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## **Identifying barriers towards a post-growth economy – a political economy view**

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## Identifying barriers towards a post-growth economy – a political economy view

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**Abstract:** In this paper, we take a political economy perspective on barriers that inhibit a transition beyond the growth-paradigm – that is, we frame transition barriers as looming distributional conflicts. Within the current paradigm, distributional conflicts are mitigated via economic growth. Hence, the solution of these distributional conflicts is a prerequisite for a successful transition. Specifically, we analyze three examples of transition barriers. First, unemployment represents the most commonly cited reason why economic growth is considered indispensable. Second, pension schemes rely on economic growth to offset demographic change. Third, alternative indicators to Gross Domestic Product (GDP) have not succeeded in replacing GDP as a standard metric of economic welfare. In each of these three examples, we identify actor-interest constellations that foster the status quo. We conclude that compensating those actors who would presumably be worse off due to a transition beyond the growth paradigm may be inevitable to mitigate and overcome the distributional effects to be triggered by the transition.

## 1 Introduction

A puzzle: some of the proposals circulated within the degrowth-movement draw on well-known and rather uncontroversial arguments and yet they find only scant implementation in practice. Consider working time reduction (WTR, e.g. Pullinger 2014, Zwickl et al. 2016). In 1930, Keynes had famously asserted his expectation that within hundreds years the average work week would be reduced to fifteen hours; also, his fellow economist John Hicks in 1946 declared WTR a useful means of avoiding “secular unemployment” (cited in Bosch and Lehdorff 2001: 210 ); and Ludwig Erhard, generally credited as the father of Germany’s “economic miracle” in the 1950s and 1960s, assumed that the day where increases in leisure would be preferred to increases in material consumption would inevitably arrive (Erhard 1957: 233). Nevertheless, productivity gains in the last decades have mostly been translated in increased income as the average usual weekly hours worked on the main job in the OECD still stand at 40.4 in 2016.<sup>1</sup> For another example, recall the persistence of gross domestic product (GDP) as the leading indicator informing policy guidelines around the world – a widely acknowledged misuse of a metric that merely records output. For instance, the Stiglitz-Sen-Fitoussi commission, assigned by then French president Sarkozy stated: “it has long been clear that GDP is an inadequate metric to gauge well-being over time particularly in its economic, environmental, and social dimensions, some aspects of which are often referred to as *sustainability*” (Stiglitz et al. 2009: 8, emphasis in original). But even though numerous alternatives to GDP have been designed, none of them has dethroned GDP in practice. So why have such seemingly broadly appealing causes as WTR and replacing GDP not been implemented on a much wider basis?

A recent paper on barriers for alternative indicators to GDP (Bleys and Whitby 2015) points to a number of possible reasons for inertia, such as context (e.g., financial crisis), the alternative indicators themselves (e.g., lack of standardized methodology) and user factors (e.g., distrust of monetary aggregation). Even though these factors may be relevant, they do not inform a crucial question, to wit: *which actor-interest constellations foster the status quo?* Regarding this issue, the literature on transitions to sustainability and degrowth displays a gap. For instance, proponents of the dominant conceptual framework to analyse sustainability transitions, the Multi-Level-Perspective, have only recently acknowledged the need to pay more attention to the destabilization of current system configurations (Geels 2014); still, Geels et al. (2017: 1244) suggest that innovation policies, in contrast to environmental taxes, obviate the need to “impose costs on many voters and industries”. Overall, regime resistance and politico-economic barriers have not been at the focus of the transition literature (see also Strunz 2014, de Jesus and Mendonça 2018). This negligence may potentially backfire in that there is lot of “preaching to the choir” (van den Bergh 2011: 886) – that is, specific proposals persuade only post-growth advocates, but yield no substantial progress in terms of identifying and overcoming transformation barriers. An exception in the literature is Buch-Hansen (2018), who proposes general prerequisites for a degrowth paradigm shift from a transnational historical materialism view; yet, this still leaves the need to identify obstacles in specific contexts (ibid.: 162),

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<sup>1</sup> In the very long run, since the apex of industrialization, full time work weeks have become much shorter (Bosch and Lehdorff 2011: 214ff.) whereas in the last decades they have only incrementally declined – from 42.1 hours in 1983 to 40.4 hours in 2016, which implies a four percent decrease over thirty years. By comparison, productivity across the OECD – measured in GDP per hour worked – has increased by 20 percent between 2000 and 2015; accordingly, keeping total GDP constant would have allowed reducing working time by 17 percent since the turn of the millennium alone. (source for OECD working time data: <https://stats.oecd.org/Index.aspx?DataSetCode=ANHRS>; for productivity data see: <https://data.oecd.org/lprdy/gdp-per-hour-worked.htm>).

For instance, insofar as the post-growth transition restricts the exploitation of environmental resources, it will face severe political resistance regarding the redistribution of resource rents. The environmental economics literature has long emphasized that, though environmental taxes or tradable resource permits will often lead to an increase in overall welfare, these instruments might fail to establish a Pareto-improvement, as producers and consumers of environmentally damaging goods will be worse-dispositioned (e.g. Buchanan and Tullock 1975; Downs 1973; Fullerton 2011; Jenkins 2014). Consequently, environmental policy usually not only induces substantial rent seeking activities but also runs the risk of being blocked or disfigured by well-organized interest groups. Therefore, in order to develop politically feasible (i.e., democratically legitimated) approaches for environmental protection, various mechanisms to compensate potential disadvantaged parties have been proposed, some of which have seen application in practice (e.g. Bovenberg 2001; Gersbach and Requate 2004; Fischer 2001; Frederiksson and Sterner 2005; Sterner 2006).

Nevertheless, a transition not only restricting natural resource use but also potentially (or even intentionally) cropping economic growth rates is likely to face additional resistance from those who currently profit from GDP-growth – any increase in overall welfare due to reduced pollution, less working hours or decreased consumption based on status competition notwithstanding. Still, the degrowth-related literature sidelines such compensation approaches, calling for radical breaks with institutional structures (e.g. Deriu 2012, Klein 2014). Thus, we find a somewhat paradoxical situation: the degrowth-movement hopes for radical institutional renewal whereas specific proposals that enjoy widespread support, such as WTR and alternative indicators to GDP, do not find much application in practice. Moreover, it remains open whether and how those institutions, which many degrowthists would like to keep, can be adapted to a post-growth economy. For instance, Demaria et al. (2013: 203) argue that “some form of social security and public health, public kindergarten and schools, or some other elements of the welfare state” need “to be defended” – but they are silent on what this demand might entail more specifically.

This, in turn, is the starting point of present paper: it aims to identify relevant actor-interest constellations that inhibit the transformation beyond the growth paradigm. In principle, all actors profiting from GDP-growth should be taken into account. Our basic presumption is that in order to understand the persistence of the growth paradigm, an identification of these politico-economic transformation barriers is indispensable. To do so, we employ a political economy perspective (see Mueller 2003). This perspective centers on the self-interest of all actors involved in the political process in representative democracies – voters, politicians, interest groups and bureaucrats. Based on this perspective, we analyze three specific examples of transition barriers. First, unemployment represents the most commonly cited reason why economic growth is considered indispensable since without overall growth of economic output, productivity gains increase unemployment. Second, pension schemes rely on economic growth to offset demographic change. Third, alternative indicators to GDP have not succeeded in replacing GDP as a standard metric of economic welfare. In each of these three examples, we rely on the political economy perspective to identify actor-interest constellations that prolong the status quo.

