Ecological Economics 235 (2025) 108640

Contents lists available at ScienceDirect

Ecological Economics

journal homepage: www.elsevier.com/locate/ecolecon

ANALYSIS

Sustaining power through economic growth: A *Régulation* theory of growth dependence

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ARTICLE INFO

Keywords:
Growth dependence
Growth imperative
Régulation theory
Power relations
Institutionalised compromises
Degrowth
Capitalism
Secular stagnation

ABSTRACT

Economic growth is both essential and detrimental to modern Global North societies. When growth disappears, or becomes negative, debt overhang, unemployment, impoverishment destabilise societies. But ecological fallout from growth can also undermine societies in the long term. So why and how are economies and societies dependent on growth? Many scholars have conceptualised growth dependence as the need to achieve growth to serve general wellbeing and economic functioning. In this article, we take a different view considering growth as a part of social reproduction, arguing that growth dependence emerges when growth is needed to reproduce a stable regime of power relations. We operationalise this approach using *Régulation* Theory, a political economy framework anchored in but expanding Marxist political economy, and aimed at explaining how capitalism manages to reproduce itself despite its contradictions. We show that economic institutions and institutional systems (in the language of *Régulation* theory, structural forms and modes of regulation) depend on growth because they crystallise certain balances of power within so-called "institutionalised compromises". An economic institution may require varying levels of growth to reproduce itself, depending on the type of compromises it embeds. We propose that, in a given national economy, combinations and interactions between such institutions shape the overall character of growth dependence. *Régulation* Theory enables us to build a bottom-up analysis - from institutions to the national economy - of growth dependence. This novel conceptualisation opens new and fruitful research opportunities for understanding growth dependence.

1. Introduction

Economic growth in most of Global North countries is no longer synonymous with social progress. This is because global growth cannot be decoupled from environmental degradation, energy and material use at a quick enough pace to avert ecological collapse (Ward et al., 2016; Schandl et al., 2018; Wiedenhofer et al., 2020; Hickel and Kallis, 2020; Vogel and Hickel, 2023). Further, growth becomes relatively inefficient in improving wellbeing above a certain income level (Kubiszewski et al., 2013; Wilkinson and Pickett, 2010; Jackson, 2011). Growth could also be harder to achieve (see "secular stagnation": Lavoie and Stockhammer, 2013; Clark, 2016). Whereas growth may no longer be (environmentally) sustainable, (socially) relevant or (economically) possible, the problem is that negative growth is unstable (Jackson, 2011). *When growth stops […] the edifice starts trembling. Debts cannot be paid, credit runs out and unemployment skyrockets* (Kallis, 2011). Recessions and depressions lead to rising inequality and social tensions that can undermine democracy (Schmelzer, 2015). These eventualities may explain why growth is considered a necessity and a core objective of economic policy.

The concept of growth dependence (GD) and its associated concept of growth imperative (GI) refer to the need for a socioeconomic system, as a whole or part of it, to achieve economic growth. Many argue that GD emerges from institutions such as, e.g., competition, which leads to a "grow or die" imperative for firms and markets (e.g., Blauwhof, 2012); the welfare state and the need for growth to fund increasing costs related to an aging population and the Baumol cost disease (e.g., Corlet Walker et al., 2021, 2024); or the job market and the need to tame unemployment despite productivity gains (e.g., Rezai et al., 2013). Monetary creation via lending has also been deemed to lead to a "monetary growth imperative" (e.g., Loehr, 2012), although post-Keynesian scholarship challenged this contention and restricted it to situations of net positive

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https://doi.org/10.1016/j.ecolecon.2025.108640
Received 1 July 2024; Received in revised form 31 March 2025; Accepted 11 April 2025
Available online 16 April 2025
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savings (e.g., Cahen-Fourot and Lavoie, 2016). These concepts enable an investigation into the origins of the need for growth and are thus key theoretical tools with which to explore ways to move beyond the trap of seemingly indispensable but ecologically damaging growth.

This paper addresses four limitations in the current literature. First is the lack of what we could call a *realist* approach to GD, that is one which we would make sense of the need for growth by departing from an ontology of the economy as a field penetrated by power struggles between social groups, each trying to make their interests prevail. Most existing approaches depart from the idea that growth is needed to achieve, either, economic (or economic systems) functioning (e.g., Petschow et al., 2018; Richters and Siemoneit, 2019); population wellbeing (e.g., Corlet Walker and Jackson, 2021); or socio-politico-economic stability (e.g., Stratford, 2020; Richters and Siemoneit, 2019) – with little reference to power dynamics between social groups, and definitely not making them core to their theorisations. To our knowledge, the only exception to this is Cahen-Fourot (2022), who makes capitalist (power) relations the source of a growth imperative. As we show and develop in section 3, GD must be understood as part of social reproduction. GD emerges from (some) power relations, a key point that previous literature has not centred on.

Second, the literature lacks an adequate conceptual scheme to distinguish precisely the concept of GD from the one of GI. To the best of our knowledge, the only distinction existing infers that GI would entail existential consequences for the systems at stake (e.g. Richters and Siemoneit, 2019), while GD presupposes only negative, but not existential, consequences (e.g., Janischewski et al., 2024). We deem this distinction insufficient, because it relies on different anticipated external outcomes and does not distinguish internal principles. Moreover, the literature does not converge on this differentiation (e.g. Mayer et al., 2021 and Seidl and Zahrnt, 2021, associate to GD *existential* dependence on economic growth).

Third is the rather static analysis of GD in the literature, in that there is insufficient engagement with the intensity of GDs, i.e. the degree of growth needed, and its propensity to vary through time and space. Cahen-Fourot (2022) for instance points towards the need to develop research on the intensity of GD.

Fourth, there is remarkably little discussion in the literature about how the interaction of institutions shapes the GD of an economy. Typically, each potentially growth-dependent institution is treated as a separate case. van Griethuysen (2010), for instance, focuses on the use of private property as a collateral, Smith (2010), Lawn (2011) and Blauwhof (2012) concern themselves only with competition and the "grow or die" imperative, and Corlet Walker et al. (2024) focus on the welfare state. Others emphasise money and lending (e.g., Kimmich and Wenzlaff, 2022; Cahen-Fourot and Lavoie, 2016).

This paper develops a theoretical framework to address these four limitations. We use *Régulation* Theory (RT), a political economy school of thought offering a theory of social reproduction anchored in and expanding Marxist political economy. RT argues that the substance of a capitalist economy is power relations and antagonisms between classes or social groups, associated with a number of contradictions (in a Marxist sense). We use this ontology to develop a new definition of GD. Regulationists argue that power relations are embedded in and mediated by institutions (in RT language, structural or institutional forms), which can take a variety of forms leading to a variety of institutional systems (in RT language, modes of regulation) across time and space, thus allowing consideration of how different structural forms and modes of regulation affect the intensity of GD across these dimensions. Regulationists theorize how different structural forms interact with each other, giving to the mode of regulation its coherence and shaping the pace and shape of accumulation - again this is a useful basis for thinking of how institutional interaction may shape GD. RT also allows consistent theorization of the difference between GI and GD.

The relevance of RT in the field of degrowth and ecological economics has been earlier identified. Koch and Buch-Hansen (2021) propose that "*to formulate a political economy of the postgrowth era [one] could build on the Régulation theoretical notion of 'institutional forms'*". Durand and Légé (2013) argue that "*the Gramscian–regulationist inheritance of paying accurate attention to institutional forms in shaping macroeconomic dynamics is still much needed in order to explore transition paths beyond growth*". Despite such assertions, RT has rarely been used to explore degrowth topics. To our knowledge, this is limited to Buch-Hansen (2014), who uses RT to theorize degrowth trajectories of different types of capitalism, and to Cahen-Fourot (2022) who leverages *Régulation* concepts to propose a theory of a GI rooted in the fundamental social relations of capitalism, the market and capital-labour relations.

The remainder of the paper is organised as follows: Section 2 provides an introduction to RT; Section 3 proposes a *Régulation* theory of GD, addressing the limitations of the concepts highlighted above; Section 4 proposes a research agenda leveraging RT to further explore GD, theoretically and empirically; Section 5 concludes.

