *transnational* ordo-liberal administrative infrastructure of a world society transcending the nation state (Engels 2006). Even so, there have been national “forerunner” emission trading schemes in the US (Levin and Espeland 2002), in the UK (Nye and Owens 2008), and in the Netherlands (Pedersen 2000). It is not by coincidence that the cap-and-trade-mechanism was promoted as a *global* solution for a *global* climate change (Svendsen 1999). The rationale behind an international trade of reduction quotas is appealing from the perspective of a nation-state transcending world society. The following calculation demonstrates that:

Comparisons between Denmark and Poland have shown that it is four times cheaper to reduce CO₂ emissions in Poland than it is in Denmark [...]. Trading CO₂ quotas causes CO₂ reduction to take place in the countries where it is cheapest. It makes no difference whether the reduction is made in Russia, Poland or any other country. CO₂ is a global pollutant, that is, the emission of CO₂ causes the same global greenhouse effect regardless of the geographical location of the source. (Svendsen 1999, 234)

To apply the notion of ordo-liberalism, the work of [Frédéric Marty \(2015\)](#) is of help. He uses the framework of the conventions of the state to understand the plural stances of European competition policy. Here, too, we do see diverse state instantiations of just markets. In the ordo-liberal convention of competi-

tion policy, free markets need to be instituted by an external state, in the sense that states are expected to cure markets from monopolies and help establishing equal market entrances (Marty 2015, 98). In the cap-and-trade mechanism, we, too, see a state that is external to the market, instantiating the market via new entrance reserves and allocation policies. The cap-and-trade mechanism requires strong states external to the market, implementing and guaranteeing free markets from above. After the fall of the iron curtain, the liberal West was powerful and self-confident enough to organize something as complicated and demanding as the international Kyoto process – the Climate Conferences of the Parties (COP) – with its ongoing negotiation for binding reduction targets after Kyoto.¹⁰

The *pay-for-success* mechanism requires states that consider themselves “entrepreneurs” or even “investors.” It builds upon administrative elements of the Public Private Partnership and upon New Public Management reforms. These reforms help to frame public investments as performance and outcome risks sellable to private parties. This opens up the pay-for-success-model to “impact investing” (Barman 2015), fostering the idea of the financial market “filling the capital gap” (Nicholls 2014). Social Impact Investing was promoted at the global political agenda after the financial crisis in 2008 as a solution to welfare and environmental problems in times of severe public budgetary constraints.¹¹ In Davos in 2013, the so-called Social Impact Investment Taskforce was formed, which seeks to insert entrepreneurial methods of accounting into the realm of environmental and welfare projects in order to render them investable (Social Impact Investment Taskforce 2014). The World Economic Forum,

¹⁰ The international climate change negotiation process – the UN Conferences of the Parties (COP) – suffers from the difficulty to set up a binding Kyoto follow-up agreement. The Paris Agreement in 2016 (COP 21) is based on a control mechanism that is not yet defined, so called Intended Nationally Determined Contributions (INDCs). They work with defined targets and the measurement of their success. The national targets in sum are still linked to an overall cap, the 2 degree scenario (and the 1.5 degree scenario). It is an open question to what kind of a sustainable market mechanism this will lead. It is possible that climate friendly investments and pay-for-success schemes become much more important than the cap-and-trade mechanism. It is also possible that the European Union will intensify emissions trading, which is potentially open to the inclusion of many more industries, like aviation, shipping, or transport and can be linked to other regional trading schemes in the world, even without having agreed on a Kyoto target (Carbon Market Watch 2015). Another option is taxation. Sweden, for example, participates in the European emissions trading scheme and turned back to the seemingly old-fashioned carbon tax (Carbon Market Watch 2015).

¹¹ In an interesting discursive twist, the financial crisis has turned to become a crisis of public budget discipline (see for example Morales et al. 2014). Explaining this turn is beyond the argument of this article, but it is an important entry point for impact investing, which argues to bring in fresh capital and entrepreneurial discipline into the realm of welfare and environmental politics.