Against the background of these examples, the following question arises: how to achieve sufficient consent of those actors whom the ‘turn of the tide’ caused by a post-growth transition would leave worse off?<sup>2</sup> In short, there will be no transition without addressing distributional conflicts. Assuming

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<sup>2</sup> This is not to say that economic growth necessarily makes everyone better off: the political economy perspective also implies that private interests can be framed and disguised under the trickle-down narrative that

that these conflicts are to be mitigated in a peaceful and democratically legitimated way, compensation may be one (but not the only) inevitable consequence where persuasion does not succeed. As we will see, the arising cleavages are more complex than “capital vs. labor” or “the 1% vs. the 99%”. While reduction of economic inequality may represent an important cornerstone of transition policies, the transition also pins different regions, different generations or different administrations against each other. Thus, the present paper seeks to remind post-growth proponents that the transition requires more than the collection and elaboration of techniques that will formally result in a sustainable rate of material throughput (e.g., Daly 2017:101). Rather, deliberate strategies to overcome political economy barriers to change have to be developed.

The rest of this paper is structured as follows. Section 2 outlines the conceptual framework by introducing the basic assumptions of the political economy perspective and providing a working definition of post-growth economy. Based on this framework, Section 3 analyzes which actor-interest constellations inhibit the post-growth transition within the three examples of unemployment, pension schemes and alternatives to GDP. Finally, Section 4 discusses the results.

## 2 Conceptual Framework

### 2.1 Political Economy

As conceptual framework, this paper draws on the assumptions of the political economy literature. This perspective focuses on the self-interest of different actor groups within institutional settings as main explanatory variable for the societal allocation of rents: through the co-evolution of actor groups and institutions, the well-organized actors obtain more rents at the expense of the less-organized actors. In Buchanan’s (1984) words, the political economy perspective comes down to a “politics without romance” view. More specifically, the following assumptions are made regarding the rationale of actor groups in representative democracies:

- *Voters* decide rationally; that is, they aim at maximizing the expected income which they can derive under the future government. To do so, they cast their votes comparing different election platforms (Downs 1957). To be sure, non-monetary issues such as environmental preferences may also form part of voter’s interest. However, the hypothesis of self-interest-driven voting behavior finds some empirical corroboration: for instance, Scruggs and Benegal (2012) demonstrate that the publicly perceived importance of climate mitigation declined in the wake of the financial and economic crisis, as a result of which economic concerns exceeded environmental concerns.
- *Interest groups* engage in rent-seeking. That is, they aim to influence regulation in their favor. Different interest groups compete in this quest, for instance via public campaigns and direct lobbying of politicians. Eventually, well-organized interest-groups succeed in steering rents in their direction; they do so at the expense of the wider public and their less well organized competitors (Olson 1971, Stigler 1971).
- *Politicians* act as transfer brokers between different interest groups. They allocate rents so as to maximize stakeholder support and thereby maximize their chance of electoral success (McCormick and Tollison 1981). Certainly, the politicians’ own ideological motivations also play a role (e.g., Peltzman 1976); yet ideology is not to be thought of as ‘prior’ or somehow

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growth naturally benefits everyone. Empirically, the benefits from economic growth have been highly unevenly distributed in the past (e.g., Dabla-Norris et al. 2015, Piketty 2014).

more fundamental than self-interest but rather as a complementary driver (self-interest may also be disguised as ideology). Overall, interests, ideas and institutions are to be seen as interdependent (May and Jochim 2013).

- *Bureaucracy*, far from representing a simple executive body, pursues its own agenda (Niskanen 1971). Bureaucrats do not just implement policies – on the contrary, they also follow their self-interest, aiming at increasing their competencies both as regards the conception of policies and budgetary discretion. Different ministries compete for regulatory influence, executive power and budget.

These assumptions, for instance, explain why environmental interests are commonly disadvantaged compared to well-organized interest groups from different industry sectors (Kirchgässner and Schneider 2003). Such well-organized interest groups may succeed in regulatory capture, thereby making environmental policy inadequate and inefficient (Kollmann and Kirchgässner 2010, see also Dal Bó 2006).

How can the political economy framework be justified in the context of this paper – given that the degrowth movement aims to replace “the culture of greed [that] proliferated both in the private and public sectors as the unrestrained pursuit of short-term self-interest” (Kallis et al. 2012: 173)? Three reasons speak in favor of the political economy perspective. First, although the degrowth vision is often associated with more communal forms of democracy, the actual policy proposals discussed in the degrowth literature, “are national top-down approaches, focusing on government as a major driver of change, rather than local bottom-up approaches” (see the systematic literature review by Cosme et al. 2017: 321). So understanding the barriers for degrowth policies requires an apt explanatory framework for policy formation in representative democracies – such as the political economy perspective. Second, and more generally, in order to overcome transformation barriers, the mechanisms of current political systems need to be accounted for (even if they are to be criticized from a normative point of view): “The political process cannot be assumed away if we are to actually make the transition to sustainability” (Klitgaard 2013: 280). Third, self-interest constitutes a fundamental category of human behavior whose relevance transcends the growth paradigm: thus, deliberative accounts of democracy, as often favored within the degrowth movement, also need to come to terms with “constrained self-interest” and coercive power in democratic processes (Mansbridge et al. 2010).<sup>3</sup>

## 2.2 Beyond the growth paradigm

In the following, we provide a sketch of what we mean by “post-growth transformation”. We prefer the term “post-growth”, which is very popular in the German-speaking countries (e.g. Paech 2012, Seidl and Zahrt 2010) to “degrowth”, the most obvious alternative. This is not only because the prefix “post-” indicates the aim of going *beyond* the current paradigm, but also for two substantial reasons. First, degrowth comprises a heterogeneous range of positions, some of which radically oppose the institutions of democratic capitalism and explicitly call for revolutionary system change (see Asara et al. 2013, as well as the empirical study of attendants to the 2014 degrowth-conference by Eversberg and Schmelzer 2017). By comparison, this paper remains committed to a more reformist perspective, essentially asking what it would take to leave the growth paradigm behind, given the

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<sup>3</sup> “The regulative ideal of absent power in deliberative interactions prescribes reducing to a practical minimum the threat of sanction and the use of force against another’s interests” (Mansbridge et al. 2010: 82).

prevailing democratic settings.<sup>4</sup> Second, we concur with van den Bergh (2011: 889) that, while downsizing of the economy may be the inevitable *result of* adequate sustainability policies, it is “at best blunt, ineffective and inefficient” as a sustainability policy by itself: degrowth sidelines the composition of economic systems as a crucial instrument insofar as it frames downscaling as the only instrument ‘that does the job’ of reducing material throughput. In the same vein, Daly (2017: 85) warns us not to confound “reallocation with aggregate growth. There are generally always possibilities of better allocation – more of something desired in exchange for a reduction of something less desired”.