2. Elements of *Régulation* Theory (RT)

RT is a political economy school of thought emerging in the 1970s and founded as a reaction to the "*inability [of the dominant economic theory] to […] give a historical account of economic facts; and […] to express the social content of economic relations, and […] conflicts at work in the economic process*" (Aglietta, 2015: p. 15). Anchored in Marxist political economy, RT's main preoccupation is to understand how capitalism survives despite its contradictions. Hence, RT is a theory of social reproduction: "*To speak of the regulation of a mode of production is to try to formulate in general laws the way in which the determinant structure of a society is reproduced*". (Ibid.: p. 20). RT aims at understanding how the institutional systems of capitalist economies enable, and sometimes disable, the reproduction of capitalist social relations. It seeks to explain the sources of capitalism's stability and crises.

We offer below a partial summary of RT. It is partial because it reflects our own perspective on it. RT is "*a many-sided and in some respects even loose frame*" (Hirsch, 2000). Jessop (1990) counts seven RT schools! We draw especially from the Parisian school, but also the West German school (with the work, notably, of Hirsch) and the work of Jessop (Ibid.), along with a school of thought associated to RT called the neorealist political economy approach, developed by Amable and Palombarini. Our introduction to RT is also partial in the sense that we introduce all basic RT concepts, but by no means do we introduce the theory in all its details. This has been preferred because our aim is not to present the full complexity of RT, but to show its relevance to frame the notion of GD. We opted here for a quite systematic introduction to RT, which we think eases understandability for non-specialists (which we hope this work will reach).

2.1. *From capitalism's contradictions and social antagonisms to accumulation regimes and modes of regulation*

RT departs from a Marxist understanding of the capitalist *mode of production*, which lies in the generalization and dominance of two *fundamental social relations*: the *capital-labour relation* and the *market relation* (Boyer, 1986; Cahen-Fourot, 2022). The working class, excluded from ownership of the means of production, sells its labour power to capitalists and, therefore, is exploited by them (capital-labour relation). Capitalists realise the surplus value produced by labour (labour power can create more value than it receives in wages) by selling commodities in the market (market relation). The structural conflicts between capitalists and workers (capital-labour relation) and among capitalists (market relation) drive capital accumulation: productive investments are indispensable to limit the need for unruly and sometimes organised workers, and to face competition. "*Accumulation is the means whereby the capitalist class reproduces itself*" (Harvey, 2006: p. 36 quoted in Hofferberth, 2025).

Accumulation is a contradictory and jolty process precisely because it derives from structurally conflictual social relations. It results in periodic episodes of unbridled social conflict and crises (cf. Section 2.2). One of the foundational contradictions of capital is between productive forces and capitalist social relations: capitalists competing with each other invest in productivity-enhancing technologies and restrict wages, which leads to a tendency of expanding productive forces but compressing demand, periodically resulting in realisation crises.[1] But a high number of contradictions exist in capitalism. For instance, "*capital is both abstract value in motion (notably in the form of realised profits available for reinvestment) and a concrete stock of already invested time- and place-specific assets*" (a contradiction which can lead to the latter form of capital becoming obsolete before the end of its use life, leading to collective waste and instability), taxation is both "*an unproductive deduction from private revenues […] and a means to finance collective investment and consumption*" (see Jessop, 2013 – this paper provides a longer list of contradictions). Such contradictions are associated with structural antagonisms between "*classes, class fractions and groups*" (Haeusler and Hirsch, 1989) with opposite interests. RT, therefore, argues that social conflicts and crises are the normal state of capitalism. In this perspective, the longevity of capitalism is questioning, and RT seeks to explain it.

It does so by looking at how the effects of contradictions and antagonisms, despite being incompressible, "*can be displaced or deferred*" (Jessop, 2013). This is the role of *institutionalised compromises* and *structural (or institutional) forms*, which mostly operate at national level.

Opposed social groups cannot remain in a permanent state of unbridled conflict, because it is not in their interest (Amable and Palombarini, 2005). In particular, unbridled conflict may jeopardize the domination and reproduction of the capitalist class, which therefore has an interest in taming the class struggles via entering into compromises with its opposing constituencies. If antagonistic social relations can never be fully pacified, such compromises will institutionalise their inherent conflicts by ascribing to them specific (legal) rules, practices and routines, so they are framed in such a way that they remain, as much as possible, compatible with capital accumulation and the domination of the capitalist class. These institutionalised compromises enable spatio-temporal fixes to the contradictions and antagonisms inherent to capitalism (Jessop, 2013). Each compromise may concern different social relations and groups (for instance, capitalists and workers, consumers and producers, lenders and borrowers… the list is indefinite). For instance, a certain compromise will prevail regarding the degree and shape of taxation, of competition, etc.

Institutionalised compromises are established in a balance of power between antagonistic social groups through political mediation (Aglietta, 2015) and other form of representation of interests (e.g., labour and trade unions, taking to the streets, etc.) (Amable and Palombarini, 2005). Such compromises crystallise a certain balance of power prevailing on establishment in a certain institutional configuration (Ibid.). By power, we mean, following Poulantzas (Poulantzas, 1975: p. 107), "*the capacity of a social class to realise its specific objective interests*" in conflictual situations where one class's ability to pursue its interests opposes that of others (Ibid: p. 105).

For instance, the rules of a pay-as-you-go pension system are shaped by bargaining between social groups in a balance of power. The parameters of the system (contribution rates, annuities required before retiring, etc.) will reflect this balance of power. Therefore, for the same social groups, a potentially infinite variety of compromises is possible, reflecting a potentially infinite variety of balances of power.

A structural form is no more than a set of institutionalised compromises relevant to the same area of capitalist social relations. They "*result from struggles, conflicts, and power relationships crystallized in institutionalised compromises*" (Labrousse and Michel, 2017). For instance, "*the rights of employees at work, the collective negotiation of pay rates and social protection are institutionalised compromises*" (Aglietta, 2015: p. 565), and are all parts of the same structural form – the wage-labour nexus (described in the next paragraph). A structural form summaries underlying compromises into coherent aggregations, enabling to describe macrosocial dynamics. While there is an indefinite number of compromises, they are summarised in only five structural forms.[2]

Structural forms come to shape the fundamental social relations of capitalism by "*act[ing] on the law of accumulation in a decisive area*" (Aglietta, 2015: p. 533), through deferring/displacing the underlying contradictions. The five structural forms vary in shape, reflecting the potential variety of the underlying compromises.

First is the *wage-labour nexus* describing the configuration of capital-labour relations expressed through industrial relations, the social division of labour, the determinants of wage income and the living standards of the working class (Boyer, 2015). Second is the *form of competition* outlining the relationships between companies, the intensity of competition and corporate governance (Labrousse and Michel, 2017). Third is the *monetary regime* detailing the rules presiding over money issuance, the banking system, capital allocation, the use of money as a national currency and world money (Jessop, 2013). Fourth is the *form of the state* regulating public spending and revenue (Boyer, 2015) as well as broader state intervention. Fifth is the *international regime* which describes "*trade, investment, monetary and political arrangements that link national economies, nation states, and world system*" (Jessop, 2013), including patterns of unequal exchange and core-periphery dynamics.

Structural forms (and their underlying institutionalised compromises) can only temporarily manage capitalism's contradictions. The antagonisms emerging from its fundamental social relations drive continuous transformations in economic and social parameters, eventually rendering structural forms unable to mediate the underlying antagonisms. Social conflict and crises inevitably and periodically reemerge in capitalism.

Structural forms interact to jointly regulate accumulation. The notions of *compatibility*, *complementarity* and *hierarchy* describe key patterns of interaction across a wider range of possibilities (see Boyer, 2005 for an extensive exploration of interactions between structural forms).