“the international organization for public-private cooperation,”¹² is very different from the international platform established by the UN Kyoto process. Pay-for-success is a mechanism not exclusively guaranteed by states. It may also be applied in multi-stakeholder set-ups between foundations, NGOs, corporations, social and environmental entrepreneurs, and other public-private financing agencies like the European Social Impact Accelerator Fund, partly financed by European Investment Fund and partly by private banks.¹³ It does not require an external and intervening state, but government units that consider themselves as entrepreneurs and/or investors managing public investments as sellable performance risks, featuring risk and return models in the realm of public policy (Chiapello 2015). The locus of control in most pay-for-performance schemes is an intermediary organization (Bessy and Vatin 2013), which helps to develop the terms and conditions of the contract structure, sets up the Special Purpose Vehicle (SPV), coordinates the evaluation and the payment modalities, mediates in situations of conflict, etc. The state is a business partner, not an external center of control, and by far not all-knowing.

Like pay-for-success, *nudging* is not only applied by states. It may also be applied by corporations in relation to their employees, by NGOs, or by foundations and charities. Still, Whitehead and his colleagues identify 51 independent states “with centrally orchestrated nudge-type policy initiatives” (Whitehead et al. 2014, 24), among them the UK, the US, Canada, Australia, France, Japan, and China. Nudging is not only interesting for Western liberal democracies, but also for “new authoritarians” (Guriev and Treisman 2015). Both seek to govern and influence the behavior of the masses or defined groups of people, be it for the purpose of rationalizing non-rational choices or for the purpose of depoliticizing public discourses without violence. King et al. (2017), for example, found that the social media networks in China are used to influence the political discussions by turning the debate towards more apolitical topics like the weather and sports. It is interesting to see that Sunstein (2016) dedicated a book to the immoralities of nudging, where he discusses the conditions of a good nudge contrasting it to immoral interventions. The distinction is not so easy. Some say a nudge needs to “be fully transparent – Subject to public scrutiny and review” (Reisch 2018) to be aligned with Western democratic values. Nonetheless, we might conclude that nudging is nurtured by a state type that is much more paternalist, interventionist, and all-knowing than its welfare economic predecessors have wished for. It produces an insatiable thirst for statistical data on behavioral patterns, causal effects of interventions, and therefore digitalization seems to be its natural ally. Furthermore, nudging can be linked to the aforementioned pay-for-success model, which demands provable out-

¹² See <<https://www.weforum.org/about/world-economic-forum>> (Accessed October 14, 2018).

¹³ See <http://www.eif.europa.eu/what_we_do/equity/sia/index.htm> (Accessed October 14, 2018).

comes to define cashable savings or conditioned payment schemes. Nudging also sometimes allies with classical welfare programs like the mentioned pension scheme opt-out solutions (Thaler and Sunstein 2008, 111).

What we have seen so far is that these sustainable markets all define a certain state-versus-market distinction, which informs questions of control and monetary flows. The technical procedures of commensuration cannot be analyzed as neutral tools, but they decide about who becomes evaluated by whom, who owes money to whom, which kind of state administration is required, etc. Questions of power and finance are deeply enshrined into the devices of commensuration and commodification. What we have also seen is that welfare economic attempts have their specific moment of emergence, which makes the notion of the conventions of the state an interesting analytical tool, since it does not only bring about the performativity (Callon 1998) of economic theory (here welfare economics), but also the historical preparedness for economic theories, or specific aspects thereof.

5. Conclusion

Welfare economics has been presented as a diverse program with a common aim: solving welfare and environmental problems by private and individual means. For over a century, welfare economics addressed a complicated problem: how to create welfare without adhering to public deliberation, collectivism, socialism, or direct state interventions, like command-and-control. Welfare economics found quite diverse answers to this problem. Their disputes have been outlined in this paper showing that welfare economic attempts craft the state-versus-market distinction quite differently, and apply quite different methods of commensuration, in accordance with the notion of the individual or the agent they apply. From the welfare tax, over the cap-and-trade mechanism, to pay for success-schemes, like Social Impact Bonds, and nudging programs, all these sustainable market mechanisms guarantee (or aim at guaranteeing) the paradox of the absent state in one way or the other. Sustainable markets are built from a two-sided maneuver: asking states to implement and guarantee the market, and acting as if markets were free from states. This paradox is resolved by the profession of welfare economics in one way or the other, and it has been resolved in quite diverse terms during the liberal era. By comparing four sustainable market mechanisms (the Pigovian tax, cap-and-trade, pay-for-success, and nudging), this article brings to the fore the plurality of microeconomic commensuration and commodification procedures, which establish diverse loci of control, diverse state-versus-market differences, and diverse monetary flows (e.g., either from states to markets, or from markets to states). The analytical framework of convention theory is stating the interconnectedness of economic technicality, morality, and politics (Desrosières, Chiapello). It therefore has

