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Unlocking the potential of income and wealth caps in post-growth transformation: A framework for improving policy design

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ABSTRACT

Preventing the increase of economic inequality in a non-growing economy is a major challenge. In post-growth research, scholars agree that reducing the income and assets of the wealthy must be part of any strategy for reducing inequality. Nevertheless, caps on wealth and income remain surprisingly under-researched. After discussing the role of these caps in post-growth transformation, this paper aims to fill this gap by exploring the main parameters that policymakers need to consider when designing caps on income or assets. We performed a qualitative content analysis of 14 policy proposals, including four historical cases. We then built an analytical framework with seven key parameters. This framework reveals a broad set of public policies that policymakers and researchers can consider, including new options for wealth caps. We furthermore discuss how such policies should be designed to increase public support, and we highlight recurring patterns about the context in which they were proposed. We also show how these radical solutions reduced economic inequality in the 20th century in western countries and how policymakers can draw on those examples to design post-growth policies that decrease inequality and are also popular.

1. Introduction

The increase of income and wealth inequality in western countries (Atkinson, 2015; Piketty, 2017; Piketty and Saez, 2006; Roine and Waldenström, 2015) and the severe ecological and social impact of this trend (Stiglitz, 2013; Wilkinson and Pickett, 2009) have been widely documented over the last decades. While policymakers used to rely on growing tax revenues resulting from economic growth to reduce inequalities, this strategy is no longer a viable option if they seek tackling both the challenges of climate change and of rising inequalities. Indeed, recent research has shown that the world is highly unlikely to achieve an absolute decoupling between economic growth and greenhouse gases emissions fast enough to meet the targets of the Paris Agreement (Fritz and Koch, 2016; Haberl et al., 2020; Hickel and Kallis, 2020; Parrique et al., 2019). Considering these findings, exploring innovative policies to reduce economic inequality in a post-growth paradigm is crucial.

In the field of post-growth[2] studies, a debate has recently emerged on how to prevent rising economic inequalities in non-growing economies (Hartley et al., 2020; Jackson, 2019; Jackson and Victor, 2016; Malmaeus et al., 2020; Martins, 2015; Morgan, 2017). This debate is partly a response to Piketty's argument that low or negative growth is inevitably associated with greater inequality (Piketty, 2017). Many scholars have criticised theoretically and rejected this argument. Some of the critics have proposed macroeconomic models and discussed policies that could help reduce inequality in the absence of economic growth; for example, wealth and income taxes, guaranteeing a basic income and promoting worker ownership. So far, the debate has not produced a clear solution: it seems that there is no 'silver bullet' for this challenge and that the solution is likely to require a mix of different policies. However, within this debate, scholars agree that any strategy to decrease inequality must reduce the income or assets of the wealthy (e.g. Hartley et al., 2020).

Decades ago, Herman Daly (1991), the father of the steady-state economy, was among the first to identify distribution conflicts in non-growing economies and implicit limits to wealth and income. On the

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[2] We use the term 'post-growth' to denote the idea of redefining the societal project beyond the pursuit of economic growth (Cassiers et al., 2018). In line with Kallis's categorization (Kallis et al., 2012) and O'Neill and Hardt's simplification (Hardt and O'Neill, 2017), post-growth relates to the literatures on steady-state economics, the new economics of prosperity, and degrowth.

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basis of that evidence, he argued for a distributionist 'institution' that would limit the degree of inequality. In more recent work, Kallis (2019) argued for a new culture of self-limitation to go beyond the myth of eternal scarcity. Moreover, in the degrowth literature, the redistribution of income and wealth, which represents a main policy objective (Cosme et al., 2017), also contains the idea of defining limits to income and wealth. In this situation, if "limits are back" as Dobson (2016, p. 289) argues, there is surprisingly little research on income caps and wealth caps in the post-growth literature. In a recent paper, Buch-Hansen and Koch (2019, p. 264) called for a debate on "concrete ways in which such policies could be designed and increase their popularity", arguing that support for existing proposals is limited because they are rather abstract. Partly in response to this call, the present paper seeks to extend previous research by exploring caps on wealth and income through the following research question: what are the main parameters that policymakers should consider when designing caps on wealth, income or both? Extending this work has important implications for both post-growth research and post-growth transformation as we argue in Section 2. We develop three arguments – a philosophical argument, a political argument, and an argument of implementation – to motivate these caps, explaining the roles these policies could play in post-growth transformation.

In the present study, the main objective is to build an analytical framework for studying the key parameters of income and wealth cap policies to stimulate and deepen the current debate. The research design we have chosen includes a comparison between 10 research-based proposals, sourced from books and academic journals, with four concrete proposals promoted by political leaders. The four cases we examine occurred in the Roman Republic in 365 BCE, in the U.S. in 1934 and in 1942 and in Switzerland in 2013. We therefore believe that our paper can stimulate a discussion on the context in which such policies emerged and on how to increase their popularity (secondary objective).

In this paper, income and wealth cap policies refer to public policies that impose a limit on income, wealth, or both. 'Income' refers to the entire income per household, such as wages, freelance earnings, pensions, social transfers and capital income, whereas 'wealth' refers to all assets that a household, company, organisation or public institution holds and may trade on the market (Piketty, 2017; Roine and Waldenström, 2015). We should clarify that in this paper we only consider public policies and exclude self-regulations existing in specific sectors, e.g. the social economy (Gradin, 2015) and sport leagues (Plumley and Wilson, 2023).[3] Although such regulations are outside the scope of this paper, we recognise that they are relevant to the debate on income and wealth caps and deserve to be explored.

The remainder of the paper is structured as follows: in Section 2 we present a reflection to motivate income and wealth caps in post-growth transformation. In Section 3 we describe the methodology we applied to analyse the policy proposals. In Section 4 we present our findings in two stages: first, we present the parameters that we identified in the academic literature and derive our initial framework, and then we describe the four historical cases and present the updated version of our framework. In Section 5 we discuss our main findings, how our paper contributes to the literature and which avenues for further research it opens. We conclude our paper in Section 6 with a summary of our approach and findings.

[3] In social economy, cooperatives often use maximum wage ratios between low skilled workers and top executives. For instance, the Spanish cooperative Mondragon allows a maximum ratio of 11 between the wage of CEO and the lowest wages. In sport leagues, several systems exist and they usually place limits on the total payroll of a team.

2. Justifications for income and wealth caps in post-growth transformation

Post-growth futures entail radical transformations (Paulson and Büchs, 2022). Buch-Hansen and Nesterova (2023) argue that it implies deep transformations on several dimensions of social being (material transactions with nature, social interactions between people, social structure, and people's inner being). We consider that income and wealth caps fall into this twofold perspective of post-growth that involves (1) radical changes on (2) several dimensions of human societies. In this section, we develop three arguments to motivate income and wealth caps in post-growth transformation and we explain how these caps impact several dimensions of this transformation.