Thus, the perspective advanced here basically follows van den Bergh’s (2011, 2017) plea for agnosticism with respect to economic growth. A tentative characterization of a post-growth economy (or “a-growth”, as suggested by van den Bergh – ultimately, terminology is not decisive here) might refer to three specific features or conditions:

- (1) material throughput is in line with ecological limits,
- (2) GDP does not inform major policy decisions,
- (3) productivity gains are translated into decreasing material throughput and into more leisure until condition (1) is satisfied.

We take (1) to be the basic tenet of ecological economics, so we will not elaborate on it any further. (2) implies that GDP has ceased to attract much interest, possibly with the exception of a small group of economic statisticians who record the output of the economy. The broad lines of economic, social and environmental policies orient themselves towards broader indicators of sustainable well-being (Costanza et al. 2014). Emphatically, (3) presupposes that productivity gains will on average *not* be absent in a post-growth economy – on the contrary, reorganizations and qualitative development represent a desirable feature of an economy in line with ecological limits (Daly 2017). Without improvements in productivity, only stagnation remains. In a sense, as pointed out by Aldred (2009: 66), it can be regarded as an artifact of the GDP indicator that it registers (3) as non-growth. Summing up, a post-growth economy, in our view, exhibits increases in productivity but not in material throughput.

Connecting this miniature sketch together with the theoretical approach outlined in the preceding subsection puts analytical focus on the distributional consequences of a post-growth transition. Within the growth paradigm income generating structures have evolved that crucially depend on the continuous increase of material wealth: There are business models specialized in growing markets or in the growth-driven increase of asset values, policy entrepreneurs whose electoral success is closely tied to the increase of income of their electorate and bureaucracies whose budgets and political influence might shrink in the face of a post-growth economy’s tighter environmental regulation. Accordingly, post-growth induced structural changes to the composition of the economy may not unfold Pareto-neutrally. Furthermore, some post-growth policy strategies might directly reduce income for some, irrespective of growth rates. For example, a more equal distribution of work means

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<sup>4</sup> Broader institutional change may well be normatively desirable and form part of a post-growth transition, yet this issue lies beyond the scope of the present paper. We do not follow those degrowthists who rule out the compatibility of representative democracies and degrowth in the first place and who assert that the growth paradigm has completely undermined democracy: for instance, Deriu (2012: 56) disparagingly refers to the “so-called democratic countries” where “citizens are in fact at the mercy of immense and impersonal powers”.



less material goods for those who work less. All redistributions face potential resistance from those who will be worse off.

In order to get a more precise picture of the emerging conflict lines, we now turn to three specific case studies. In each of these our aim is to identify actor-interest constellations that impede a post-growth transition.

### 3 Case Studies

#### 3.1 Unemployment

One of the most widely shared political talking-point says that economic growth is needed to combat unemployment. And in fact, broad empirical evidence attests to a negative correlation between growth and unemployment in market economies: when aggregate demand and output fall, this is usually accompanied by a rise of the unemployment rate (e.g., Lee 2000; Sögner and Stiassny 2002). The degree of responsiveness of the unemployment rate to output varies from country to country, but overall, the relationship is so stable that economists refer to it as “Okun’s law” (see Ball et al. 2013). What creates this relationship? While one possible causal direction is that decreased employment leads to a reduction in labor supply and thus in output growth, the relationship can also point into the other direction and be interpreted as a “productivity trap” of market economies (Jackson and Victor 2011): If continuously increasing labor productivity implies that less and less labor is needed to produce the same amount of goods and services, than, *ceteris paribus*, output growth is necessary to avoid a rise in unemployment.

As long as income from labor is a key mechanism of distribution of wealth, a post-growth perspective poses the question of whether and how this productivity trap can be overcome since a simple reduction in growth rates might severely increase unemployment (Victor 2008). Jackson and Victor (2011: 140-144) point towards two options (Antal 2014 reviews other possible routes, which, however, are not judged fruitful in the end): first, working time reduction (WTR) may help to distribute work more evenly. Second, a structural shift towards low-productivity sectors like nursing, education or volunteer work could slow down or even reverse the trend of rising average labor productivity and with it the specter of post-growth unemployment.

Especially the idea of a substantial WTR has found a positive echo within the post-growth literature (e.g., Antal 2014; Cosme et al. 2017; Kallis et al. 2012, 2014; Martínez-Alier et al. 2010; Passadakis 2015; Pullinger 2014). Levy (2017:316) has even labeled WTR as „the iconic reform for the degrowth movement“. However, ignoring the question marks regarding whether WTR is suitable for effectively limiting economic output or consumption (Du et al. 2013; Keizer 2011:49 ff.; Pullinger 2014: 12 f.),<sup>5</sup> respective policy measures risk to further accentuate the cleavage between high and low income workers. On the one hand, high income workers might profit from a shift from work to leisure, as higher occupational functions like lawyers tend to work longer than they would do according to their own preferences (Estevão and Sá 2008:4 ff.). Collectively binding working hour reductions would thus end a classic prisoner’s dilemma and result in higher overall utility for this group as marginal utility from work income and leisure converges.

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<sup>5</sup> Some empirical studies rather indicate, that welfare might actually decrease due to the deterioration of working conditions, as often employers do not hire additional workers in response to WTR-policies but instead simply increase work intensity for the unchanged staff (Hayden 2006:529; Keizer 2011:150).

On the other hand, workers with low hourly wage can rather be expected to opt for long work hours in order to raise sufficient income. A mandatory and blanket working time reduction policy then risks distorting individual allocation of time between work and recreation and might yield severe budget problems for low income households. Even if this is not the case – for example, when only future productivity gains are translated into WTR, thus keeping income constant –, a reduction of working time is, *ceteris paribus*, likely to increase the disparities between low and high income workers as the former might not gain as much utility from increased leisure due to income constraints or less favorite working conditions often accompanying their work. As Hayden (2006: 529) notes in his evaluation of the 35 hour week in France: „For some employees, WTR opened up new leisure opportunities including more short-term travel, while for others with insufficient incomes and less predictable schedules, it could mean more idle time in France’s dreary working-class suburbs”. Therefore, it is not surprising that acceptance of the WTR-induced income reduction is higher in high income brackets (Hayden 2006:529). If, alternatively, WTR is introduced as a voluntary option, it can be expected that especially those with high hourly wages will opt for reduced hours. In this scenario, rising income inequality is simply replaced by rising leisure inequality (Pullinger 2014:17).

Acceptance of WTR policy-measure might even further decline as firms sometimes use this occasion to crop labor rights (e.g., Levy 2017:316), which is one reason why labor unions have opposed such changes in the past (e.g., Keizer 2011:150; Levy 2017:314). Thus, in addition to the potential conflict between low- and high income workers, struggles between employers and employees are to be expected. Even if working conditions remain unchanged, securing consent with many workers, conflicts with employers might arise because the employment of part time workers usually means additional administrative and transaction costs for firms (Zwickl et al. 2016: 249). In general, business interest groups prefer fewer employees with longer hours and, therefore, tend to object to WTR (Pullinger 2014:17).