Compatibility means that the joint presence of two structural forms does not jeopardize the power relations they crystallise. For instance, corporatist industrial relations can exist alongside liberalised financial markets, or low state interventionism with oligopolistic markets. Complementarity expresses the idea "*that certain institutional forms, when jointly present, reinforce each other and contribute to improving the functioning, coherence or stability of specific institutional configurations*" (Amable, 2016), and, therefore, of the underlying power relations. For instance, a flexible job market, developed financial markets, and the higher education system of the United States have been found to be complementary in driving accumulation in sectors such as computing and biotechnologies (Amable, 2003). Amable and Palombarini (2005) look at complementarity from the perspective of the ability of structural forms to jointly favour the stabilisation of a dominant social bloc (a notion elaborated in Section 2.3). Hierarchy expresses the idea that "*in order to be sustainable or viable the entity [or structural form] E absolutely needs the presence of another entity E'*" (Boyer, 2005). To sustain itself, a certain power relation in a certain area of capitalist social relations requires another power relation in another area of capitalist social relations. For instance, strong competition in international products

[1] Another way to approach this contradiction between productive forces and social relations is through the tendency of the profit rate to fall (Harvey, 2006 [1982]).

[2] Traditional RT proposes only five structural forms, but the RT framework is flexible enough to accommodate other structural forms. For instance, more recent work have proposed a sixth one, which would result from the social relation with the environment (e.g. Rousseau, 2002). A seventh one regarding gender relation could also be considered.

markets (power relation between capitalists at international level) demands a flexible wage-labour nexus (power relation between national capital and labour) to maintain international competitiveness.

From the multiple possible shapes and interactions of structural forms emerges a diversity of *accumulation regimes* and *modes of regulation*. An accumulation regime is *"a systematic mode of dividing and reallocating the social product, which achieves over a long period a certain match between the transformations of the conditions of production (volume of capital employed, distribution between branches, and norms of production) and transformation in the conditions of final consumption (norms of consumption of wage workers and other social classes, collective expenditures etc.)*". The Fordist accumulation regime, which prevailed in the West from post-WWII until the 1970s, linked productivity growth enabled by standardised methods of production to regular wage increases, creating demand for an expanding supply. This regime was later replaced by a new neoliberal accumulation regime characterised by a competitive wage formation, a key role for credit in demand formation, and strong international competition and capital mobility constraining state autonomy and welfare states (Stockhammer, 2008; Boyer, 2018).

But "*an accumulation regime does not emerge alone*" (Lipietz, 1986): it is supported by a mode of regulation, which is the "*set of mediations which ensure that the distortions created by the accumulation of capital are kept within limits compatible with social cohesion within each nation*" (Aglietta, 1998). A mode of regulation enables the reproduction of the fundamental social relations of capitalism through reproduction of the specific set of structural forms and underlying power relations it embeds.

The mode of regulation is structured around key complementarities and hierarchies (Boyer, 2005; Petit, 1999). The hierarchically dominant structural form in the Fordist mode of regulation was the wage-labour nexus. It "*allowed oligopolistic competition, called for a welfare state and supposed that the nominal wage had become the pivot of monetary policy*" (Boyer, 2018). The coherence of the five structural forms enabled stable employment, regular wage growth and productivity increases, sustaining the Fordist accumulation regime. This hierarchy is "*upside down*" for the neoliberal mode of regulation: *"financial capital constrains State autonomy and sovereignty [and] demands a flexible wage-labour nexus*" (Ibid.).

2.2. Crises, small and great

A mode of regulation derives from structural forms and institutionalised compromises and, therefore, can only temporarily and relatively defer the effects of capitalism's contradictions and antagonisms (see e.g. Hirsch, 1990). Therefore, crises regularly emerge. In RT, "*crises [are conceived as] ruptures in the continuous reproduction of social relations*" (Aglietta, 2015: p. 28). Social conflict becomes unbridled or deregulated. By unbridled social conflict, we mean any type of frontal opposition between (or occasionally within) social groups that may jeopardize the reproduction of existing power relations. It can take a multiplicity of form depending on the antagonism considered (e.g. demonstrations, strikes, abnormal level of inflation or bankruptcies, capital flight and strike, strong political instability or violence… can all and among many others reveal unbridled social conflict).

The mode of regulation can usually absorb periodic reemergence of contradictions without altering structural forms. This may trigger jolts in the accumulation process but does not jeopardize it. These are referred to as *small crises* in RT. When the mode of regulation cannot anymore continue differing/displacing overall contradictions, accumulation cannot be pursued. This eventually leads to a crisis requiring the transformation of the mode of regulation (that is of the underlying institutionalised compromises) to restore accumulation. Such crises are referred to as *great crises* (Boyer, 2015), of which the Great Depression of the 1930s or the crisis of the Fordist regime in the 1970s are examples (Boyer, 2023).

A source of change of the mode of regulation and of an accumulation regime lies in the inability of the hierarchically dominant structural form to continue reproduce itself. Because the whole mode of regulation is organised around this structural form, this inability can lead to a need to significantly transform the mode of regulation.

2.3. Dominant social bloc

Amable and Palombarini (2005) add the notion of *(dominant) social bloc* to RT, which allows for an explicit integration of political variables within RT. A social bloc is a constellation of "socio-political groups unified by a political strategy and supporting this strategy with the aim of gaining and maintaining power" (Amable and Palombarini, 2024). Socio-political groups (or social groups) are groups of "agents that express the same type of expectations of public action" (Ibid.). A social bloc becomes dominant when it supplies sufficient political support for its associated strategy to be validated politically.[3]

> *"The institutional configuration of an economy depends on the formation of a stable dominant social bloc coalescing different socio-political groups prone to support a coalition with a certain political strategy. […] the social bloc itself is a coalition of different and sometimes diverging interests; the institutional structure that will result from the political strategy that it supports will therefore be a compromise." (*Amable, 2003*: p. 66 quoted in* Labrousse and Michel, 2017*)*

The aggregation of social groups into a (dominant) social bloc is the result of the interaction of ideology, which traduces socio-economic interests of different groups in social expectations, political mediation, which selects the social expectations given political expression; and institutions, which are the rules structuring the expression of social expectations and the resultant political mediation (Amable and Palombarini, 2005).

From this perspective, the viability of a mode of regulation lies on a stable dominant social bloc (Amable and Palombarini, 2005), or at least on sufficient existing leeway to build competing political strategies which are capable of aggregating social blocs competing for domination without challenging the main components of the prevailing mode of regulation (e.g. the hierarchically dominant structural form or key complementarities). For instance, Italy featured a stable dominant social bloc in the 1980s and until the early 1990s (Amable et al., 2012). It was an alliance between big and small enterprises mostly located in the North, impoverished southern classes which benefitted from public transfers, and employees of the public sector. Political mediation made possible the aggregation of such social groups with heterogeneous demands by resorting to public debt to enable transfers to southern classes without exerting excessive fiscal pressure on northern constituencies.

If, for any reason, sufficient political support cannot be gathered anymore to reproduce the dominant social bloc, the system is in a crisis. If the crisis can be solved through a rearrangement of the dominant social bloc within the prevailing mode of regulation (e.g., the expulsion and replacement of marginal groups within it or the emergence of a new dominant social bloc), it is coined a *political crisis*. If it requires changes in the mode of regulation, and therefore deregulating the social conflict

[3] The notion of dominant social bloc and socio-political group as used by Amable and Palombarini are reminiscent of the (neo-)Gramscian notions of historic bloc and social forces. A (dominant) social bloc is a constellation of socio-political groups, while a historic bloc aggregates various social forces. These concepts are close, but differ. The notion of historic bloc expresses a situation of hegemony corresponding to a situation of domination going beyond the mere political sphere and also spanning ideological and institutional spheres (Amable and Palombarini, 2024), while the notion of dominant social bloc only relates to political domination (Ibid.). The notion of socio-political group relates to a group formed by agents based on their similar political expectations (Ibid.), while authors using the notion of social force insist on their formation in the production process (see e.g. Cox, 1981).

crystallised in compromises, it is coined a *systemic crisis* (Ibid.).