The first justification can be called the *philosophical* argument. Post-growth suggests transformation from a worldview where limits are not an issue towards a worldview with limits. In philosophical studies, this view can be connected to *Limitarianism* which suggests that there 'should be upper limits to the amount of income and wealth a person can hold' (Robeyns, 2019, p. 251). This worldview with limits has been present at the core of ecological economics since its beginning (Røpke, 2004) and can be traced back to Boulding's essay on spaceship Earth (Boulding, 1966) in which he advocates for a transition from a 'cowboy economy' without limits to a "spaceman' economy, in which the earth has become a single spaceship, without unlimited reservoirs of anything, neither for extraction nor for pollution'. New approaches have since been developed. For instance, Raworth (2017) and O'Neill et al. (2018) define planetary boundaries and social thresholds not to be exceeded. Other authors advocate for collectively defined self-delimitation explaining that limits are socially constructed and should be democratically debated (Brand et al., 2021; Kallis, 2019). Since a culture of limits is embedded in post-growth worldview, limits to wealth and income are an essential tool to build this worldview and to give it substance.

The second justification is the *political* argument, which refers to the fact that income and wealth caps could help achieve the objectives of post-growth: 'to meet basic human needs and ensure a high quality of life, while reducing the ecological impact of the global economy to a sustainable level, equitably distributed between nations' (Research and Degrowth, 2010). In post-growth transformation, we argue that caps have a role to play in both meeting basic human needs ('*social* justification') and in reducing the environmental impact of the economy ('*environmental* justification'), with the aim of helping humanity to create a safe and just space between planetary boundaries and social thresholds. In this regard, income and wealth caps should be considered as eco-social policies, i.e. 'public policies explicitly pursuing both environmental and social goals in an integrated way' (Mandelli, 2022, p. 334).

On the one hand, policies of income wealth caps pursue *social* goals when they include social measures that are financed with exceeding funds. In this way, they contribute to reducing inequality and to providing basic needs for everyone so that no one falls below social thresholds. In post-growth transformation, these social measures should be carefully designed to avoid rebound effects or to maximize positive environmental impacts. For instance, Büchs et al. (2021) compare two compensation options for carbon taxes and find that universal green vouchers for renewable electricity and public transport imply higher reductions in CO2 emissions than cash transfers.

On the other hand, policies of income wealth caps pursue *environmental* goals because, in terms of income and wealth, the last decile and percentile of the population tend to have higher environmental impacts than individuals with lower income and wealth. In this regard, empirical research provides strong findings for CO2 emissions. For example, to meet the 2030 emission targets that have been set by the Paris Agreement, the top 10% of income earners in France must reduce their emissions by 81%. In comparison, the bottom 50% must reduce their emissions by only 3% (Chancel, 2022, Supplementary Information, p. 47). In a paper investigating the relationship between CO2 emissions and income inequality at the U.S. state level, Jorgenson et al. (2017) showed that these emissions are positively correlated with the income share of the top 10%. Similarly, Knight et al. (2017) found a positive correlation between the share of the last decile of wealth distribution and per capita carbon emissions in 26 high-income countries. Despite these findings, very little empirical research has been conducted on how fiscal policies targeting the richest may impact greenhouse gases emissions. Apostel and O'Neill (2022) recently took a first step towards filling this gap. Their paper shows that even a one-off wealth tax on the wealthiest 1% of households in Belgium could reduce CO2 emissions by up to 0.6%. This finding suggests that policies capping income and wealth would probably achieve higher reductions and could therefore reinforce CO2-reduction policies that post-growth transformation requires.

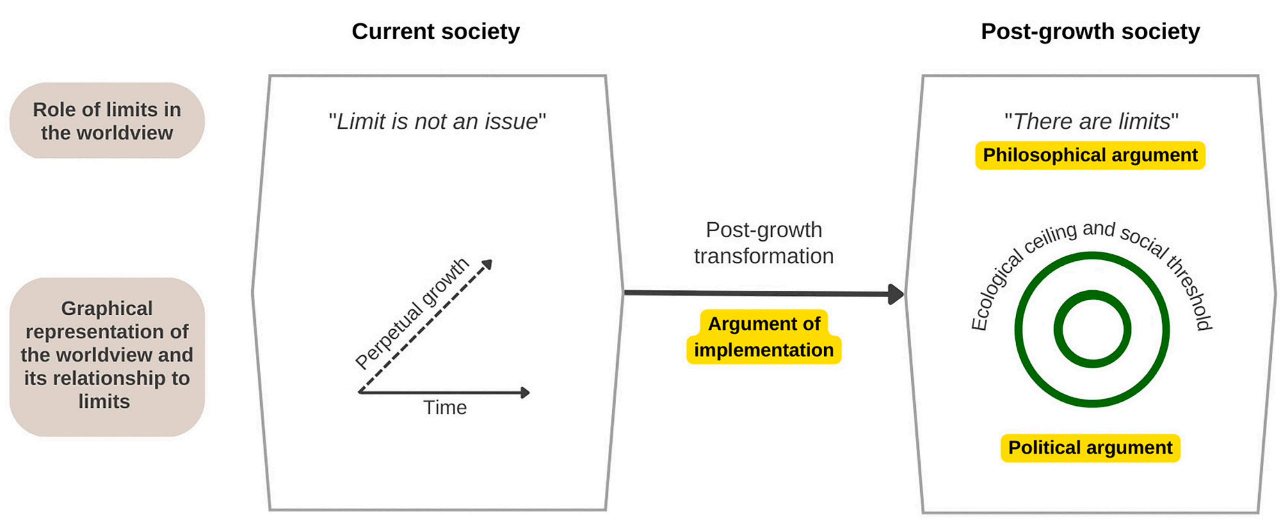
The third justification is the argument of *implementation*. Indeed, post-growth implies radical transformation which involves massive financial resources. Income and wealth caps could generate the funds needed to finance the eco-social policies and the sustainable welfare state that such a transformation requires and prove decisive in the debate on these concepts (Büchs and Koch, 2017; Gough, 2021; Gugushvili and Otto, 2021; Hirvilammi, 2020; Koch, 2021; Koch and Mont, 2016). They could be a missing piece of the puzzle because financing the welfare state is a key challenge in the absence of economic growth, as Corlet Walker et al. (2021) have argued. Indeed, the post-growth paradigm requires innovative policies to reshape the welfare state into a sustainable welfare state. These policies cannot be solely based on economic growth, as Koch (2021, p. 4) explains: 'welfare state activity and social policies would no longer assume the simplistic form of redistributing growing tax takes (as in the post-war period) but involve controversial decisions targeted at the power resources of affluent and influential groups'. In this new paradigm, a new 'eco-social contract' (Gough, 2021, p.1), aimed at building a fair and sustainable society for all, could include income caps and wealth caps.