been a helpful analytical framework for the analysis of sustainable markets. In this article, sustainable markets have not been analyzed from the perspective of ex-post evaluative plurality and flexibility (that is often connected with “On Justification” of Boltanski and Thévenot), but from the perspective of conventions of state formations (Salais and Storper) and state statistics (Desrosières). The typology developed in this article is meant to inform the analysis of *contemporary* sustainable markets and to render visible their specific *historicity*, which cannot be separated from state formations. At the core of any sustainable market is the statistical program, established to guarantee and prove the justice of the market, or the rationality of single and free economic agents, which have, in this article, only been contoured. In order to understand the diversity of sustainable markets it is important to bring these diverse public-private commensuration and commodification formats to the fore. Convention theory with its notion of the convention of the state is a useful perspective to reveal those differences, because it is a theory that was from its beginning meant to overcome the state-versus-market divide still vivid in many economic and social analyses of sustainable markets. By picturing sustainable markets from the perspective of the state, they come to be analyzed as collective arrangements transforming the governing forms of the state, its agents, hierarchies, its monetary flows, and its control and monitoring techniques. Convention theory, furthermore, has a tradition of historical analysis, which helps seeing the parallels of quite diverse mechanisms, from taxation, over carbon markets to impact investing. The article showed that markets and states have no essence, but are formed and transformed in historical disputes over the common good. During this process of critique and justification (Boltanski and Thévenot 2006) within welfare economics itself the very notion of the state and that of the market, both, change fundamentally. They may further change in a way that states are not any more recognizable as typical external and regulating governments, and free economic actors are not considered to be rational any more. We will see. What is important is to analyze procedural technicality, financial relations, and power relations conjointly.

References

- Anders, Jake, and Richard Dorsett. 2017. HMP Peterborough Social Impact Bond – cohort 2 and final cohort impact evaluation. National Institute for Economic and Social Research, <https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/633243/peterborough-social-impact-bond-cohort-2-results-report.pdf> (Accessed August 18, 2018).
- Barman, Emily. 2015. Of principle and principal: Value plurality in the market of impact investing. *Valuation Studies* 3: 9-44.
- Barman, Emily. 2016. *Caring capitalism: The meaning and measure of social value in the market*. New York: Cambridge University Press.

- Baumol, William J., and Wallace E. Oates. 1988. *The theory of environmental policy*. Cambridge: Cambridge University Press.
- Bessy, Christian, and Pierre-Marie Chauvin. 2013. The power of market intermediaries: From information to valuation processes. *Valuation Studies* 1 (1): 83-117.
- Boltanski, Luc, and Laurent Thévenot. 2006. *On justification. Economies of worth*. Princeton: Princeton University Press.
- Bowen, Frances, and Bettina Wittneben. 2011. Carbon accounting: Negotiating accuracy, consistency and certainty across organisational fields. *Accounting, Auditing & Accountability Journal* 24: 1022-36.
- Callon, Michel, ed. 1998. *The laws of the markets*. Oxford: Blackwell.
- Callon, Michel. 2009. Civilizing markets: Carbon trading between in vitro and in vivo experiments. *Accounting, Organizations and Society* 34: 535-48.
- Carbon Market Watch. 2015. Towards a global carbon market. Prospects for linking the EU ETS to other carbon markets (Carbon Market Watch Report), <https://carbonmarketwatch.org/wp-content/uploads/2015/05/NC-Towards-a-global-carbon-market-report_web.pdf> (Accessed August 18, 2018).
- Chiapello, Ève. 2015. Financialisation of valuation. *Human Studies* 38: 13-35.
- Chiapello, Ève. 2018. The work of financialisation. In *The making of finance*, ed. Marc Lenglet, Isabelle Chambost and Yamina Tadjeddine, 192-200. London: Routledge.
- Chiapello, Ève, and Gaëtan Godefroy. 2017. The Dual Function of Judgment Devices. Why Does the Plurality of Market Classifications Matter? *Historical Social Research* 42 (1): 152-88. doi: [10.12759/hsr.42.2017.1.152-188](https://doi.org/10.12759/hsr.42.2017.1.152-188).
- Coase, Ronald H. 1937. The nature of the firm. *Economica* 4: 386-405.
- Coase, Ronald H. 1960. The problem of social cost. *Journal of Law and Economics* 3: 1-44.
- Dales, John H. 1968. *Pollution property and prices: An essay in policy-making and economics*. Toronto: University of Toronto Press.
- Davies, William. 2014. *The limits of neo-liberalism: Authority, sovereignty and the logic of competition*. London: Sage.
- Davies, William. 2015. *The happiness industry: How the government & big business sold us wellbeing*. London: Verso.
- Davies, William. 2017. Die ökonomische Kritik des Rechts. Der Fall der Chicagoer Kartell-Revolution. In *Dispositiv und Ökonomie. Diskurs- und dispositiv-analytische Perspektiven auf Märkte und Organisationen*, ed. Rainer Diaz-Bone and Ronald Hartz, 233-58. Wiesbaden: Springer VS.
- Demsetz, Harold. 1996. The core disagreement between Pigou, the profession, and Coase in the analyses of the externality question. *European Journal of Political Economy* 12: 565-79.
- Desrosières, Alain. 2003. Managing the economy: The State, the market and statistics. In *The Cambridge history of science. Vol 7.: Modern social and behavioural sciences*, ed. Theodore M. Porter and Dorothy Ross, 553-64. Cambridge: Cambridge University Press.
- Desrosières, Alain. 2011. Words and numbers. For a sociology of the statistical argument. In *The mutual construction of statistics and society*, ed. Heidi M. Lomell, Svein Hammer and Ann R. Saetnan, 41-63. London: Routledge.