These concepts are different from the concepts of small and great crises, as their different definitions show. They are nonetheless related. Great crises usually lead to systemic crises and significant political changes. For instance, the 1930s and 1970s were periods of great crises (respectively Great Depression and stagflation) but also of systemic crises (e.g. rise of social democracy but also of fascist reactions in the 1930s, advent of neoliberalist governments in the 1970s and 1980s).

3. Theorising growth dependencies using *Régulation* Theory

We now employ RT to propose a new theorisation of GD. We first offer a new definition of the concept, leveraging the notion of institutionalised compromise. We then show how RT offers a robust framework to think through the difference between the concepts of GD and GI, the variation of intensity of GD across structural forms and modes of regulation, and how different structural forms come together in shaping the GD of different modes of regulation.

3.1. Contribution 1: Growth dependencies stem from institutionalised compromises which require growth to reproduce themselves

As mentioned in the introduction, our starting point for a *Régulation* theory of GD is the role that growth plays in social reproduction, that is in reproducing power relations. We propose a new definition of GD: it is when (a certain level of) growth is needed to reproduce a stable regime of power relations between different social groups.

Social reproduction typically relies on an array of factors, including but not limited to ideology, culture, or coercion (Wright, 2010). Growth can play a key role along with such factors, through *"transforming class and other social antagonisms into apparent win–win situations"* (Schmelzer, 2015). It also creates space for material concessions to dominated classes (Hirsch, 1978). Therefore, it enables to reduce the intensity or make secondary existing antagonistic and contradictory situations characteristic of capitalism (cf. Section 2.1), notably regarding the distribution of economic value (for instance value added is the object of a distributional conflict between capitalists and workers; among capitalists at both national and international level; between the state, capitalists and workers through taxation, etc.). Indeed, the satisfaction of interests that would be competing *without* growth become less (or even non-) competing *with* growth. It is not that social conflict vanishes when there is growth, but growth can ease its maintenance within a certain institutional frame compatible with the reproduction of the underlying power relations. When growth is insufficient, the concomitant satisfaction of different social groups interests may no longer be possible or is rendered more difficult, and the conflict inherent to the power relation is no more mediated: a broadly institutionalised and circumscribed conflict can become unbridled.[4]

RT allows the operationalisation of this approach. In this framework, institutionalised compromises are precisely stable (crystallised) power relations between antagonistic social groups, enabling to manage capitalist contradictions and reproduce the fundamental relations of capitalism. We argue that GD emerges when (a certain level of) growth is needed to reproduce an institutionalised compromise, or a certain combination of compromises, and the resultant structural form(s). The lack of or insufficient growth to reproduce structural forms then results in "*ruptures in the continuous reproduction of social relations*" (Aglietta, 2015: p. 28), leading to deregulation and unbridling of social conflict.

The role of growth in the reproduction of a structural form is not consciously determined *ex ante* by the social groups (and their proxies) that negotiated their underlying compromises, but emerges from the faltering of growth and can be observed *ex post*. For instance, it may be that social groups compromising during high growth periods take such macroeconomic conditions for granted, which are then reflected in the resultant institutionalised compromises and structural forms. Growth becomes indispensable to reproduce them and their underlying balances of power, and the underlying capitalist social relations via accumulation. This is for instance the case of the post-WWII Fordist compromise (in fact, a sum of several institutionalised compromises), which we discuss at the end of this Section (3.1).

Insufficient growth to reproduce growth-dependent structural forms may lead to a variety of crises. It may be that lasting insufficient growth requires the adapting of structural forms, that is, of underlying power relations, in a way that they become *less* dependent on economic growth. This may lead to progressive institutional change, but also to a great crisis, in RT's terms, if significant changes to the mode of regulation are needed to restore accumulation.

Insufficient growth may also lead to a political or systemic crisis, following Amable and Palombarini (2005) terminology, especially if at least one of the groups taking part in growth-dependent compromises is key to renewing political support to rulers. This group, hurt by insufficient growth and looking to protect its interests, may change its political demands or become attracted by another political strategy. In such a case, a rearrangement or change of a dominant social bloc may be needed (political crisis). It may be that it is not possible to reconstitute a dominant social bloc without significant institutional change, which means transforming structural forms, requiring deregulating the underlying social conflicts (systemic crisis).

An illustration is the developments and eventual rupture of the Fordist compromise between capital and labour after the 1970s. This regime was characterised by a specific balance of power. The labour force and their union representatives accepted subordination at work and fragmentation of tasks in exchange for an institutionalising of nominal wage increases in line with productivity advances and past inflation, a commitment enabled by steady growth. This compromise also recognised the defence and advancement of standards of living, and of access to welfare (Boyer, 2018). It led to a strong and relatively smooth process of accumulation for about thirty years.

The Fordist compromise, among other factors such as energy abundance and imperialist appropriation, enabled growth, by fostering productivity gains and creating outlets for an increasing production, thanks to high wages. But growth also enabled the reproduction of the Fordist compromise, and was actually indispensable to it. Hirsch (1991) argues that growth was a precondition to the ideology of progress and modernisation associated to Fordism. Moreover, without growth, commitments to regular wage increases and welfare would not have been possible without severely encroaching on profit levels (which capital would certainly have opposed) or without leading to generalised strong inflation, which is what occurred when the engine of growth, productivity gains, began slowing, endogenously and progressively, from the end of the 1960s (Boyer, 2018): inflation progressively strengthened, profits were squeezed (Aglietta, 2015).[5] The increase in inflation marked the unbridling of the distributional conflict between capital and labour (Charles and Marie and Charles, 2018), and accumulation started to be jeopardized. Thus, a new compromise was needed, which would bring back social conflict into acceptable limits to restore the conditions for a smooth reproduction of the capitalist class.

This compromise transformed the wage-labour nexus to restore profit rates. Liberalisation of labour markets and the weakening of labour unions enabled the deindexation of wages on inflation and productivity, a slowdown in real wage growth, and a declining wage share,

[4] We do not mean here that low growth is the only source of the unbridling of social conflict, which has an indefinite number of causes, but that it can be one of such causes. Unbridled social conflict can exist in high growth contexts.

[5] The crisis of the Fordist regime was also tied to a second factor: the progressive opening of national borders, under capital will to benefit from scale economies, which contributed to disrupt the Fordist compromise (Boyer, 2018). Then, the oil shocks of 1973 and 1979 gave the *coup de grâce*.

restoring profit levels (Bailey et al., 2022) without the need for strong growth. It is clear from this eventuality that the reproduction of the neoliberal compromises over wage labour are not as dependent on growth as the Fordist compromises (even though, as argued in section 2.1, this compromise as any other cannot impede the underlying contradictions to build up forever, but can only temporarily manage them).

The destabilisation of the Fordist wage-labour nexus led to a great crisis and the transformation of the whole mode of regulation. As highlighted in Section 2.1, the wage-labour nexus was the hierarchically dominant structural form during the Fordist period. The destabilisation of this power relation would therefore swiftly jeopardize the reproduction of the whole mode of regulation, which is what eventually occurred. Beyond the transformation of the wage-labour nexus itself, a strongly competitive international insertion became the dominant structural form, while finance was liberalised. The unfolding of international mobility of capital constrained the autonomy of the state and placed welfare systems in a situation of competition (Boyer, 2018).

In the French case, the breaking of the Fordist mode of regulation undermined the two main social blocs of the time, which, from 1958 and the advent of the 5th French Republic, structured and stabilised the political life: a conservative bloc (people living in rural areas, private sector executives, small business owners), and a progressive bloc (workers and public sector employees) (Amable and Palombarini, 2017). These blocs were competing for domination, but their respective aggregation did not require political elites to propose to significantly transform the Fordist mode of regulation (Amable et al., 2017), and therefore the hierarchical dominance of the Fordist pro-labour compromises embedded within the wage-labour nexus.