This argumentation provides an opportunity to propose a working definition of income and wealth caps that integrates these dimensions. In post-growth transformation, we suggest that income and wealth caps are 'eco-social policies defining limits to wealth and income and that contribute to framing a worldview with limits'. Fig. 1 summarises and illustrates our reflection.

3. Material and methods

The starting point of this paper is to explore an under-researched type of policy that seems relevant to managing inequalities in post-growth economies; namely, caps on income and wealth. To identify the key parameters of such policies, we analysed 14 policy proposals, which, during our exploration, we decided to separate into two categories: academic proposals, drawn from books or academic journals, and proposals promoted by political leaders. More specifically, we started by reviewing academic resources and we realised that concrete cases that are discussed in this literature would enrich our analysis and would enable a comparison between policies proposed by scholars and policies proposed by politicians. We, therefore, seized the opportunity to add an empirical dimension to the discussion by including these concrete cases in our research. This flexible approach is consistent with exploratory research (Saunders et al., 2019). Furthermore, this research design means that we compare two datasets that are not independent as the concrete cases are derived from academic resources. This choice has the advantage of easily identifying concrete cases, but it also presents limitations that are discussed in Section 5.2.

We chose an inductive approach to analyse the content of the selected proposals, as there is very little theoretical and empirical research on this topic. Such an approach is particularly appropriate in the early stage of researching a little-understood phenomenon and when the key variables are undefined (Yin, 2014) – in this case, the main parameters of the selected policy proposals. We collected documents, subjected them to qualitative content analysis and coded the themes and categories we identified. Qualitative content analysis is particularly appropriate in this case for two reasons. First, it allowed us to focus on selected aspects of the content that pertain to the research question and does not require the entire document – for example, an entire book – to be coded (Cho and Lee, 2014). Second, content analysis was relevant to



Philosophical argument	Political argument	Argument of implementation
To build a worldview with limits and to give it substance	To achieve the social and environmental objectives of post-growth	To provide financial resources to implement post-growth transformation

Fig. 1. Three arguments to motivate income and wealth caps in post-growth transformation.

the objective of building an analytical framework because it ‘does not focus on finding relationships among categories or theory building; instead, it focuses on extracting categories from data’ (Cho and Lee, 2014, p. 5).

The distribution of work was the following. Meetings with all three co-authors were held to build the research design, which included discussions about the selection of databases and keywords, the selection process of the papers and the coding strategy. Then, one author conducted the selection process and reported results during subsequent meetings. Regarding the coding process, a first batch of three papers was coded independently by two co-authors. As the results of the coding were similar, it was decided that only the leading author of the paper would code the remaining documents. The resulting analytical framework drawing on parameters has been jointly elaborated and validated by all three co-authors. It has also benefitted from comments received during several internal research meetings as well as scientific conferences (among which the 14th ESEE conference in Pisa).

The research process was conducted in two stages. In the first stage (steps 1–3), we selected and analysed proposals drawn from the academic literature to build the first version of our framework. In the second stage (steps 4 and 5), we analysed political proposals and used the results to update our framework.

3.1. Identifying academic resources (step 1)

We based our strategy for identifying relevant proposals on the review by Buch-Hansen and Koch (2019), which we extended by searches on Scopus and Google Scholar. This approach allowed us to build on previous research and to broaden the scope by identifying recent proposals and proposals that the authors had missed. On that basis, we performed queries applying the following criteria (all search terms were enclosed in double quotes):

- Keywords “"maximum wage" "wage cap(s)" "cap(s) on wage" "maximum income" "cap(s) on income" "income cap(s)" "maximum wealth" "limit* to wealth" "wealth limit*" "cap(s) on wealth" "wealth cap()”
- Language: English
- Fields:
  o In Scopus: title, abstract or keywords
  o In Google scholar: title.

This search yielded 222 results in Scopus and 100 results in Google Scholar. It should be noted that the initial searches, which included the keywords “salary cap(s)”, returned 440 results that referred mainly to salary caps in sports, such as in European football or American basketball teams, where the total payroll of a team is usually subject to sector regulations. As sector regulations are outside the scope of this study, we excluded these keywords from subsequent searches.

3.2. Screening results to identify policy proposals (step 2)

We screened the results of our searches twice (see Table 1). First, we read the article abstracts and book summaries to determine whether the document related to income caps or wealth caps, and we excluded those that did not. This left us with a sample of 26 documents. This first screening was necessary because we used fairly general keywords that could have captured irrelevant results. For example, we excluded a paper entitled ‘Maximum income approach to yield optimisation’ because the article referred to electronic circuits.

Next, we examined these 26 documents to ascertain whether they include a policy proposal on capping wealth, income, or both. The second screening was necessary as research on income and wealth caps ranges from philosophical discussions (Kramm and Robeyns, 2020; Robeyns, 2017) to calculations of indicators (Concialdi, 2018; Drewnowski, 1978; Medeiros, 2006) and economic simulations (Blumkin et al., 2013). On that basis, we excluded 16 documents discussing income and wealth limits but did not propose any concrete measure (see Table 9 in Appendix for the full list of these 16 documents). This second screening reduced the shortlist to 10 documents, summarised in Table 2.[4]

Table 1
The screening process.

	Initial sample	Documents concerning caps on income and wealth	Documents including policy proposals
Buch-Hansen and Koch (2019)	54	11	6
Scopus	222	12 (16)	3 (7)
Google Scholar	100	3 (8)	1 (6)
Total		**26**	**10**

The numbers in brackets include documents identified in the previous stage(s). For instance, the search on Google Scholar yielded 100 results. Among those, 8 documents concern caps on income and wealth and only 3 documents were not referenced either by Buch-Hansen and Koch’s paper or by the search on Scopus.

3.3. Document analysis and framework building (step 3)

In this step, we performed a standard thematic analysis to identify themes and patterns relevant to the research question. This method involves (a) summarising each document to become familiar with the data, (b) coding the data selectively in line with the research question, (c) identifying themes and categories, and (d) refining the identified themes and categories (Saunders et al., 2019). Through this process, we selected relevant text in the documents and classified them into subcategories, which we then grouped into main categories. Finally, those categories represent possible options to define a parameter when a policy is designed. At the end of the process, all the parameters and the categories are included into an analytical framework. Fig. 2 illustrates the coding process.

In this example, it is shown that policies can limit wage, income or income and wealth (3 options to define the *scope* of the policy).