- Diaz-Bone, Rainer. 2016. Convention Theory, Classification and Quantification. *Historical Social Research* 41 (2): 48-71. doi: 10.12759/hsr.41.2016.2.48-71.
- Eymard-Duvernay, François, and Laurent Thévenot. 1986. L'économiste et son modèle. In *Conventions économiques*, ed. Laurent Thévenot, 129-50. Paris: PUF.
- Ellerman, A. Denny, Barbara Buchner, and Carlo Carraro. 2007. *Allocation in the European emissions trading scheme. Rights, rents and fairness*. Cambridge: Cambridge University Press.
- Espeland, Wendy N., and Mitchell L. Stevens. 1998. Commensuration as a social process. *Annual Review of Sociology* 24: 313-43.
- Emerson, Jed. 2003. The blended value proposition: Integrating social and financial returns. In *California Management Review* 45: 35-51.
- Engels, Anita. 2006. Market creation and transnational rule-making: The case of CO₂-emissions trading. In *Transnational Governance. Institutional Dynamics of Regulation*, ed. Marie-Laure Djelic and Kerstin Sahlin-Andersson, 329-48. Cambridge: Cambridge University Press.
- Engels, Anita, Knoll, Lisa, and Martin Huth. 2008. Preparing for the 'Real' Market: National Patterns of Institutional Learning and Company Behaviour in the European Emissions Trading Scheme (EU ETS). *European Environment* 18 (5): 276-97.
- Fariello, Frank, Laurence Boisson de Chazournes, and Kevin E. Davis. 2016. *The World Bank Legal Review. Volume 7. Financing and Implementing the Post-2015 Development Agenda: The Role of Law and Justice Systems*. Washington D.C.: International Bank for Reconstruction and Development/ The World Bank.
- Favereau, Olivier. 1989. Marchés internes, marchés externes. *Revue économique* 40 (2): 273-328.
- Foucault, Michel. 2010. *The birth of biopolitics. Lectures at the Collège de France, 1978-1979*. London: Palgrave Macmillan.
- Geiger, Susi, Debbie Harrison, Hans Kjellberg, and Alexandre Mallard. 2014. *Concerned markets: Economic ordering for multiple values*. London: Edward Elgar.
- Guriev, Sergei, and Daniel Treisman. 2015. *The new authoritarianism*. VOX, CEPR Policy Portal, March 21, 2015. <<https://voxeu.org/article/new-authoritarianism>> (Accessed October 16, 2018).
- Gustafsson-Wright, Emily, Sophie Gardiner, and Vidya Putcha. 2015. *The potential and limitations of impact bonds lessons from the first five years of experience worldwide*. Brookings. Global Economy and Development Program. Washington D.C. <<https://www.brookings.edu/wp-content/uploads/2015/07/impact-bonds-web.pdf>> (Accessed October 16, 2018).
- Halpern, David, Dominic King, Ivo Vlaev, and Michael Hallsworth. 2010. *Mindspace. Influencing behaviour through public policy*. UK Cabinet Office, Institute for Government. London. <<https://www.instituteforgovernment.org.uk/sites/default/files/publications/MINDSPACE.pdf>> (Accessed October 16, 2018).
- Hayek, Friedrich A. 1960. *The constitution of liberty: The definitive edition*. Chicago: University of Chicago Press.
- Holden, Meg. 2010. The rhetoric of sustainability: Perversity, futility, jeopardy? *Sustainability* 2: 645-59.