The slowing of growth from the 1970s and prolonged in the 1980s harmed popular sections of each bloc (artisans, shopkeepers, and small entrepreneurs on the right because relatively high levels of worker protection became a burden with low growth, and workers and employees on the left because of the increase in unemployment associated with the slowdown of growth) (Amable and Palombarini, 2017; Guillaud and Palombarini, 2006). The existing institutional system in a context of low growth became detrimental to such social groups, which therefore started challenging their support to their respective social blocs: the former because of insufficient liberalisation of the labour market which would have counterbalanced a reduction in growth; the latter because it opposed strengthened labour competition especially tied to European integration in a context of increasing unemployment. The conflict in these social blocs eventually burst, and no dominant social bloc subsequently reimposed itself, eventually leaving the country in a systemic crisis revealed by the fact that no government has been reelected since 1978[6] (Amable et al., 2012), until the 2022 re-election of President Macron, and the rise of alternative but nonetheless unstable blocs to the two traditional ones (Amable and Palombarini, 2017).

3.2. *Contribution 2: Differentiating growth imperatives (GI) and growth dependencies (GD)*

We propose to differentiate the notions of GD and GI based on the criterion of whether the dependence on growth emerges from the mode of regulation or from the capitalist mode of production itself.

A GD exists when insufficient growth is detrimental to specific institutionalised compromises mediating antagonist social groups. In this case, the mode of regulation needs a certain level of growth to reproduce the specific regime of power relations which it features, and the fundamental capitalist social relations. There may, however, exist compromises between such groups which reduce the need of, or even do not require, growth to reproduce the underlying power relations, at least for some time. What is growth dependent is therefore a certain configuration of the power relations between such groups, that is certain institutionalised compromises, but not necessarily all possible institutionalised compromises associated with the relation between the same such groups.

In such a case, insufficient growth to reproduce growth-dependent compromises may be faced with their transformation, while maintaining the underlying social relations between the social groups taking part in it. For instance, growth may be needed to maintain the level of pensions in a pay-as-you-go pension scheme facing population aging (Corlet Walker et al., 2024). This would be the case if alternatives (such as debt financing and strengthened redistribution) are hard to leverage. This might occur if existing compromises make it difficult: a debt-to-GDP ratio limit may have been institutionalised, for example, and strong tax increases may jeopardize profits and jobs if capital is strongly mobile across borders. Under this configuration, growth is needed to reproduce the elder care compromise. But another combination of compromises would make the reproduction of the elder care compromise independent, or less dependent, from growth. For instance, if there are capital controls across borders and if the State controls interest rates on its debt, strong increases of mandatory social contributions to finance an increase in pension needs and maintain the compromise may be easier. Indeed, capital flight is then less an option and, therefore, capitalists are more likely to keep their activities going in the country despite higher taxes, and the State can easily borrow to invest and compensate a potential strong reduction in private investment in reaction to higher contributions. In this example, what is growth-dependent is a certain configuration of the balance of power presiding over the way increasing elder care needs are met. Under a different configuration of power relations, such an increase in needs can be met without growth. Therefore, specific modes of regulation can manage to tame capitalism's contradictions without, or with little growth.

Specific modes of regulation can manage capitalism's contradictions without growth only for some time. Indeed, in contrast, a GI emerges from the mere *existence* of the fundamental capitalist social relations and of their associated social groups (the existence of a capitalist and a working class, associated with the market relation and the capital-labour relation), no matter what compromises are mediating them. If a particular mode of regulation may be able to temporarily tame capitalism's contradictions with little or even without growth, in the prolonged absence of growth, such contradictions would necessarily and eventually become unmanageable. Growth would eventually be needed to enable accumulation, or the fundamental capitalist social relations and associated groups would eventually disappear and be recomposed in other social relations and groups, which corresponds to a change of mode of production (e.g. such as in the transition from feudalism to capitalism, or from capitalism to communism).

Indeed, the combination of the market relation and the capital-labour relation make growth eventually compulsory for their reproduction, which we characterize as a GI. The market relation entails a certain degree of competition (or potential competition by entry of new players). Under competitive pressures, firms are compelled to "*engage in whatever they can do legally to maintain a profitable advantage over competitors*" (Lawn, 2011), or otherwise face the prospect of bankruptcy (Harvey, 2006). Lawn (2011) argues that a firm has three ways to maintain its competitive advantage: "*(1) increase output and sell more; (2) produce better quality goods and sell the same quantity of output at a higher price (revenue rises and costs remain unchanged); and (3) produce the same quantity of output more efficiently*". Blauwhof (2012) shows that the first option will necessarily be leveraged by firms. Indeed, the second option is viable in the aggregate only if the increase in value can be realised, which requires increasing wages or consumption out of profits. "*Neither of these options make sense from the perspective of profit-maximizing players in a competitive market*" (Ibid.) The third option is limited in that "*wages, work hours per product and input costs cannot be cut*

[6] Amable and Palombarini (2017) argue that this applies also to the two cases in which the right-wing governing party was re-elected, in 1995 and 2007, because right-wing candidates explicitly opposed the incumbent government leadership despite being part of the same party.

indefinitely" (Ibid.). Therefore, the first option, growth, will eventually be leveraged (nonetheless, growth is not required in the immediate, since the two other options have the potential to sustain profits for some time).

Cahen-Fourot (2022) arrives at the same conclusion via a different argument. He contends that the need to invest to strengthen productivity leads capitalists to aim at maximizing their profit rate to have the means for investment. In the short-term, this can only be done by forcing costs down, including wages, because capitalists cannot fully control the level of sales. This would eventually lead to insufficient demand (in a closed system) and a realisation crisis if economic growth does not compensate for the forcing down of wages. In substance, what Cahen-Fourot (2022) argues here is that growth is eventually indispensable to tame the foundational contradiction between productive forces and capitalist social relations.

Therefore, capitalist domination over society cannot reproduce itself over the long term without growth, characterising a GI emerging from capitalist fundamental social relations. But the expression of contradictions can be deferred for a (potentially very) long time in a no or low growth context, through non- or lowly-growth dependent institutionalised compromises and modes of regulation.

In sections 3.3 and 3.4, we provide theoretical perspectives on such modes of regulation, and on how a degrowth institutional system could be shaped (which would, therefore, need moving beyond capitalism).

3.3. Contribution 3: Different institutionalised compromises, structural forms, and modes of regulation can require more of less growth to (temporarily) tame capitalism's contradictions

The intensity of the GD of institutionalised compromises likely varies across time and space. Intensity here refers to the rate of growth needed to reproduce one or more compromises and the resultant structural form (s), and therefore to manage the underlying contradictions and smooth the reproduction of the fundamental capitalist social relations. It is very likely that different institutionalised compromises will have different intensities of GD, because there is a theoretically infinite variety of institutionalised compromises mediating the same social relation. Identifying the generic principles underlying the intensity of GD of a compromise is left to future research (cf. Section 4.2), but we can observe empirically that it varies.

As an example, let us compare the compromises over monetary and fiscal policy of Japan and Italy, and show that they are less growth-dependent in the former than in the latter. Let us say that we focus only on the GD of these compromises, and do not which here to propose an analysis of the GD of the overall Japanese and Italian modes of regulation (which is unrealistic to do in a few paragraphs, and which would for instance require thorough analyses of profits and accumulation dynamics which we do not undertake here). Also, the analyses that follow do not imply that the Japanese capitalism (nor *a fortiori* the Italian one) can reproduce itself without growth forever, since, as a capitalist economy, it is subject to a GI (cf. Section 3.2).