We need to emphasise three points to ensure that our approach is accurately interpreted. First, our approach was inductive and the process was therefore iterative rather than linear; we navigated between the documents, our summaries, the coding table and the final framework. Second, in line with content analysis, we limited our analysis to ‘those aspects that are relevant […] to [the] research question’ (Schreier, 2012, p. 7). Third, the selection and coding process are subjective to a

Table 2
The shortlist of 10 documents that include a policy proposal.

Author(s)
1. Daly, 1991
2. Lux, 2003
3. Ramsay, 2005
4. Litvak, 2010
5. Cottey, 2014
6. Spangenberg, 2014
7. Alexander, 2014
8. Pizzigati, 2018
9. D’Alisa and Kallis, 2020
10. Sovacool, 2022

[4] Pizzigati first detailed his proposal of introducing a maximum income in the book *Greed and Good: Understanding and Overcoming the Inequality That Limits Our Lives* (2004). Here we focus on his second book, *The case for a maximum wage* (2018), as the proposals in both books are very similar.

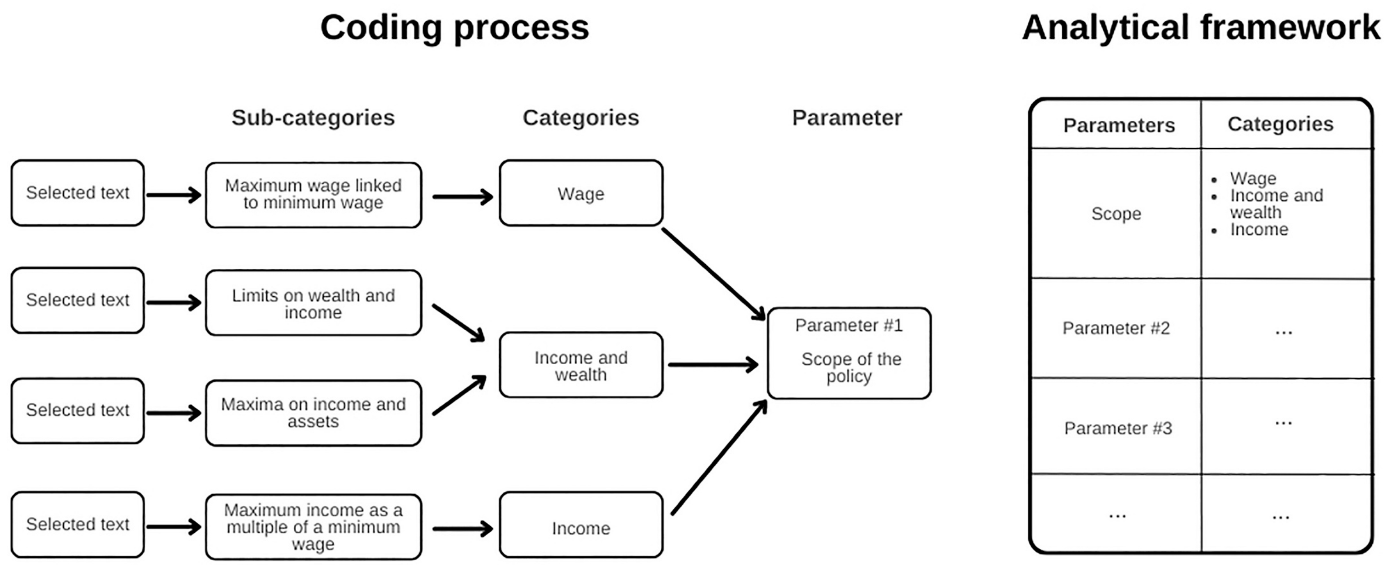


Fig. 2. The coding process leading to the analytical framework.

certain degree, given that they are determined by a researcher's field, specific objectives and ontological and epistemological views: 'in short, rather than being an objectivist application of analysis procedures, the process is highly reflexive' (Srivastava and Hopwood, 2009, p.77).

3.4. Identification and selection of concrete cases (step 4)

While analysing the 10 academic documents in our final sample, we also seized the opportunity of this screening process for identifying concrete cases of caps on income and wealth; that is, empirical examples of cases where such policies had been implemented or debated. Through this analysis, we identified four proposals that had been promoted by political leaders: the Sextian–Licinians Rogations in 365 BCE, Huey Long's plan in 1929, Franklin Roosevelt's proposal in 1942 and the Swiss referendum 'Initiative 1:12' in 2013. Other examples of caps in sport leagues and in the social economy were found but they are outside the scope of this paper as we focus on public policies.

The documents we collected to study each case are mainly primary sources (see Table 3), except for the Sextian–Licinian Rogations, which have only been recorded in a secondary source, the *History of Rome* by Titus-Livius.[5] We limited the selection to one or two sources per proposal because the analysis focuses on the proposed policy as such, rather than on the political debate on it.

3.5. Document analysis and framework update (step 5)

In the fifth step, we followed the same procedure as in the third step and performed qualitative content analysis to incorporate into our framework the data collected among the four concrete cases. Furthermore, we investigated each case in order to enrich their understanding with information about the political leader or leaders who proposed a policy, the political organisation they represented, the socio-economic context in which the proposal was made and its potential impact on economic inequalities.

Table 3
List of analysed sources.

Case name	Author	Title	Date	Type of document
Sixtian-Licinian Rogations	Livy and Radice	Rome and Italy: Books VI–X of *The History of Rome from its foundation*	1982	Translation of Titus-Livius' book
Long's plan	Long	'Redistribution of wealth'	1934	Transcript of a radio speech
Long's plan	Long	'Share our wealth'	1934	Promotional leaflet
Roosevelt's proposal	Roosevelt	Message to Congress	1942	Official communication
Roosevelt's proposal	Roosevelt	Executive Order 9250 providing for the stabilizing of the national economy	1942	Legal act
Swiss initiative '1:12'	Young Socialists Switzerland	Wages: stop excessive pay! Yes! (translated by the authors)	2013	Promotional leaflet
Swiss initiative '1:12'	Swiss Federal Council	Message on the popular initiative "1:12 - For fair wages" (translated by the authors)	2012	Official communication

4. Results: An analytical framework built from data

4.1. The parameters identified through the analysis of research-based proposals

Through content analysis of the 10 academic documents, we identified seven parameters that are central to such policies: (1) the motive behind proposing the particular cap(s), (2) the scope of the policy, (3) the level of the proposed caps, (4) the target group, (5) the instrument(s) for implementing the policy, (6) the purpose for which the raised funds would be used and (7) the larger package of measures into which the proposed policy would be integrated (see Table 4 further down). Finally, two additional parameters, which relate to the implementation rather than the design of the policies we consider, are also presented: the way

[5] Titus-Livius wrote this book several centuries after the events and his writings should be read carefully. The narrative is a distortion of historical reality and details are often obscure. For instance, 'the details of the prescribed limits are a matter of controversy' (Cornell, 1995, p 329.). However, when read with caution, we think that this early example, 'if not in fact the earliest example' (ibid.) provides interesting insights to our analysis.