The remedy sometimes offered especially to the problem of increasing inequality within the workforce is a higher hourly wage for low income workers (Hayden 2006:529; Pullinger 2014: 16) or even the preservation of the full income (Passadakis 2015:105). However, if this is directly facilitated by wage increases, prices will rise, and, in consequence, demand, output and employment will fall (Antal 2014: 282; Estevao and Sá 2008:3f; Hunt 1999). This “lump-of-labor fallacy” (Estevao and Sá 2008:3) and resistance by entrepreneurs against higher wages (e.g. Hayden 2006: 504) might be circumvented if income compensation is established via public subsidies. The vast extent of subsidies necessary to compensate for a substantial WTR, however, would constrain public spending in other areas and thus create alternative conflicts.

The second proposal to prevent rising unemployment in a post-growth society (e.g., Jackson and Victor 2011), shifting labor to low productivity sectors (e.g. personal services like nursing), is also riddled with conflict potential. If wages in the low-productivity sectors remain low, more and more workers will find themselves in relatively low paying jobs compared to those in high-productivity sectors. Then again, employers in the low-productivity sectors need to pay wages that are competitive with the rest of the economy so as to avoid losing staff. Thus, these sectors face what is called Baumol’s cost disease (Baumol 2012): the *relative* costs of personal services rise (e.g. Bates and Santerre 2013 on the health sector) compared to the costs of other goods and services. This tendency is often misinterpreted as rising *absolute* costs of services, including public ones, though, as Aldred (2009: 68-75) points out, personal services actually tend to get cheaper in terms of hours worked to produce the same output. Nevertheless, increasing pressure on politicians by advocates of a lean government is to be expected because the state is a major supplier of personal services. In other words,

if more and more teaching and nursing activities are carried out on behalf of the government, already existing tensions between opponents and supporters of the welfare state will increase. Overall, structural shifts to the low-productivity sector are hampered, either by rising income inequality or by Baumol's cost disease.

In sum, distributional issues impede the two main strategies to combat unemployment in a post-growth economy. WTR risks new cleavages between different groups of workers, employers and employees as well as between the workforce and the workless. A shift toward the low-productivity sector needs to overcome vested interest-driven pressure against increasing social welfare budgets.

### **3.2 Pension schemes**

In a nutshell, existing pension schemes rely on economic growth to offset demographic change. As pensions are to be understood as claims on future output (e.g., Barr 2004), demographic change in the form of ageing populations means that meeting these claims becomes more difficult: pensioners can consume only those goods and services that are produced and provided by the currently working generations. Against this background, a growing economy permits the distribution of goods and services towards the growing older generations while easing the additional burden on the younger generations. The crucial issue, therefore, is how to cope with demographic change without growth?

The two most common pensions schemes are pay-as-you-go (PAYG) schemes and funded schemes. In PAYG-schemes the currently young generations directly finance the pensions of the current retirees. By implication, the effects of demographic ageing are completely transparent: economic growth is necessary to avoid pension reductions or increases of the younger generations' contributions. In funded schemes, pensions are financed from capital accumulation in pension funds. This is another way of saying that pension funds are explicitly based on real economic growth (assuming that financial assets reflect real forms of capital). In the context of low- or zero growth, returns on investments will be lower compared to the fund managers' expectations at the time when future pensions were calculated. "Consequently, pension funds offering defined-benefit promises and life insurance companies that have sold products with high-return guarantees may have difficulty fulfilling these promises" (Antolin et al. 2011: 238). As a result, pension funds may seek higher yields via riskier investments, that is, they may engage in "gambling for redemption" (ibid.: 239). And indeed, empirical evidence demonstrates that pension funds tend to high risk investments in a low-interest environment (Boubaker et al. 2017). Pension funds may also strategically invest in emerging countries with a younger age structure, thereby offsetting demographic trends – yet this possibly raises ethical concerns in case investments are not adequate to stimulate sustainable local development so that effectively young and poor populations finance old and rich populations (Höpflinger 2010). In principle, pension funds might be adapted to a post-growth economy by anticipating lower returns and gearing investments towards sustainable development (see Della Croce et al. 2011). But it seems clear that the working logic of current pension funds combined with the overall trend to extend such schemes impede rather than facilitate the prospects of a post-growth transition (Seidl and Zahrnt 2016).

Overall, the double challenge of demographic ageing and post-growth transition means that either pensioners will have to receive less/work longer and/or contributions of the working generations will have to rise. Which specific actor-interest constellations inhibit such adaptations? First, the older generations as voters can lobby against pension reductions or longer working times. High participation rates of elderly voters in elections, combined with rising life expectancy entails a strong impact on public policy – Sinn and Übelmesser (2002) even predict a "path to gerontocracy". Empirically, the

elderlies' electoral preferences for generous pension systems, and, in consequence, their impact on agenda setting and social policy making, have been clearly demonstrated (e.g., Campbell 2003, Bonoli and Häusermann 2009). As one example of politicians' catering to the interests of elderly voters, consider the German Conservative Party's promotion of a "mothers' pension" (*Mütterrente*) during the run-up to the German federal election in 2013. The measure, which constituted one of the Conservatives' main campaign pledges, revolved around an extended re-imbusement for child care times. Following the Conservatives' electoral victory, the measure has been implemented, its cost being borne by those currently paying pension contributions and by pensioners that do not have a child born before 1992 (see Bach et al. 2014).

While demographic ageing and lower electoral participation rates imply a weaker and less well organized representation of the younger generations' interests (compared to elderly voters)<sup>6</sup>, these interests also find a very well-organized ally: the interest groups of the business and industry sector lobby against increased pension contributions by the working population. These interest groups object to any increases in labor costs, among them higher pension contributions. Hence, pension contributions are regularly framed as a "drag on competitiveness". For instance, a position paper by *BusinessEurope*, a lobby group representing enterprises and national business federations in Europe, explicitly argues that a main goal of pension reforms should lie in sustaining economic growth: one of *BusinessEurope's* "key messages" on pension schemes says that the latter should be continuously reformed in order to ensure their financial viability and "to avoid negative impacts on economic growth" (*BusinessEurope* 2012: 1). Similarly, the "Initiative New Social Market Economy", a think tank funded by the German employers' association of the metal and electrical industries, lobbies against "pension gifts" and calls for an upper limit on social security contributions which are said to not only put a strain on the working population but also on the competitiveness of many enterprises (*INSM* 2015, *Pellengahr* 2017).

Against this background, politicians who aim for (re-)election and intend to minimize interest group resistance, have the clear incentive to increase tax-funding of pensions, particularly PAYG schemes. Tax-funding enables burying distributional effects between generations within the wider tax framework. So not surprisingly, this route is already well-trodden: tax-funding already accounts for roughly a third of Germany's pension budget (see *Seidl and Zahrnt* 2016). At times, tax-funded programs targeting the elderly, such as Medicare (a healthcare program for people over 65) in the US, are extended, "even as other programs for the poor are cut" (*Campbell* 2003: 2).