We choose these countries because they have experienced a strong increase in public spending since the 1990s but not matched with fiscal revenue owing to low economic growth. Real annual GDP growth over the 1990–2022 period averaged 0.8 % in Japan and 0.7 % in Italy.[7] In Japan, general government expenditure (revenue) increased from Y157 (Y158) trillion in 1995 to Y238 (220) trillion in 2022. In Italy, general government expenditure (revenue) increased from €500 (€433) billion to €1074 (€922) billion over the same period.[8] Both countries resorted to public debt to finance public deficits: public debt rose from 63 % (102 %) to 257 % (141 %) of GDP in Japan (Italy) over the 1990–2022 period.[9]

There are signs that recourse to public deficit – rather than growth-financed tax revenue - to "finance" expenditures may carry less risks in Japan than in Italy. That is, the compromises relative to monetary and fiscal policy in Japan may be less growth-dependent than those of Italy. Both countries' ability to refinance their debt with relatively low interest rates hinges on the quantitative easing policies of their respective central banks (Sinn, 2018; Yoshino and Vollmer, 2014; Gabor, 2021). Nonetheless, there are uncertainties about whether the European Central Bank (ECB) will continue such policies. The ECB is built on a compromise among Eurozone countries between a "*pro-European*" and an "*ordoliberal*" vision (Le Héron, 2014) (visions likely influenced by different national contexts leading to different requirements for smoothing and strengthening accumulation); the former in favour of using monetary policy to foster political integration, the latter supporting its total detachment from any political consideration (Ibid.). The ECB Executive Board (and more broadly the political elites in the Eurozone) is split between adherents to either doctrine.[10] The ECB's quantitative easing policies and their role as controls on public debt tensions are questioned both from inside and outside the ECB. Christine Lagarde, ECB's President, declared in March 2020, for instance, that the ECB is "*not here to close the spreads*" (Lemoine, 2022: p. 66). In 2020, the German Constitutional Court challenged the legality of the ECB's quantitative easing policies (Masciandaro, 2020). This leads to mixed signals as to whether the ECB will continue to support the refinancing conditions of Eurozone countries. The resilience of Italy's public financing to low growth rests on a fragile compromise between different Eurozone countries, which is challenged by low economic growth and associated difficulties in matching increased spending with taxation.

Japan's ability to refinance its public debt is more robust. All members of the Policy Board of the Japanese Central Bank, composed of nine members including the Governor, are strong supporters of quantitative easing and other unconventional monetary policies since 2017 (Park et al., 2018). Sceptics of quantitative easing lost influence within and outside the Central Bank during the governorship of Kuroda (2013–2023) (Ibid.). Therefore, the compromise over fiscal and monetary policy in Japan, which underlies the resilience of Japan's public finance to low growth, seems stronger than in Italy. This, along with other, in our view secondary factors,[11] contributes to explaining why Japan's public debt, is, as of May 2024, rated A+ by Standard & Poor, despite a ratio to GDP almost twice as high as the one of Italy in 2022, while Italy's debt was rated BBB (slightly riskier).

The growth dependence of the institutionalised compromises over monetary and fiscal policy plays a key role in determining the growth dependence of the welfare state compromises in Italy and Japan. Indeed, in these countries, much of the observed increase in public expenditures is tied to an aging population. Public social expenditures increased from Y48 trillion in 1990 to Y126 trillion in 2019 in Japan, and from €150

[7] OECD national accounts. https://stats.oecd.org/Index.aspx?QueryId=118661#

[8] https://data.imf.org/?sk=a0867067-d23c-4ebc-ad23-d3b015045405

[9] https://www.imf.org/external/datamapper/d@FPP/USA/FRA/JPN/GBR/SWE/ESP/ITA/ZAF/IND

[10] See https://www.econostream-media.com/hawk-dove.html, which shows that, as of April 2024, 3 members of the Executive board were considered "dovish" (close to the "pro-European" vision), while 3 were hawkish (close to the "ordoliberal" vision).

[11] For instance, the presence of stable and long-term institutional investors, a high saving rate, risk aversion of savers, a strong domestic bias (Tokuoka, 2010; Yoshino and Vollmer, 2014). We consider that these are secondary since at least the middle of the 2010s. The share of Japanese government bonds owned by the Japanese central bank went from approximately 10 % in 2013 to 40 % in 2017 and 50 % in 2024, making it the main market maker and therefore factor to Japanese public debt resilience.

billion to €498 billion in Italy.[12] Recourse to debt to partially finance social expenditure enabled the partial stabilisation of the compromises over the welfare state in these countries, especially when it comes to health and elder care. This points at the interactions between different structural forms (here between the monetary regime and form of the state) that indicates how they jointly shape GD.

3.4. Contribution 4: Interactions between structural forms shape the growth dependence (or independence) of a society

In shaping accumulation and profit dynamics, as well as the overall reproduction of power relations embedded within the mode of regulation, interactions between structural forms are as important as their specific shape. This is also valid when it comes to assessing the importance of growth in enabling the reproduction of a mode of regulation. Interactions between structural forms shape the GD of a mode of regulation. The various RT concepts of institutional interaction (compatibility, complementarity, hierarchy…) help understand what combinations are possible and can contribute to the ability of a mode of regulation to (temporarily) reproduce itself and fundamental capitalist relations without growth. Through a theoretical sidestep, such concepts of institutional interactions can also help to explore non-capitalist systems which would be *fully growth independent* (systems that would be able to reproduce themselves without growth theoretically perpetually, and not only for some time as is the case for capitalist systems).

First, RT facilitates understanding how structural forms can combine in reducing (or strengthening) the intensity of GD of a mode of regulation. The key *Régulation* concept here is complementarity. Amable and Palombarini (2005: p. 255) argue that "*two institutions are never innately complementary [and] the criterion must be chosen by the theorist depending on the specific problem at stake*" (authors' translation). Following the perspective developed in this article, two or more structural forms can be deemed complementary under the criterion that their joint presence strengthens the ability to reproduce the underlying power relations without growth (for some time). To the contrary, the combination of structural forms can strengthen the need for growth to reproduce the underlying power relations, and, therefore, be complementary in this sense.

For instance, oligopolistic markets and financial systems oriented to the long term are likely complementary from the perspective of reducing GD.[13] They ease the reproduction of the market relation without or with little growth. Oligopolies, especially if organised in a cartel, are likely to make economic profits. Such firms will be able to withstand a structural drop in turnover resulting from a drop in growth by reducing profits. This can be complementary with a bank-based financial system providing long-term, low-interest rate finance, easing debt refinancing following a persistent drop in turnover.

Such a combination of structural forms will be *less* growth-dependent than a strongly competitive system associated with short-term finance. This institutional configuration will make growth needed for smooth reproduction of the market relation. Indeed, firms in strongly competitive settings are making no or low economic profit, and therefore have no or minimal room to reduce it. A drop in the size of the market will jeopardize firms' sustainability, therefore making the ability of firms to compete a matter of life and death. The conflict (the competitive battle) between firms is therefore likely to strengthen, expressed by an increasing, potentially destabilising rate of bankruptcy and unemployment. Such negative consequences will be worse if firms face a high required rate of return on capital associated with short-term financial systems, because they will need to dedicate substantial amounts of money to pay back debt instead of using it to cover losses. Firms may need to challenge existing arrangements with financiers, whom, if they are not or cannot (e.g., because of legal requirements) be cooperative, may threaten to withdraw their funding. This would strengthen the conflictual and unstable character of the situation. Social unrest and discontent, potentially leading to political instability or violence and jeopardizing profits and accumulation, may result from enhanced unemployment and economic instability.

Moreover, the concept of hierarchy aids understanding what the main point of vulnerability of a mode of regulation to the lack of growth is. Indeed, modes of regulation are often centred around one structural form, one specific power relation which is hierarchically dominant and which shapes the rest of the mode of regulation (Boyer, 2015). In such a case, if the dominant structural form requires growth to reproduce itself, it will constitute the main point of vulnerability of the mode of regulation to a lack of growth. Indeed, the reproduction of the power relations embedded within the mode of regulation, and therefore of the fundamental capitalist social relations, would be jeopardized if its central compromise(s) embedded in the dominant structural form broke. This may lead to a great crisis strongly challenging capital accumulation and profits, and a need to change the mode of regulation. This was the case when growth became insufficient to reproduce the Fordist capital-labour compromise (Section 3.1).

Second, such concepts of institutional interactions can be relevant also beyond or at the margin of capitalism, to think through (transitions to) fully growth-independent systems (not showcasing GD nor embedding a GI) and degrowth systems. Indeed, according to Schmelzer et al. (2022), growth independence is one of the three pillars of a degrowth society, together with ecological justice, social justice & self-determination. The notions of structural forms have been developed, originally, to study capitalist economies. Nonetheless, by doing a slight sidestep and arguing that institutions[14] and the system they build enable to reproduce the underlying social relations, may them be capitalist or not, the theorisation can be used to study non-capitalist systems. It is what for instance Bernard Chavance and others did to study socialist economies (see e.g., Chavance, 1990).