Table 4
Comparison of the 10 policy proposals in the academic literature.

Author	Motive	Scope	Level	Target	Instrument	Usage of the funds	Policy package
Daly	Protect the market economy and private property; prevent exploitation; societal transformation (steady-state economy)	Income and wealth	Ratio of 5 between maximum income and average income		Progressive tax up to 100%	Minimum income	Linked to birth licences for stabilizing the population and to depletion quotas for stabilizing the stock of physical artefacts
Lux	Societal transformation	Wages	Ratio of 10 between minimum and maximum wage				Linked to the transformation of all companies into non-profit companies
Ramsay	Reduce inequalities; improve conditions for the poor	Wages; potentially complemented by wealth tax	Ratio of 10 between minimum and maximum wage				
Adler	Fund education and social experiments	Income			Progressive tax up to 100%	Education and social experiments	
Cottey	Societal transformation (sustainable economy); unlimited accumulation viewed as immoral	Income and wealth	Ratio of 10 between minimum and maximum income	All individuals	Freeze excess in escrow accounts managed by third party	Collective, social account	
Spangenberg	Societal transformation (degrowth)	Income and wealth			Income: law prohibiting excess or tax rate up to 90% Wealth: inheritance tax or expropriation	Public deficit and social measures	Linked to an unconditional minimum income
Alexander	Societal transformation (degrowth)	Income and wealth		All individuals	Progressive tax up to 100%	Minimum income	
Pizzigati	Reduce inequalities; protect democracy; prevent the negative impact of the rich	Income (and possibly wealth)	Ratio of 10 between minimum wage and maximum income; This ratio can evolve over time	All individual taxpayers	Governments contracts, subsidies, and tax breaks linked to corporate pay ratios; progressive tax up to 100%; wealth tax		
D'Alisa & Kallis	Societal transformation (steady-state or degrowth)	Income			New common sense in civil society		
Sovacool	Achieve carbon neutrality	Wages and possibly wealth			Law prohibiting excess		Linked to introducing a fossil-fuel non-proliferation treaty and to a carbon currency

policies are introduced and the sanctions for those who evade the new measures.

4.1.1. Motive

The reasons for proposing each of the policies we consider here and the problems these policies aim to address are diverse. For example, they vary from a societal transformation (Alexander, 2014; Cottey, 2014; D'Alisa and Kallis, 2020; Daly, 1991; Lux, 2003; Spangenberg, 2014) to the reduction of inequalities (Pizzigati, 2018; Ramsay, 2005) or to the objective of carbon neutrality (Sovacool, 2022). Post-growth scholars are well represented in our sample as 4 authors pursue a transformation towards a steady-state economy or an objective of degrowth (Alexander, 2014; D'Alisa and Kallis, 2020; Daly, 1991; Spangenberg, 2014).

4.1.2. Scope

The overall scope of the caps proposed by the authors encompasses wealth, income and wages. As specified in the introduction, *wages* are a sub-category of income while *income* refers to all sources of income. Therefore, a policy that introduces a cap on wages targets only workers, i.e. those who perceive their income in the form of wages. All authors of the policies define the scope of the respective caps: 7 policies proposed by researchers include income caps and 3 others propose wage caps. These are presented as more easily achievable than wealth caps, which are typically less developed. This may be surprising, considering that, generally, wealth inequality is higher than income inequality (Piketty, 2017). However, wealth caps seem to have received less attention because they are more complicated to implement and likely to meet with stronger political opposition (Buch-Hansen and Koch, 2019).

4.1.3. Level

The level of the proposed caps is always calculated as a ratio between minimum and maximum incomes. Some authors argue that the exact ratio is less important than the principle (Ramsay, 2005) and that it could change over time (Pizzigati, 2018). According to Jobin (2018), the ratio is one of the three possible methods for defining a maximum income: (a) a ceiling that is a fixed amount (e.g. €100,000), (b) a ratio between minimum and maximum incomes (e.g. 1:10) or (c) a spread between minimum and maximum incomes. For example, if the minimum income is €15,000 and the spread is €100,000, the maximum income will be €115,000. The methods relying on a spread or a ratio are based on the assumption of a minimum income. Concerning wealth, it is worth noting that none of the authors explains how to calculate levels of maximum wealth. However, the first case we present thereafter illustrates that such levels are likely to be expressed with fixed amounts rather than with a ratio.

4.1.4. Target

Only three of the 10 studies in our sample explicitly specify whether the proposed maximum income applies to all individuals or to all individual taxpayers (Alexander, 2014; Cottey, 2014; Pizzigati, 2018). Thus, in most of the studies we consider, the target of the proposed caps is implicit, possibly because it is taken for granted that caps on income and wealth apply to everyone. Even if this parameter has received little attention, it should not be neglected because it has significant technical implications. If this parameter is not defined carefully, people that do not pay their taxes in their country of residence could fall outside the scope of the legislation. To address this problem, another option is to target all residents or all citizens regardless of where they live.

4.1.5. Instruments

Instruments can be classified into two commonly used categories in inequality studies: redistribution or predistribution policies (Bozio et al., 2020). The first category refers to public policies involving taxes, transfers and other public spending that reduce post-tax income inequality. In our sample, one main redistributive instrument is proposed by 4 authors: a progressive income tax up to 100% (Alexander, 2014; Daly, 1991; Litvak, 2010; Pizzigati, 2018). Other redistributive measures are proposed as complementary to this progressive income tax such as wealth or inheritance taxes, (Pizzigati, 2018; Spangenberg, 2014) and wealth expropriation (Spangenberg, 2014). The second category affects the pre-tax distribution of income and concerns public policies like education and health care policies or labor market regulations. In the analysed proposals, two authors suggest legislative regulation, i.e. a law prohibiting all earnings higher than a certain threshold (Spangenberg, 2014) or 'a series of national laws prohibiting income from exceeding a relative maximum wage within their jurisdiction' (Sovacool, 2022, p.4). Other measures include developing a public understanding that capping income and wealth is reasonable (D'Alisa and Kallis, 2020) or freezing the excess into an escrow account managed by a third party (Cottey, 2014). This last measure differs from tax redistribution because the exceeding funds are transferred to a 'holding account' in the name of the person. However, the funds belong to the escrow institution and they are administrated by a democratic board and management structure.