Summing up, a post-growth transition would not introduce novel challenges to pension schemes. Rather a post-growth transition would aggravate the already existing pressures on pension schemes due to demographic ageing and the recent trend toward "secular stagnation" with excess savings, low growth and low interest rates (*IMF* 2016). As a result, age can be expected to further intensify as a distributional conflict line and tax-funding of PAYG schemes will increase. Moreover, pension fund managers that have relied on high returns from investments on capital markets in the past will not be in favor of post-growth strategies; they are likely to call for government bailouts to meet the promises incurred in defined-benefit schemes.

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<sup>6</sup> However, the working age population may resort to a number of evasion strategies so as to minimize pension contributions, so part of the burden of demographic ageing might fall on pensioners (see *Breyer and Stolte* 2001).

### 3.3 Alternative indicators replacing GDP

The limitations of GDP as a reliable indicator for happiness or even material wealth have been widely and for quite some time acknowledged, not only in the post-growth movement. Kuznet as one of the main architects of the US national accounting system already pointed in the 1930s to the indicator's severe limitations (Costanza et al. 2009: 7 f.).

Nevertheless, despite several well developed alternatives (Costanza et al. 2014; van den Bergh and Antal 2014), GDP continues to be the dominant measure for economic progress; hence, GDP growth constitutes a key figure for political success. Technical issues like data availability and methodological flaws in some alternative indicators may provide some explanation for GDP's persistence (Bleys and Whitby 2015). Yet technical issues do not suffice as an explanation. Instead, political economy barriers are likely to account for crucial inertia.

Generally speaking, substituting alternative welfare indicators for GDP creates resistance by those benefitting from GDP as lead indicator. First and foremost, this concerns politicians. Two different motives for resistance can be distinguished: For one, those politicians forming the government and its supporting parties might face a critical re-evaluation of their current performance or political legacy once another indicator is used. As some studies have shown, including environmental damages and other neglected welfare aspects into the national welfare accounting yields far less favorable results than GDP often does and sometimes even indicates decreasing wealth in comprehensive terms (e.g., Kubiszewski et al. 2013). Any government deciding to replace GDP thus might severely damage its chances for reelection. It may be no coincidence, therefore, that the former French president Sarkozy initiated a report on alternative welfare indicators when growth-predictions in terms of GDP were quite unfavorable (van den Bergh 2017: 201 f).

A second, similar reason for politicians not to abandon GDP could be that a re-evaluation of their policies undermines their relative power position within the political system. The failed initiative to launch a Green GDP in China in 2006 provides a vivid example: Li and Lang (2009) and Steinhardt and Jiang (2007) have reported that the once promising reform project, which had already been successfully tested at selected regions, was eventually scrapped due to fierce resistance by local politicians. With the Green GDP results drawing nigh at a nationwide level, including data for every region, many local cadres were confronted with an imminent loss of political influence and prestige as their regional economic performance would have been rated more negatively while other regions would suddenly be better off.

Local politicians, however, were not the only source of resistance against accounting reforms: The case of China's atrophied Green GDP initiative illustrates that also within the bureaucracy struggles emerged. Li and Lang (2009: 54) cite a leading engineer of the Chinese State Environmental Protection Agency with the point of view that the agency's frictions with the National Bureau of Statistics contributed even more to the reform's failure than the resistance by local cadres. In the end, the authors conclude that "discordance over the [Green GDP] report's technicalities and content, in a sense, seem to be only a façade, disguising the more fundamental local resistance and their organised lobbying efforts at the central level" (ibid.).

While in this case both administrative units appear to have rather acted as proxies for various political agents in the background (ibid, p. 56), it is easily conceivable that public agencies interfere on their own accord. If sustainability inspired post-growth policies lead to more stringent and wide-ranging environmental policy measures, ministries responsible for environmental protection will probably enjoy greater competencies and budgets, as it is well known that assigning these tasks to agencies with

different foci will compromise their success (e.g., Schucht et al. 2001: 272 f.). This competence shift implies a relative decline of influence and possibly also budgets of traditionally predominant ministries (e.g. of finance or commerce), which, therefore, possess an incentive obstruct alternative accounting measures (Bleys and Whitby 2015: 168;). What is more, in case the national accounting procedure, which usually is not in the environmental ministry's domain, remains in the competency of a potential loser of the reform, the responsible bureaucrats have ample opportunities to thwart the transformation process by using technical difficulties as a pretext. The above mentioned classification of the discussion of the Chinese Green GDP report's details as a 'façade' exemplifies this risk.

Alternative indicators to GDP also face other challenges. Interest groups from polluting industries can be expected to oppose "green" indicators insofar as these indicators might trigger stricter regulation of the dirty sectors of an economy. For instance, in 1994 a green accounting proposal in the US "was killed by the coal industry" (Costanza et al. 2014: 285). Moreover, on the international level, countries that have unsustainably depleted their natural capital will be averse to green GDP-alternatives. By comparison, countries whose ranking would improve under a green indicator might welcome a switch. Such inter-country comparisons might be particularly relevant as government debt, usually measured in GDP per capita, is rising worldwide:<sup>7</sup> with rising absolute debt levels, GDP needs to grow if debt/GDP per capita is to remain constant. Replacing GDP with alternative indicators, therefore, would provoke resistance from those countries whose debt ratio is set to deteriorate under an alternative indicator.

In sum, the persistence of GDP as a lead indicator for policy decisions cannot be put on technical issues alone. Rather, the GDP indicator is tied to the self-interest of a range of actors: bureaucracies, governments and interest groups on different scales benefit from it, either directly because they are actively involved in administering the indicator or indirectly because their relative position (power, economic ranking,...) would worsen if alternative indicators were used.

#### 4 Discussion

Regarding China's failed attempt to green its GDP, Li and Lang (2009:57) conclude that 'In light of these intricate [political economy] challenges, the fate of the green GDP study, as Chinese commentators have also noted, was almost predestined to failure'. This illustrates the main argument put forward here: If distributional conflicts are neglected, post-growth policy proposals are likely to remain politically anemic. Within the three case studies analyzed above, distributional conflicts arise in different ways, suggesting different remedies:

In the first case study, unemployment, WTR and a structural shift toward the low-productivity sector constitute the two primary options to prevent increases in unemployment. Yet these measures may entail tensions between high and low income workers, between workers of certain sectors, between employers and employees, or between the working and the non-working population. The behavioral phenomenon of loss aversion suggests that these tensions will arise specifically if one group faces income losses compared to the *status quo* (cf. Barberis 2013). Therefore, one possible solution may consist in limiting WTR policies to translating only *future* productivity gains into leisure: such more gradual – capping instead of cropping – policies might be less prone to being interpreted as material losses and could turn out more palatable.

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<sup>7</sup> For instance, see <https://data.worldbank.org/indicator/GC.DOD.TOTL.GD.ZS>

Regarding the second case study, pension schemes, the prospect of a post-growth transition would exacerbate existing challenges due to demographic ageing. In general, age may be the most relevant cleavage in distributional conflicts around the welfare state (Bonoli and Häusermann 2009). Against this background, already observed tendencies towards tax-funding of pensions can be expected to thrive: tax-funding probably represents the least resistance-provoking way to mitigate the distributional generational cleavage – if at the price of concealing and dodging the actual distributive issues at hand.