GD can emerge from the combination of several institutions. Taken one by one, the power relations underlying such institutions may not be growth-dependent, but their combination is. Therefore, such combinations cannot exist in a fully growth-independent system. The key *Régulation* notion here is compatibility. For instance, a monetary regime based on debt-based money creation, shaping a power relation between creditors and borrowers, is not in itself growth-dependent (Jackson and Victor, 2015), but it becomes growth-dependent when positive savings are a necessary condition in the economy (Hartley and Kallis, 2021; Cahen-Fourot, 2022). In this case, zero growth leads to an unsustainable debt dynamic: more debt being required to pay back existing debt. This eventually leads to a crisis and unbridled conflict between creditors and borrowers unable to pay back. Any institution that requires positive aggregate savings to reproduce its underlying power relations is therefore incompatible with such a monetary regime in a fully growth-independent economy. This is the case of competition in product markets, for instance, which pushes actors to save to invest in productivity-enhancing technologies to face competition and survive the conflict with other firms (Schumpeter et al., 2023) (if the investment function is not socialised).

Two (or more) institutions can be complementary from the perspective of contributing to the reproduction of a fully growth

[12] Social Expenditure database of the OECD. Data is in current prices. https://stats.oecd.org/Index.aspx?datasetcode=SOCX_AGG#

[13] Such a combination has also been found to favour economic growth during the Fordist period (Amable and Palombarini, 2023). Institutions that have properties favoring economic growth can also have properties favoring resilience to low/no growth. These properties should be differentiated.

[14] We prefer, in the remaining of this Section, the term "institution", more general, to the term "structural form", more specific to capitalism. Institutions, in the interpretation we give to the term here, encompass both capitalist and non-capitalist contexts.

independent system. This would be the case, for instance, of a provisioning system based on universal basic services and a job guarantee. Universal basic services will de-commodify basic means of living and strengthen redistribution, reducing inequalities and sustaining working class livelihoods in the absence of growth. A job guarantee will make the need to grow to maintain a sufficient level of unemployment irrelevant. These characterize a system in which workers and popular classes have strong bargaining power to impose such institutions favoring their interests. In this example, both universal basic services and the job guarantee contribute independently to the reproduction without growth of this system. But their joint presence reinforces this effect: the job guarantee will provide means for the provision of universal basic services and hence meaningful jobs for the many (which recalls the proposition of Popper-Lynkeus of a basic income, made possible by conscription to produce the goods and services this income would buy – see e.g. Vianna Franco, 2020 or Linsbichler and Vianna Franco, 2025). This facilitates integration to this system favoring the interests of popular classes and therefore eases its reproduction without growth.

The presence of a specific institution may require another specific institution for a system to be fully growth independent. That is, the power relation embedded within the first institution may require a specific configuration of another power relation to reproduce itself in a no-growth environment. The relevant *Régulation* notion here is *hierarchy*. For instance, Lange (2018) argues that reproducing a competitive relation between firms may be possible in a zero-growth environment *only if* working time can be reduced on par with productivity increases.[15] This therefore supposes that underlying compromises are skewed towards the interests of workers (or that firms are directly possessed by workers, whom therefore do not have an interest to overwork). Another example, already discussed, is the case of a debt-based monetary regime, which is possible in a post-growth economy only if there are no systematic positive aggregate savings (Cahen-Fourot and Lavoie, 2016). This condition requires the coordination of economic actors (e.g., by the state) to ensure zero aggregate savings, or requires regular debt jubilees to alleviate the debt burden of private actors (Hartley and Kallis, 2021), again entailing specific power relations.

Such hierarchical links can cascade to shape a whole system. For instance, for a system to be fully growth-independent, the presence of competitive markets requires reductions of working time on par with productivity increases. This, then, requires strong protection against international competition and strong constraints to international mobility of capital, to avoid local companies being wiped out by competition that benefits from a lower cost of labour, and to avoid capital flight. Some redistribution from high- to low-productivity gain sectors may be needed because sectors in which productivity gains are below average will see their profits progressively driven to zero if no compensatory public policy is implemented.

Such public reforms and interventions entail jeopardizing the interests of a large share of capitalists and financiers. Therefore, these social groups will oppose such transformations, which may result in a negative impact on social welfare – understood as overall quality of life – for the country considered, at least in the short-term. Indeed, through capital strike and flight, capitalists can depress the economy, resulting in negative consequences for the majority of the population (unemployment, wages reductions). Such an outcome depends on the balances of power between the different social groups at stake. Indeed, such a decrease in social welfare can be counteracted via, for instance, (partial) nationalisations, enabling to socialise investment, and redistribution. Such complementary measures could be implemented, but require very strong political bargaining power of their proponents, for instance through strong and manifest popular support.

4. *Régulation* Theory and growth dependence: a research agenda

Based on the theorised contributions outlined above, we consider four themes for further exploration.

4.1. Research topic 1: The role of growth dependence in institutional change

In Section 3, the account we made of the destabilisation of the Fordist wage-labour nexus and its eventual transformation following a slowing of growth points towards a role of GD in institutional change. Amable and Palombarini (2005) highlight following Gramsci (1975), quoted in Amable and Palombarini, 2005), that macroeconomic performance plays an important but not decisive role in social reproduction. What matters *in fine* are balances of power. Insufficient growth can impact on the satisfaction of antagonistic social groups' interests, by making them rival (the interests of one group can be satisfied only at the expense of the antagonistic group). Therefore, insufficient growth will make existing balances of power relevant again, both at the level of political mediation and of the economy (mode of regulation). How might such consequences of an insufficient growth be dealt with differently depending on the specificities of political mediation and of the mode of regulation? Our theorization deserves to be deepened to account for complex and diverse roles of growth in social reproduction.

The successive reforms of the French pay-as-you-go pension system, in 1993, 2003, 2010, 2014, and 2023, inspired us towards these questions. Insufficient growth in front of accelerating population aging has been a recurrent motive for reforming the system (Blanchet, 2020). At least for the first reforms, the financial robustness of the system was at stake (Zemmour, 2023) and, therefore, institutional change was needed (even though not necessarily the way it took place). It mainly consisted in three types of reform which led to an extension of working life: the extension of the contribution period required to obtain the maximum replacement rate, the raising of the retirement age, and a change of indexation of pensions in 1993 (Lechevalier, 2022). Such reforms, and the associated interests preserved and sacrificed, were the result of a refraction of the issue at stake through political mediation and the existing structural forms. Reforms could also have aimed at increasing contribution rates and/or lower high pensions, rather than lengthen the working life, thereby enhancing exploitation (in a political economy sense). Such options were not chosen because they opposed the interests of the social bloc which supported the governments that implemented the reforms (they were all implemented by parties rested on conservative or liberal social blocs, except in 2014). But the balances of power embedded within existing compromises at the European Union level (inter-country competition incentivising the containment of labour costs and legal limits on public debt and deficit) have also been key in driving such reforms (Lechevalier, 2022), since they restricted recourse to an increase in contribution rates and to public deficits. This example shows how a specific political mediation and structural forms shaped the type of institutional change and the selection of interests to sacrifice following insufficient growth.

In contrast, strong growth could play a destabilising role in strengthening or weakening different social groups. Therefore, one could imagine that some institutionalised compromises are growth-*vulnerable*, as opposed to growth-*dependent*, because growth would lead, through its distributional effects, at the transformation of the underlying balance of power, challenging the compromise. Further research could also take such an orientation.

[15] Working time reduction is a key proposition of degrowth. Degrowth scholarship however needs to consider that productivity increases of Global North countries may be done through strengthening unequal exchange with Global South countries, increasing the value appropriated from such countries and therefore what appears as productivity of the Global North (see e.g. Smith, 2012). Reducing working time without paying attention to such dynamics bears the risk of maintaining or strengthening unequal exchange.