4.1.6. Usage of the funds

All propositions of caps on income and wealth ultimately generate financial resources. In half of the proposals, the authors explain that social measures will be funded, such as a guaranteed minimum income (Alexander, 2014; Daly, 1991) or universal education (Litvak, 2010); however, these proposals are mostly abstract and only briefly outlined. For instance, Cottey (2014, p. 254) proposes that excess income goes into a 'social, collective account' but does not elaborate on that idea.

4.1.7. Policy package

Four proposals combine the proposed policy with at least one or two additional policies. Each author suggests different policies: birth licences for stabilizing the population and depletion quotas for stabilizing the stock of physical artefacts (Daly, 1991), the transformation of all companies into non-profit companies (Lux, 2003), an unconditional minimum income (Spangenberg, 2014), and a fossil fuel non-proliferation treaty in combination with a carbon currency (Sovacool, 2022). These policy packages are a way to tackle the multi-dimensional character of the motive presented by the authors. For instance, Sovacool (2022) aims to achieve carbon neutrality and suggests therefore a combination of three policies: a maximum wage and restrictions on wealth, a fossil fuel non-proliferation treaty, and a carbon currency.

4.1.8. Two further parameters of interest

Finally, it is worth discussing briefly another two parameters, which relate to the implementation rather than the design of the policies we consider. As our research question concerns only policy design, we did not include these parameters in our framework.

First, two studies describe whether the proposed policy should be implemented at once or phased in (D'Alisa and Kallis, 2020; Pizzigati, 2018). We label this parameter '*phase-in modality*'. Specifically, D'Alisa and Kallis (2020) suggest that the policy they propose should start with caps on wages in public agencies, whereas Pizzigati proposes, as a first step towards more equality, that government contracts, subsidies and tax breaks should be tied to corporate pay ratios; i.e. the ratio between the highest and the lowest salary within a firm. Second, only Pizzigati (2018) mentions '*sanctions*' as a possible measure for preventing capital flight and mass exodus of the billionaires subject to income caps. He suggests that taxation should be based on nationality rather than the place of residence, and that an exit tax could discourage potential tax evaders who are prepared to renounce their citizenship to benefit from lower taxes in the country to which they have moved.

4.2. Comparison of the research-based proposals

The 10 policies proposed in the academic literature are compared in Table 4. From the above analysis we can derive two preliminary conclusions. First, most proposals are incomplete and none addresses all of the parameters we have identified. Most authors develop the motive, scope and instruments associated with their proposed policy, but pay little, if any, attention to the remaining parameters. Second, with two books dedicated to caps on income and wealth, Pizzigati (2018, 2004) is the only author who investigates and discusses such policies in depth. Indeed, many authors refer to his seminal works and base their policy proposals on them (e.g. Ramsay, 2005).

To compare the proposals in greater depth, we broke them down into their parameters and then synthesised the results to compare how the different authors propose to handle each parameter. This comparison, which we present in Table 5, forms the basis of our framework, which we discuss in the sub-section 4.4.

4.3. Historical cases

In this section, we describe four concrete proposals of income caps or wealth caps made by prominent political figures and we discuss both the historical context in which the proposed policies were debated and their historical impact.

4.3.1. Case 1: Sextian–Licinian rogations

The Sextian–Licinian Rogations are a policy package of three laws promoted by two roman politicians, the tribunes of the plebs Lucius Sextius Lateranus and Gaius Licinius Stolo around 367 BCE At that time, the Roman Republic controlled a small territory around Rome (Latium); however, its power was challenged as the sack of Rome by a Gallic army in 390 BCE illustrates (Cornell, 1995).

In 375 BCE, Sextius and Licinius proposed three bills before the plebeian council. First, they wanted to forbid anyone from possessing more than 300 acres (125 ha). Second, they argued for debt regulation and restructuring; specifically, they argued that interest already paid towards a debt should be deducted from the capital and that the remaining debt should be paid off in three annual instalments of equal size. Third, the two leaders argued that one of the two consuls, who until then were both patricians, should be a plebeian to represent that class's interests. The main drivers of these bills were an effort to improve conditions for plebeians, who were often crushed by debts, and to advance plebeians' interests in the struggle against patrician power (Livy, 1982, p. 82–83). Sextius and Licinius, who supported this policy package in 375 BCE, were experienced political leaders and had been tribunes of the plebes for 10 years at that time. The bills were fiercely opposed by the patricians for eight years and led to the resignation of the dictator Camille, among others, and almost to a general strike of the plebeians. After a fierce struggle, they were finally passed in 367 BCE despite being opposed by the patricians (Livy, 1982, p. 84–96).

Table 5
Analytical framework based on the parameters of income and wealth cap policies.

Question	Parameter	Proposed options
Why?	Motive	• Protect the market economy and private property • Prevent exploitation • Social transformation (steady-state, degrowth, sustainability) • Reduce inequalities • Improve conditions for the poor • Fund education and social experiments • Prevent the unlimited accumulation of wealth • Protect democracy • Prevent the negative impact of the rich • Achieve carbon neutrality
What?	Scope	• Income • Specific type of income (wages) • Wealth • Income and wealth • Income and possibly wealth
How much?	Level	• Ratio from 5 to 20 between a minimum income and a maximum income
Who?	Target	• All individuals • All individual taxpayers
How?	Instrument	Predistribution: • Law prohibiting excess • Benefits and penalties to firms according to pay differentials • Promote new common sense in civil society Redistribution: • Progressive tax up to 100% • Wealth tax • Inheritance tax • Expropriation • Freeze excess in escrow accounts managed by third party
To fund what?	Usage of the funds	• Minimum income • Social experiments and education • Social measures • Public deficits
What policy package?	Policy package	• Single policy • Linked to either one or two further policies

In the Roman Republic, land and debts were constant and significant issues (Cornell, 1995). Agrarian reforms and debt reforms were therefore very common (Hartley and Kallis, 2021). When the Sextian-Licinian Rogations were proposed, much of the population struggled to pay debts, while the patricians – the aristocracy – showed no intention of abandoning their privileges. Furthermore, these reforms occurred during an intense political competition between the patricians and the plebeians – the "Conflict of the Orders" – that lasted for two and a half centuries (Britannica, 2020).

Due to a lack of sources, it is hard to estimate what impact this policy package may have had. According to Cornell (1995, p. 328–339), the law on public land merely imposes fines on those who exceeded the prescribed limit and the law on consulship led to the emergence of a new patrician–plebeian aristocracy. The now-privileged plebeians turned their back to the poor, who gained some temporary economic relief, but lost control of the plebeian movement who ceased to represent their interest. Finally, it is worth noting that the law about land ownership was re-enacted in the agrarian law of Tiberius Gracchus around 133 BCE (Cornell, 1995, p. 277).