- Jiang, Tingsong. 2001. Earmarking of pollution charges and the sub-optimality of the Pigouvian tax. *The Australian Journal of Agricultural and Resource Economics* 45 (4): 623-40.
- Jones, Rhys, Jessica Pykett, and Mark Whitehead. 2013. *Changing behaviours. On the rise of the psychological state*. Cheltenham: Edward Elgar.
- Jorgenson, Dale W., Richard J. Goettle, Mun S. Ho, and Peter J. Wilcoxon. 2013. *Double dividend: Environmental taxes and fiscal reform in the United States*. Cambridge, MA: MIT Press.
- Kahneman, D, Paul Slavic, and Amos Tversky, eds. 1982. *Judgment under uncertainty: Heuristics and biases*. Cambridge: Cambridge University Press.
- King, Gary, Jennifer Pan, and Margaret E. Roberts. 2017. How the Chinese government fabricates social media posts for strategic distraction, not engaged argument. *American Political Science Review* 111 (3): 484-501.
- Knoll, Lisa. 2014. Die Kontinuierung des Emissionshandels. Ein öffentlicher Kompromiss und seine Bruchstellen. *Finanzmarktpublika. Moralität, Krisen und Teilhabe in der ökonomischen Moderne*, ed. Andreas Langenohl and Dietmar J. Wetzel, 53-73. Wiesbaden: Springer VS.
- Knoll, Lisa. 2015. The Hidden Regulation of Carbon Markets. *Historical Social Research* 40 (1): 132-49. doi: [10.12759/hsr.40.2015.1.132-149](https://doi.org/10.12759/hsr.40.2015.1.132-149).
- Le Grand, Julian. 2011. Quasi-market versus state provision of public services: Some ethical considerations. *Public Reason* 3: 80-9.
- Levin, Peter, and Wendy N. Espeland. 2002. Pollution futures: commensuration commodification and the market for air. In *Organizations, policy, and the natural environment: institutional and strategic perspectives*, ed. Andrew J. Hoffman and Marc J. Ventresca, 119-47. Stanford, CA: Stanford University Press.
- MacKenzie, Donald A. 2009. *Material markets. How economic agents are constructed*. Oxford: Oxford University Press.
- Marty, Frédéric. 2015. Towards an Economics of Convention-Based Approach of the European Competition Policy. *Historical Social Research* 40 (1): 94-111. doi: [10.12759/hsr.40.2015.1.94-111](https://doi.org/10.12759/hsr.40.2015.1.94-111).
- Mirowski, Philip, and Dieter Plehwe. 2009. *The road from Mont Pèlerin: The making of the neoliberal thought collective*. Cambridge, MA: Harvard University Press.
- Morales, Jérémy, Yves Gendron, and Henri Guénin-Paracini. 2014. State privatization and the unrelenting expansion of neoliberalism: The case of the Greek financial crisis. *Critical Perspectives on Accounting* 25 (6): 423-45.
- Neyland, Daniel. 2017. On the transformation of children at-risk into an investment proposition: A study of Social Impact Bonds as an anti-market device. *The Sociological Review* 66 (3): 492-510. doi: [10.1177/0038026117744415](https://doi.org/10.1177/0038026117744415).
- Nicholls, Alex. 2014. Filling the capital gap: Institutionalizing social finance. In *Social enterprise: Accountability and evaluation around the world*, ed. Simon Denny and Fred Seddon, 161-95. London: Routledge.
- Nicholls, Alex, and Emma Tomkinson. 2015. The Peterborough pilot social impact bond. In *Social Finance*, ed. Alex Nicholls, Rob Paton and Jed Emerson, 335-80. Oxford: Oxford University Press.
- Nye, Michael, and Susan Owens. 2008. Creating the UK emissions trading scheme: Motives and symbolic politics. *European Environment* 18: 1-15.
- Pearce, David. 1991. The role of carbon taxes in adjusting global warming. *The Economic Journal*: 938-48.