The third case study illustrates that a shift from GDP toward alternative indicators of welfare is likely to worsen the relative ranking and/or political influence of some actors. Consent of these actors might require compensation and/or some form of face-saving opportunity insofar as non-pecuniary losses, e.g. in terms of prestige, occur. For instance, a region whose GDP is heavily tied to the depletion of natural resources needs a plausible scenario how to economically adapt and culturally re-invent itself under a post-GDP framework.<sup>8</sup>

The diversity of distributional issues notwithstanding, we might derive some general propositions from our analysis. First, contrary to ‘traditional’ conflicts of environmental policy, distributional battles amplified or ignited by post-growth policies will not be limited to natural resource users. Rather, a variety of interest constellations might emerge, depending on reactions of the political or economic system to these policies. Sometimes, as the case of China’s failed Green GDP experiment illustrates, not all conflicts can be readily anticipated. Second, the arising cleavages will also be more complex than “capital vs. labor”: for instance, conflict lines may sort along regional, administrative or generational lines. By implication, redistributive measures to limit income and wealth inequality (albeit necessary) will not be sufficient to facilitate a post-growth transition. Third, pecuniary redistribution may not be easily available or may not suffice. For example, the loss of political power or prestige can hardly be fully substituted for by subsidies. In addition to that, some policies, like WTR or choosing an alternative national accounting indicator, simply do not generate any revenue that can be distributed. Though the shift towards a post-growth economy might constitute a Pareto-improvement, increased welfare resulting from more leisure or less work related stress does not yield any pecuniary outcome. Therefore, fourth, the post-growth transition is likely to involve rising public budgets (e.g., wage subsidies, increased social security spending). This concerns both intended measures, such as implementing a structural shift towards sectors with low labor productivity, and politico-economic side-effects, such as tax-financing of pension schemes.

In conclusion, the political economy view is essential for mapping feasible transformation pathways. The status quo of unsustainable growth benefits a wide range of actors that can be expected to obstruct any post-growth agenda. Therefore, strategies to mitigate this resistance have to be formulated if such an agenda is to succeed. These mitigation strategies might be normatively unappealing in some respects: the very opponents of a sustainable post-growth transformation might have to be compensated. Then again, the examples above caution us not to caricature the opposition as ‘greedy capitalists’ but rather to consider legitimate interest groups such as labor unions or pensioners.

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<sup>8</sup> Consider the example of the Lausitz region in East Germany where lignite mining is structurally important for an otherwise weak regional economy. Germany will need to gradually phase out coal power plants if it wants to meet its climate protection targets. A coal phase-out, in turn, will have strong distributional effects (overall, it is projected to incur redistributions of about 70bn € Hecking et al. 2016), which will be particularly negative for regions such as the Lausitz where lignite is – so far – the only relevant industry.

This already indicates the potential scale of resistance against post-growth policies. Recently, the challenge to limit climate change has been compared to the abolition of slavery in the 19<sup>th</sup> century: the owners of fossil resources will be stripped of several trillions dollars in wealth, a magnitude similar to the economic consequences of expropriating US slave owners at that time (Hayes 2014, Klein 2014).. The example of slavery demonstrates both the challenge's extent and possible ways out: in the US, the abolitionist movement, which threatened the South's slave economy, was one important factor for the South's secession from the Union, and, in consequence, the American Civil War (e.g., Weingast 1998). In the UK, however, the Slavery Abolition Act 1833 compensated slave owners and thus ensured a peaceful transition (ibid.).

A considerate and politically promising post-growth movement will, therefore, have to address the looming conflicts of the desired transition. As we have argued, this necessitates economic reforms (e.g., WTR) as well as compensations (e.g., to low-wage earners or natural resource owners). Of course, if available, preventing conflicts in the first place might be preferable.<sup>9</sup> Regarding compensations, securing political majorities and thus democratic legitimacy in the face of limited public budgets inevitably relies on popularizing the mostly non-pecuniary benefits of the transition (e.g., more leisure, improved environment). So both cultural change and compensation to opposing interests will be required for a post-growth transformation to succeed in an open democratic society.

## Literature

- Aldred, J. (2009). *The Skeptical Economist: Revealing the Ethics Inside Economics*. London: Eartscan.
- Antal, M. (2014). Green goals and full employment: Are they compatible? *Ecological Economics* 107: 276-286.
- Antolin, P., Schich, S., Yermo, J. (2011). The economic impact of protracted low interest rates on pension funds and insurance companies. *OECD Journal: Financial Market Trends* 2011/1. <http://dx.doi.org/10.1787/fmt-2011-5kg55qw0m56l>
- Asara, V., Profumi, E., Kallis, G. (2013). Degrowth, Democracy and Autonomy. *Environmental Values* 22: 217-239.
- Bach, S., Buslei, H., Coppola, M., Peter Haan, J. (2014). Die Verteilungswirkungen der Mütterrente. *DIW Wochenbericht* 20/2014: 447-456.
- Barberis, N.C. (2013). Thirty Years of Prospect Theory in Economics: A Review and Assessment. *Journal of Economic Perspectives* 27(1): 173-196.
- Barr, N. (2004). *The Economics of the Welfare State* (4<sup>th</sup> ed.), Oxford: Oxford University Press.
- Bates, L.J., Santerre, R.E. (2013). Does the U.S. health care sector suffer from Baumol's cost disease? Evidence from 50 states. *Journal of Health Economics* 32(2): 386-391.

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<sup>9</sup> For example, in order to prevent the Green GDP initiative from falling victim to regional power struggles, the Chinese central government finally decided not to publish any data on regional performances in order to conceal the relative gains and losses (Li / Lang 2009: 52). While this concession apparently was too late to stop the already released turmoil, restricting the Green GDP report to the aggregate numbers at the national level in the first place might have contributed to a more favorable outcome of the project.