4.3.2. Case 2: Huey Long's initiative 'Share our wealth'

Huey Pierce Long was an American politician born in 1893 in Winnfield, Louisiana. He became Senator in 1930 and was assassinated in 1935 by the son-in-law of one of his political opponents. The assassin was killed by Long's bodyguard, so his motives were never unequivocally established (Jeansonne and Haas, 1994). In February 1934, Long broadcast on national radio his 'Share our wealth' plan (or 'Long plan'), a political programme that aimed to fight poverty through the extensive redistribution of wealth (Long, 1934a). This plan was designed to mitigate the poverty that the Great Depression of 1929 had greatly exacerbated. To that aim, Long advocated limiting wealth to provide every family with basic resources for a living:

> We propose to limit the wealth of big men in the country. There is an average of $15,000 in wealth to every family in America. […] We will not say we are going to try to guarantee any equality, or $15,000 to a family. No; but we do say that one third of the average is low enough for any one family to hold, that there should be a guarantee of a family wealth of around $5000; enough for a home, an automobile, a radio, and the ordinary conveniences, and the opportunity to educate their children *(*Long, 1934b*)*.

Further on in his speech, Long supported his plan by arguing that the pleasure of the rich consists in the starvation of the masses and that there is no necessity of having overproduction. One measure he proposed was to 'limit the hours of work [so that] people will work only so long as it is necessary to produce enough for all of the people to have what they need'.

Long proposed to spread the nation's wealth by introducing three limits: a maximum income of $1 million per year, a maximum wealth between $5 and $50 million and a maximum inheritance of $5 million per person.[6] According to his plan, the surplus would be collected through direct taxation. Long linked those limits to extensive social reforms targeting various social groups. His plan included purchasing and storing agricultural produce, free higher education for children, monthly pensions for the elderly, various benefits and free health care for veterans, limiting workers' hours, guaranteeing a minimum wage and introducing a debt moratorium for struggling families.

In 1934, Long created the Share Our Wealth organisation to promote his plan. He claimed that 7.7 million people had joined 27,000 of its societies or clubs across the country in 1935. The Share Our Wealth organisation also served as a tool for advancing Long's political ambition. His ultimate goal was most likely the U.S. presidency and, although to start with he supported Franklin Roosevelt, he later tried to challenge Roosevelt's re-election. To estimate his own popularity as a candidate, Long launched the first scientific opinion poll on a U.S. Presidency race. That poll showed that 47.2% of the electorate voted for Roosevelt, 40% voted for the Republican candidate and 7.8% voted for Long. That result, however, is impressive for a candidate outside the bipartisan system and shows that if Long had managed to steal from Roosevelt the margin of votes the latter needed to win against the Republican candidate, he could have compromised Roosevelt's re-election (Amenta et al., 1994, pp. 680–689).

Two key factors shed light on the context in which Long's plan emerged. First, the Great Depression triggered by the economic crisis of 1929, to which Long's proposal was a response; the recession left half of American families living in poverty. Second, Long took advantage of the intense competition between Republicans and Democrats and, as a result, the role of kingmaker, because the votes he could steal or grant could affect the election result significantly. Long also benefited from the positions of the pro-reform administration and the centre-left Congress, both of which were open to his ideas.

According to Amenta et al. (1994), Long's plan impacted American politics. In 1935, Roosevelt pushed four liberal bills to improve the banking system and labour rights and to introduce social security and

[6] In 2022 figures, these limits translate into a maximum income of $22 million per year, maximum wealth between $112 and $1112 million and a maximum inheritance of $112 million per person. The calculations were made with the CPI Inflation Calculator of the US Bureau of Labor Statistics at https://www.bls.gov/data/inflation_calculator.htm.

high taxation – a so-called 'soak the rich' bill. Was this Second New Deal designed to 'steal Long's thunder as Roosevelt supposedly put it to one of his advisors' (Moley, 1939, p. 305 cited in Amenta et al., 1994)? To answer this question, Amenta et al. (1994) conducted a historical and quantitative analysis and found that Share Our Wealth had indeed a significant impact on Roosevelt's Second New Deal, especially on the tax bill:

Although none of the Second New Deal legislative proposals resembled closely the Long Plan and most were devised by others, Roosevelt did propose something unexpected – the tax message of June 1935. This tax program was not going to result in the levelling of incomes and wealth envisioned by Long, but the program did break a pattern of regressive taxation. (Amenta et al., 1994, p. 686).

The Revenue Act of 1935 introduced a tax package that included a 75% tax on income above $1 million. As the next case we present here shows, in the face of World War II, Roosevelt called for a much more drastic 100% tax on income above $67,000. As for Long, his plan most likely did have a lasting impact on the U.S. tax system, as a tax rate of 70% on incomes remained in place until 1982.

A further question is how Long's plan influenced European tax policies during that era. Indeed, most European countries followed the American example and raised their taxes rate from 70% to 90% (Piketty, 2017). Given that in many countries, those high tax rates helped finance the welfare state and moderate inequality during the Glorious Thirty (1945–1975), Long's proposal may have well influenced tax policy beyond the U.S.

4.3.3. Case 3: Franklin Roosevelt's proposal

During World War II and his third term as President of the U.S.A., Franklin Roosevelt had to tackle high inflation. In April 1942, he presented his new national economic policy to Congress – a list of measures that included limiting net income to a maximum of $25,000 (which at the time represented a gross income of $67,000). Franklin Roosevelt's presidency started in 1933, after the Great Depression. During his first two terms, he pushed successfully the first New Deal and the Second New Deal, which included liberal economic and social policies. In 1940 he was elected for the third time, winning 55% of the popular vote and 85% of the electoral vote. When he came to propose this package of drastic fiscal measures, therefore, he was an experienced politician and a leader commanding broad popular support.

In his speech to Congress, Roosevelt presented a package of seven policies aimed to stabilise inflation – the rise of prices preoccupied many governments during the war. These policies included heavy taxes, a ceiling on prices and rents and rationing essential commodities. Furthermore, he argued that 'no American citizen ought to have a net income, after he has paid his taxes [sic], of more than $25,000 a year' or $50,000 for a married couple (Roosevelt, 2005, p. 221). That income level was considered adequate at the time, so the surplus should fund U. S. efforts to win the war. Executive Order 9250 specified that all sources of income (not just wages) were targeted. Roosevelt's policy was original in that it proposed a temporary surtax on income for the duration of the war rather than a permanent transformation of the tax system. Indeed, Executive Order 9250 was set to expire on 30 June 1944; to implement it beyond that date, it would have had to be approved by Congress. The proposal was finally introduced as the Revenue Act of 1942, which raised the tax rate to 88% on gross income above $200,000.