4.2. Research topic 2: Reasons underlying the intensity of the GD of institutionalised compromises

It was suggested in Section 3.3 that different institutionalised compromises feature different GD intensity. Nonetheless, we did not discuss the features that may influence the intensity of the GD of a compromise. At least two diverging lines of thought emerge here. Both rely on highlighting the distribution conflict inherent to any power relation embedded in a compromise (for instance, labour and capital will compromise over the repartition of value-added, capitalists themselves over the degree of competition…).

The first line of thought would be that the more *equal* the balance of power in a compromise, the more growth is needed. For instance, if workers are powerless and capitalists can do whatever they wish, then even without growth, capitalists can maintain high profits at the expense of workers by paying low wages (with the limitation that a realisation crisis may happen sooner or later). This way to sustain profits also results in capitalists shifting associated social costs to society (see Kapp's concept of "cost shifting", see e.g. Swaney and Evers, 1989) (e.g. a lack of disposable income may lead to poor health outcomes, the cost of which lies on public health systems). Instead, if both workers and capitalists have strong bargaining power and claims on output, growth may become more necessary to ease a potentially explosive conflict between 'equals'. Another example would be a market: the more monopolistic a market (therefore, the more the balance of power within the market is unequal), the less it would depend on growth, since the monopolist can more easily than the competitive firm increase prices instead of volumes sold. The more competitive it is (the more the balance of power is equal), the more aggregate growth becomes necessary for increasing the likelihood that competing agents survive.

The second line of thought argues the opposite: the more *unequal* the balance of power embedded in a compromise the more growth is needed. The underlying reasoning here is that the smaller the share of the pie a constituency receives, the more important is the overall size of the pie to this constituency. The weak constituency may accept an unequal compromise only if growth is sufficient to enable this constituency to at least partly satisfy its interests. An example would be how growth has been instrumental to the perpetuation of the domination of labour by capital. According to Wright (2010), capitalism is a robust social order because it generates growth, which can raise the living standards of otherwise exploited masses and therefore sustain their adhesion to capitalism.

In addition to the balance of power, it seems that other dimensions play an important role in the GD of an institutionalised compromise. For instance, a compromise can be more or less collaborative (e.g., industrial relations can be corporatist or conflictual (Crouch, 1993)). It may be that in a relatively collaborative compromise, antagonistic social groups can come to terms about how to split losses following a disappearance of growth without leading to deregulation of the conflict between them. On the contrary, a rather conflictual compromise may make such an agreement impossible, leading to conflict over distribution of losses and potentially an unbridling of the conflict between them. Determining and assessing the interplay of the generic factors shaping the intensity of the GD of a compromise deserve more attention than we have been able to give in this article.

4.3. Research topic 3: Comparative research of the 'varieties of capitalism'

RT is a strong inspiration for the 'varieties of capitalism' literature. This literature investigates the diversity of institutional systems across capitalist economies, highlighting their coherence. Hall and Soskice (2001) differentiate between two capitalisms, liberal market economies and coordinated market economies. Amable (2003), in contrast, identifies five: market-based economies, social democratic economies, Asian capitalism, continental European capitalism, south European capitalism. However, this literature remains focused on assessing the ability of such varieties to deliver economic performance (Buch-Hansen, 2014). Some authors have employed other foci, such as Cahen-Fourot (2020), who investigates the relation of different capitalisms with the environment. Authors could also investigate how different varieties of capitalism produce different shapes and intensities of GD.

The concept of GD may also be relevant in the context of secular stagnation. Could it be that some varieties of capitalism are more prone to adapt to relative stagnation, that is, to enable the reproduction of the fundamental social relations of capitalism without, or with little growth? Assessing and comparing the institutional systems and recent institutional changes in low-growing economies (such as Japan and Italy) from the perspective of their GD would assist in understanding how different capitalisms may adapt to secular stagnation.

4.4. Research topic 4: Integrating the environment in the Régulation theory of growth dependence

The environment is absent from our theorisation of GD. Nonetheless, on the one hand, the state of the environment shapes structural forms (Zuindeau, 2007) and modes of regulation. On the other, modes of regulation contribute to shaping the relation to the environment (Ibid.). Each mode of regulation has a material dimension (Magalhaes, 2022). Therefore, the environment is likely to play a role in determining GD, because it contributes to determining modes of regulation, and in return specific degrees and shapes of GD may lead to different relations to the environment. But how do specific interactions with the environment across the variety of capitalisms, and potentially beyond, shape GD and are shaped by it? For instance, it could be that very growth-dependent modes of regulation require to strongly exploit the environment, to generate the growth needed for their own reproduction. But, to the contrary, it could be that low GD also relies on a strong exploitation of the environment. This could be because the power relations underlying such a mode of regulation, if they may not need growth to reproduce themselves, may need a strong exploitation of the environment to "compensate" for low growth. The co-evolution between growth dependence and the relation to the environment could be investigated both theoretically and empirically. Moreover, a certain state of the environment – such as one of ecological collapse - may limit growth possibilities and impose modes of regulation which are little growth-dependent. Could it be that the development of what has been termed the second contradiction of capitalism between forces of production and (environmental) conditions of production (O'Connor, 1988) – the fact that capitalism destroys the environmental foundations of its reproduction – lead to structural forms and modes of regulation aimed at (temporarily) managing contradictions of capitalism without growth?

If original RT does not pay much attention to the environment, evolutions since the 2000s have made it well equipped to deal with environmental matters and explore such research questions. On the theoretical side, for instance, Zuindeau (2007) offers a characterisation of the economic relation to the environment within RT, and Rousseau (2002) proposes that the environment should be a sixth structural form, along with the five common ones. Lardé and Zuindeau (2010) as well as Cahen-Fourot (2020) offer empirical analyses of the diversity of relations to the environment across the variety of capitalisms. Pellegris and Court (2025) explore the role of the metabolic constraint in shaping accumulation and transformations of modes of regulation in post-WWII France. An attention to the environment and to the second contradiction of capitalism by the *Régulation* theory of growth dependence could leverage such research.

5. Conclusion

The main message of this article is that ecological economics broadly and the post-growth/degrowth community more narrowly, would do well to pay more attention to the power dynamics at stake in perpetuating the need for economic growth within capitalism. As shown, this would strengthen the analytical rigour of the research line on GD, since it brings the focus to what we consider the fundamental reasons underlying GD: power relations. For this, the notion of GD should be incorporated within a theory of social reproduction to understand why and how growth is instrumental to the perpetuation of specific structures of power, starting with (the varieties of) capitalism.

We proposed RT as our means to do so. Its theoretical toolbox is particularly apt for operationalising, analytically, an idea of growth as instrumental for reproducing capitalist power relations. We have demonstrated that it offers a practical framework for researching GD. It enables to operationalise a *realist* approach to GD, by arguing that it emerges from power relations embedded within institutionalised compromises. It enables to differentiate between GI and GD, locating the former at the level of the mode of production, the latter at the level of the mode of regulation. It offers tools to assess whether, how, and the extent to which, different institutional systems (modes of regulation) may be growth-dependent. It constructs a language around how different institutions (or structural forms) interact in driving the shape and intensity of growth dependence of an economy. The framing of GD within RT opens fruitful avenues for research, both theoretically and empirically.

CRediT authorship contribution statement

Riwan Driouich: Writing – review & editing, Writing – original draft, Visualization, Investigation, Formal analysis, Conceptualization. **Giorgos Kallis:** Writing – review & editing, Validation, Supervision, Formal analysis, Conceptualization.

Declaration of competing interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests:

Riwan Driouich reports financial support was provided by European Research Council. If there are other authors, they declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgements

This research benefitted from financing by the European Research Council (ERC) through a Synergy grant REAL – A Post Growth Deal. We are grateful to colleagues for valuable exchanges in preparation to this article, especially to Charles Stevenson, Sergey Steblyev, Albert Bouffanges. We thank Roslyn Sorensen for proofreading. We thank two anonymous referees for their valuable feedback.

Data availability

Data used for this research are available online following the links provided in footnote.

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