- Baumol, W. (2012): *The Cost Disease. Why Computers Get Cheaper and Health Care Doesn't*, New Haven: Yale University Press.
- Bleys, B., Whitby, A. (2015): Barriers and opportunities for alternative measures of economic welfare, *Ecological Economics* 117: 162-172.
- Bonoli, G., Häusermann, S. (2009). Who wants what from the welfare state? Socio-structural cleavages in distributional politics: evidence from Swiss referendum votes. *European societies* 11(2): 211-232.
- Bosch, G., Lehndorff, S. (2001): Working-time reduction and employment: experiences in Europe and policy recommendations. *Cambridge Journal of Economics* 25: 209-243.
- Boubaker, S., Gounopoulos, D., Nguyen, D.K., Paltalidis, N. (2017). Assessing the effects of unconventional monetary policy and low interest rates on pension fund risk incentives. *Journal of Banking and Finance* 77: 35-52.
- Bovenberg, A.L., Goulder, L.H. (2001): Neutralizing the Adverse Industry Impacts of CO2 Abatement Policies: What Does It Cost?, in: Carraro, C.; Metcalf, G. E. (Hg.): Behavioral and distributional effects of environmental policy (A National Bureau of Economic Research conference report), Chicago, pp. 45–90.
- Bovenberg, A.L., Goulder, L.H., Gurney, D.J. (2005): Efficiency Costs of Meeting Industry-Distributional Constraints Under Environmental Permits and Taxes, in: *Rand Journal of Economics* 36 (4): 951–971.
- Breyer, F., Stolte K. (2001): Demographic change, endogenous labor supply and the political feasibility of pension reform. *Journal of Population Economics* 14(3): 409-424.
- Buchanan, J., Tullock, G. (1975): Polluters' Profits and Political Response: Direct Controls versus Taxes, in: *American Economic Review* 65: 139-147.
- Buchanan, J. (1984): Politics without romance: a sketch of positive public choice theory and its normative implications. In: Buchanan, J., Tollison, R. (Eds.), *The Theory of Public Choice – II*. Ann Arbor: Michigan University Press, pp. 11–22.
- Buch-Hansen, H. (2018): The Prerequisites for a Degrowth Paradigm Shift: Insights from Critical Political Economy. *Ecological Economics* 146: 157-163.
- Campbell, A.L. (2003): *How policies make citizens: Senior political activism and the American Welfare state*. Princeton: Princeton University Press.
- Cosme, I., Santos, R., O'Neill, D. (2017): Assessing the degrowth discourse: A review and analysis of academic degrowth policy proposals. *Journal of Cleaner Production* 149: 321-334.
- Costanza, R., Hart, M., Posner, S., Talberth, J. (2009): Beyond GDP: The Need for New Measures of Progress; *Pardee Papers* 2009 No. 4.
- Costanza, R., Kubiszewski, I., Giovannini, E., Lovins, H., McGlade, J., Pickett, K., Ragnarsdottir, K., Roberts, D., De Vogli, R., Wilkinson, E. (2014). Time to leave GDP behind. *Nature* 505: 283-285.
- Dabla-Norris, E., Kochhar, K., Suphaphiphat, N., Ricka, F., Tsounta, E. (2015). Causes and Consequences of Income Inequality: A Global Perspective. *International Monetary Fund Discussion Note*. <https://www.imf.org/external/pubs/ft/sdn/2015/sdn1513.pdf>

- Dal Bó, E. (2006). Regulatory Capture - A Review. *Oxford Review of Economic Policy* 22: 203-225.
- Daly, H. (2017). A new economics for our full world. In: Victor, P., Dolter, B., *Handbook of Growth and Sustainability*. Cheltenham: Edward Elgar, pp. 85-106.
- de Jesus, A., Mendonça, S. (2018). Lost in Transition? Drivers and Barriers in the Eco-innovation Road to the Circular Economy. *Ecological Economics* 145: 75-89.
- Della Croce, E., Kaminker, C., Stewart, F. (2011). The role of pension funds in financing green growth initiatives. *OECD Working Papers on Finance, Insurance and Private Pensions*, No. 10. OECD Publishing, Paris.
- Deriu, M. (2012). Democracies with a future: Degrowth and the democratic tradition. *Futures* 44: 553-561.
- Downs, Anthony (1957): *An economic theory of democracy*. New York: Harper.
- Downs, A. (1973): *The Political Economy of Improving our Environment*, in: Bain, J. S. (Ed.): *Environmental Decay: Economic Causes and Remedies*, Boston.
- Du, Z., Yin, H.,; Zhang, L. (2013): The macroeconomic effects of the 35-h workweek regulation in France. *B.E. Journal of Macroeconomics* 13(1): 881–901.
- Erhard L. (1957). *Wohlstand für Alle*. Düsseldorf: Econ-Verlag.
- Estevão, M., Sá, F. (2008): The 35-Hour Workweek in France: Straight Jacket or Welfare Improvement?, *Economic Policy* 23(55): 417-463.
- Eversberg, D., Schmelzer, M. (2017). The degrowth spectrum: convergence and divergence within a diverse and conflictual alliance. *Environmental Values*, forthcoming.
- Fischer, C. (2001): *Rebating Environmental Policy Revenues: Output-Based Allocations and Tradable Performance Standards*. Resources for the Future, Washington D.C. (Resources for the Future Discussion Paper, 01-22).
- Fredriksson, P.G., Sterner, T. (2005): The political economy of refunded emissions payment programs: *Economics Letters* 87 (1): 113–119.
- Fullerton, D. (2011): Six distributional effects of environmental policy: Risk analysis : an official publication of the Society for Risk Analysis 31 (6): 923–929.
- Geels, F.W. (2014): Regime resistance against low-carbon transitions: introducing politics and power into the multi-level perspective. *Theory, Culture and Society* 31(5) doi: 10.1177/0263276414531627.
- Geels, F.W., Sovacool, B.K., Schwanen, T., Sorrell, S. (2017): Sociotechnical transitions for deep decarbonization. Accelerating innovation is as important as climate policy. *Science* 357(6357): 1242-1244.
- Gersbach, H., Requate, T. (2004): Emission taxes and optimal refunding schemes: *Journal of Public Economics* 88 (3-4): 713–725.

- Hayden, A. (2006): France's 35-Hour Week: Attack on Business? Win-Win Reform? Or Betrayal of Disadvantaged Workers? *Politics & Society*, 34(4): 503-542.
- Hayes, C. (2014). The New Abolitionism. *The Nation*, April 22.
- Hecking, H., Kruse, J., Paschmann, M., Polissadov, A., Wildgrube, T. (2016). Ökonomische Effekte eines deutschen Kohleausstiegs auf den Strommarkt in Deutschland und der EU. ewi Energy Research & Scenarios, Cologne.
- Höpflinger, F. (2010). Alterssicherungssysteme vor doppelter Herausforderung von demographischer Alterung und Postwachstum. In: Seidl, I., Zahrt, A.: *Postwachstumsgesellschaft. Konzepte für die Zukunft*. Marburg: Metropolis, pp. 53-62.
- IMF (International Monetary Fund) (2016). *Global Financial Stability Report. Fostering Stability in a Low-Growth, Low-Rate Era*. Washington, October 2016.
- INSM (Initiative New Social Market Economy) (2015). *INSM-Position: Regulierung & Belastung*. [www.insm.de/insm/Publikationen/positionen/belastungen.html](http://www.insm.de/insm/Publikationen/positionen/belastungen.html) (accessed July 19, 2017).
- Jackson, T., Victor, P., (2011): Productivity and work in the 'green economy'. Some theoretical reflections and empirical tests: *Environmental Innovation and Societal Transitions* 1: 101–108.
- Jenkins, J. D. (2014): Political economy constraints on carbon pricing policies: What are the implications for economic efficiency, environmental efficacy, and climate policy design?, *Energy Policy* 69: 467–477.
- Kallis, G., Demaria F, D'Alisa, G.; Demaria, F. (2014) Introduction: degrowth. In: D'Alisa G, Demaria F, Kallis G (eds) *Degrowth: A vocabulary for a new era*. London: Routledge.
- Kallis, G., Kerschner, C., Martinez-Alier, J. (2012): The economics of degrowth, in: *Ecological Economics* 84: 172-180.
- Keizer, A.B. (2011): Non-regular Employment in the Netherlands, in: Japan Institute for Labour Policy and Training: *Non-regular Employment. Issues and Challenges Common to the Major Developed Countries*. 2011 Seminar on Non-Regular Employment, JILPT Report No. 10, Tokyo, <http://www.jil.go.jp/english/reports/documents/jilpt-reports/no.10.pdf>.
- Klein, N. (2014): *This Changes Everything. Capitalism vs. the Climate*. New York: Simon & Schuster.
- Kirchgässner, G., Schneider, F. (2003). On the Political Economy of Environmental Policy. *Public Choice* 115: 369-396.
- Knotek, E.S., II (2007): How Useful is Okun's Law?, in: *Economic Review of the Federal Reserve Bank of Kansas City*, fourth quarter 2007: 73-103.
- Kollmann, A. Kirchgässner, G., (2010). Why does environmental policy in representative democracies tend to be inadequate? A preliminary public choice analysis. *Sustainability* 2: 3710-3734.
- Klitgard, K. (2013): Heterodox political economy and the degrowth perspective. *Sustainability* 5: 276-297.
- Krutilla, K., Krause, R. (2010): Transaction Costs and Environmental Policy: An Assessment Framework and Literature Review, *IRERE* 4 (4): 261–354.