- Pedersen, Sigurd Lauge. 2000. The Danish CO₂ emissions trading system. *Reciel* 9 (3): 223-31.
- Pigou, Arthur C. 1912. *Wealth and welfare*. London: Macmillan.
- Pigou, Arthur C. 1920. *The economics of welfare*. London: Macmillan.
- Pigou, Arthur C. 1949 [1928, 1947]. *A study in public finance*. London: Macmillan.
- Pigou, Arthur C. 1954. Some aspects of the welfare state. *Diogenes* 2 (7): 1-11.
- Posner, Richard. 1973. *Economic analysis of law*. Boston: Little, Brown.
- Pykett, Jessica. 2017. *Brain culture. Shaping policy through neuroscience*. Bristol: Policy Press at the University of Bristol.
- Pykett, Jessica, Rhys Jones, and Mark Whitehead, eds. 2016. *Psychological governance and public policy. Governing the mind, brain and behaviour*. London: Routledge.
- Reisch, Lucia A. 2018. *Behavioural public policy – groundwork and questions*. Invited Talk at the Nationaløkonomisk Forenings årsmøde 2018, Kolding Fjord, January 13, 2018. <http://nof.econ.ku.dk/media/1111/luciareisch_kf2018.pdf> (Accessed October 16, 2018).
- Skjærseth, Jon Birger, and Jørgen Wettestad. 2008. *EU emissions trading: Initiation, decision-making and implementation*. Aldershot: Ashgate.
- Social Impact Investment Taskforce. 2014. *Impact investment: The invisible heart of markets. Harnessing the power of entrepreneurship, innovation and capital for public good*. Established under the UK's presidency of the G8. <<https://impactinvestingaustralia.com/wp-content/uploads/Social-Impact-Investment-Taskforce-Report-FINAL.pdf>> (Accessed November 14, 2018).
- Social Finance Limited. 2015. *Investing to tackle loneliness*. A discussion paper. London. <https://www.socialfinance.org.uk/sites/default/files/publications/investing_to_tackle_loneliness.pdf> (Accessed July 13, 2018).
- Storper, Michael, and Robert Salais. 1997. *Worlds of production. The action framework of the economy*. Cambridge, MA: Harvard University Press.
- Sunstein, Cass R. 2016. *The ethics of influence. Government in the age of behavioral science*. Cambridge: Cambridge University Press.
- Sunstein, Cass, and Richard H. Thaler. 2003. Libertarian paternalism is not an oxymoron. *The University of Chicago Law Review* 70: 1159-202.
- Svendsen, Gert T. 1999. The idea of global CO₂ trade. *European Environment* 9: 232-7.
- Thaler, Richard, and Cass Sunstein. 2008. *Nudge: Improving decisions about health, wealth, and happiness*. New Haven, CT: Yale University Press.
- Thévenot, Laurent. 1984. Rules and implements: investment in forms. *Social Science Information* 23 (1): 1-45.
- Tse, Allison E., and Mildred E. Warner. 2018. The razor 's edge: Social impact bonds and the financialization of early childhood services. *Journal of Urban Affairs*, May 14, 1-17. doi: 10.1080/07352166.2018.1465347.
- UK Cabinet Office. 2014. *What works? Evidence for decision makers*. What works network. <https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/378038/What_works_evidence_for_decision_makers.pdf> (Accessed July 13, 2018).
- UK Government. 2012/2017. *Knowledge box. Guidance on developing a social impact bond*. <<https://assets.publishing.service.gov.uk/government/uploads/>

- system/uploads/attachment_data/file/646733/Knowledge_Box_Guidance_on_developing_a_SIB.pdf> (Accessed November 14, 2018).
- UK National Audit Office. 2015. *Outcome-based payment schemes: Government's use of payment by results*. London. <<https://www.nao.org.uk/wp-content/uploads/2015/06/Outcome-based-payment-schemes-governments-use-of-payment-by-results.pdf>> (Accessed October 14, 2018).
- Whitehead, Mark, Rhys Jones, Rachel Howell, Rachel Lilley, and Jessica Pykett. 2014. *Assessing the global impact of the behavioural sciences on public policy. Nudging all over the World*. UK: Economic and Social Research Council.