- Kubiszewski, I., Costanza, R. et al. (2013): Beyond GDP: Measuring and achieving a global genuine progress, *Ecological Economics* 93: 57-68.
- Lee, J., (2000): The Robustness of Okun's law: Evidence from OECD countries. *Journal of Macroeconomics* 22: 331-356.
- Levy, A. (2017): Prometheus unwound: shorter hours for sustainable degrowth, in: Victor, P.A.; Dolter, B. (Eds.): *Handbook on Growth and Sustainability*, Cheltenham: Edward Elgar, pp. 303-325.
- Li, V., Lang, G., (2009): China's "Green GDP" Experiment and the Struggle for Ecological Modernisation, *Journal of Contemporary Asia* 40(1): 44-62.
- Mansbridge, J., Bohman, J., Chambers, S., Estlund, D., Follesdal, A., Fung, A., Lafont, C., Manin, B., Martí, J.L. (2010). The place of self-interest and the role of power in deliberative democracy. *The Journal of Political Philosophy* 18(1): 64-100.
- Martínez-Alier, J., Pascual, U., Viven, F.-D., Zaccai, E. (2010): Sustainable de-growth: Mapping the context, criticisms and future prospects of an emergent paradigm. *Ecological Economics* 69: 1741-1747.
- May, P.J., Jochim, A.E. (2013). Policy regime perspectives: policies, politics, and governing. *Policy Studies Journal* 41: 426-452.
- McCormick, R.E., Tollison, R.D. (1981). *Politicians, Legislation and the Economy: An Inquiry into the Interest-Group Theory of Government*. Boston: Martinus-Nijhoff.
- Mueller, D.C. (2003): *Public Choice III*. 3rd edition. Cambridge: Cambridge University Press
- Niskanen, W.A. (1971): *Bureaucracy and Representative Government*. Chicago: Aldine-Atherton.
- Olson, M. (1971): *The Logic of Collective Action: Public Goods and the Theory of Groups*, Second Printing with New Preface and Appendix. Revised. Harvard: Harvard University Press.
- Paech, N. (2012): *Liberation from Excess: The road to a post-growth economy*. München: Oekom Verlag.
- Passadakis, A. J. (2015): Arbeit in der Postwachstumsökonomie. Wir senken das Bruttosozialprodukt. *Politische Ökologie* 125: 102-106.
- Pellengahr, H. (2017). Die Wahlgeschenke zahlen unsere Kinder. INSM Press statement, May 30, 2017. <http://www.insm.de/insm/Presse/Pressemeldungen/IW-Studie-Sozialabgaben.html> (accessed July 19, 2017)
- Peltzman, S. (1976): Toward a more general theory of regulation. *Journal of Law and Economics* 19: 211-240.
- Piketty, Thomas (2014): *Capital in the Twenty-First Century*. Cambridge: Cambridge University Press.
- Pullinger, M. (2014): Working time reduction policy in a sustainable economy: criteria and options for its design. *Ecological Economics* 103: 11-19.
- Schucht, S., Bültmann, A., Eames, M., Lulofs, K. (2001). Implementation of the European Municipal Waste Incineration Directive (89/429/EEC): Lessons from four Member States: *European Environment*, 11(5): 265-280.

- Scruggs, L., Benegal, S., (2012). Declining public concern about climate change: can we blame the great recession? *Global Environmental Change* 22: 505–515.
- Seidl, I., Zahrnt, A. (2010). *Postwachstumsgesellschaft. Konzepte für die Zukunft*. Marburg: Metropolis.
- Seidl, I., Zahrnt, A. (2016). Transformation in eine Postwachstumsgesellschaft. In: Held, M., Kubon-Gilke, G., Sturm, R.: *Normative und institutionelle Grundfragen der Ökonomik. Jahrbuch 15*. Marburg: Metropolis, pp. 237-262.
- Sinn, H.W., Übelmesser, S. (2002). Pensions and the path to gerontocracy. *European Journal of Political Economy* 19: 153-158.
- Sögner, L., Stiassny, A. (2002): An Analysis on the Structural Stability of Okun's Law – A Cross-Country Study. *Applied Economics* 14: 1775-1787.
- Steinhardt, H.C., Jiang, Y. (2007): The Politics of China's "Green GDP". *China Aktuell – Journal of Current Chinese Affairs*, 36(5): 25-39.
- Sterner, T., Höglund Isaksson, L. (2006): Refunded emission payments theory, distribution of costs, and Swedish experience of NOx abatement. *Ecological Economics* 57 (1): 93–106.
- Stigler, George J. (1971): Theories of Economic Regulation. *Bell Journal of Economics* 2: 3-21.
- Stiglitz, J.E., Sen, A., Fitoussi, P. (2009). Report by the Commission on the Measurement of Economic Performance and Social Progress.
- Strunz, S. (2014): The German energy transition as a regime shift. *Ecological Economics* 100: 150-158.
- van den Bergh, J.C. (2011): Environment versus growth – A criticism of „degrowth“ and a plea for „a-growth“. *Ecological Economics* 70: 881-890.
- van den Berg, J.C. (2017): Green agrowth: removing the GDP-growth constraint on human progress, in: Victor, P.A.; Dolter, B. (Eds.): *Handbook on Growth and Sustainability*, Cheltenham: Edward Elgar, pp. 181-212.
- van den Bergh, J., Antal, M. (2014): Evaluating Alternatives to GDP as Measures of Social Welfare/Progress, WWC for Europe Working Paper, No. 56.
- Victor, P. (2008): *Managing Without Growth. Slower by Design, Not Disaster*. Cheltenham: Edward Elgar.
- Weingast, B. (1998). *Constructing Trust: The Politics and Economics of Ethnic and Regional Conflict*. in: Haufler, V., Soltan, K., Uslaner, E. (eds.) *Institutions and Social Order*. Ann Arbor: University of Michigan Press.
- Zwickl, K., Disslbacher, F., Stagl, S. (2016): Work-sharing for a sustainable economy. *Ecological Economics* 121: 246-253.