While World War II dominated the global political agenda, controlling inflation was one of the main domestic objectives. In 1942, the U.S. economy was characterised by a high growth rate of 18.9% but also by a high inflation rate of 9%. Although Roosevelt's proposed policies emerged in those dramatic economic conditions, they also stemmed from the relatively new trend of increased taxation that followed the end of World War I (Piketty, 2017). In 1917, the maximum tax rate in the U. S. rose from 15% to 67%. While this tax rate fell to 25% in 1925, the Revenue Act of 1932 triggered a new rise in tax rates that reached 94% for incomes above $200,000 in 1944. These high tax rates show that the Federal State struggled to cope with increased spending and debts due to the Great Depression and WW2.

In the short run, Roosevelt's proposal impacted inequalities directly as Executive Order 9250 shaped the Revenue Acts of 1942 and 1944, which increased the tax rate to 88% and 94%, respectively. In the long run, as mentioned earlier in the conclusion of 3.3.1., Roosevelt's proposal contributed to reduce income inequality in the U.S as shown by the income share earned by the top 1%, which falls from 21% in 1941 to 10% in 1970 (Roine and Waldenström, 2015). This low level of inequality remained for several decades, as high tax rates were maintained until the 1980s (Piketty, 2017). Finally, this case shows that income caps are subject to policy processes like all public policies. While a true income cap with a tax rate of 100% was firstly formulated by Roosevelt, the political process transformed the original proposal into an 88% tax rate.

4.3.4. Case 4: The '1:12' Swiss initiative

From 2009 to 2013, the Young Socialists of Switzerland campaigned to introduce a wage cap within every Swiss firm. Their proposition aimed to cap the maximum wage at 12 times the lowest wage within a company, because 'no manager has the right to earn more in a month than his lowest-paid colleagues earn in a year' (Young Socialists, 2013, translated by the authors). Their motive was to 'stop excessive pay and to establish fairer wages' (translated by the authors). Through their campaign, they collected around 113,000 signatures, which allowed them to launch a popular initiative; that is, a vote on whether the constitution should be modified to accommodate their proposal. In Switzerland, when such an initiative wins the popular vote, it is legally implemented.

The Young Socialists are a young party with links to the Social Democratic Party of Switzerland (SDP). The party was reformed in 2008, so the initiative they launched could be seen as a first test for the party's popularity following those changes. The campaign was coordinated by Tom Cassee, who had already managed campaigns for the SDP and has been serving as General Co-Secretary of the SDP since 2021. The first step of the campaign was to collect at least the 100,000 signatures needed to launch a popular initiative according to the Swiss constitution. In March 2011 this goal was achieved and the initiative was officially submitted to the authorities. About one year later the Swiss Federal Council approved the referendum but advised citizens to vote against the proposition. In an official publication, the Federal Council (2012) explained that while excessive pay was problematic, the '1:12 initiative' did not offer the right solution. In March 2013 the poll conducted by Isopublic found that 49.5% supported the proposition, 40% were against and around 10% were undecided, with a margin of error of around 2.9% (24 heures, 2013). The referendum finally took place on 24 November 2013 and the proposition was rejected by 65.3% of the voters; the turnout was 53%. Following the referendum, a second poll was conducted by the GFS Bern Institute; the results were analysed by researchers at Bern University (Heidelberger and Milic, 2013). Interestingly, according to the analysis, that poll showed that the wide gap between the supporters and opponents of the initiative reflected the classic gap between left and centre-right parties. Indeed, 57% of left voters and 76% of extreme-left voters strongly supported the proposition, while between 70% and 97% of the rest of the voters strongly rejected the initiative. The university's report on the poll also shows that those who voted against the initiative did not oppose the main motive – that is, to introduce fair wages – but were concerned about the potential negative economic consequences of that measure.

Between 1981 and 2010, income and wage inequality increased in Switzerland (Foellmi and Martínez, 2017), following the trend in other European countries. The broader aim of the Young Socialists' campaign was to counter this pattern; however, it was launched as a direct response to the financial scandals involving Swiss companies, including the Swissair (as it was known then) airline, that broke out in 2001. That context fuelled debate on wage regulations and led to the first referendum on excessive pay in March 2013. That was the Minder initiative, also known as the 'Swiss executive pay initiative'. That initiative, which proposed greater control over executive pay for Swiss companies listed on the stock market, was approved by 68% of the voters. Conversely, the '1:12' initiative was rejected six months later. To understand such contrasting results between two similar referendums, it would be worth to investigate the role of interest groups. In their analysis of another Swiss referendum hold in 2015 that aimed at introducing an inheritance tax, Emmenegger and Marx (2019) show that interest groups played a significant role in shaping the results of the vote as they influenced the citizen's preferences over taxation and redistribution. So far, the question if similar interest groups shaped the results of the '1:12' initiative has not been documented yet.

4.4. Case comparison and update of the analytical framework

We compare these four concrete cases in Table 6. The table shows that the policies proposed by political leaders are more detailed as they specify almost all parameters, compared to the policies proposed by scholars.

Table 7 presents our analytical framework, which we updated in the light of the additional four cases examined in this section. In the updated framework, we notice several differences: the *motive* now includes protect the economy, stabilise the cost of living, finance a war or to establish fairer wages. Similarly, the *scope* may be a specific type of asset, such as land. The *level* can now be defined in absolute terms; the *instrument* can consist of a temporary surtax, while the *funds* can be used to finance extensive social reforms, a war or an increase in the lower wages. Finally, the *target* can encompass all citizens or all workers in each company, while the *policy* may be integrated into larger policy packages. We should note that our framework is not exhaustive and may be extended to include new parameters or new options. In its current form, it aims to provide an overview of previously proposed policies in the literature and to inform the design of such policies in the future.

5. Discussion

This section discusses the main findings, including their implications for policymaking. We then discuss this paper's limitations and potential avenues for future research.

5.1. Implications for policymaking

Currently, caps on income and wealth are under-researched, although they are frequently mentioned in the degrowth literature (Buch-Hansen and Koch, 2019). The framework we present in this study and the analysis of the 10 research-based and the four historical policy proposals on which it is based aim to enrich this debate. In this subsection we discuss four key findings and how they contribute to the literature.

First, we found interesting differences between the policies that scholars proposed and those that political leaders proposed. We should specify that the interest of this finding does not concern the fact that there *are* differences, which is not surprising because politicians and scholars make proposals with different objectives. Rather, the purpose is to discuss these differences to bring out new insights on how to design policies and potentially increase their popularity. These differences are outlined in Fig. 3.

The proposals made by scholars are overall incomplete in that they do not address all the parameters we identified as essential components to policies limiting income or wealth. Additionally, most of the problems are broad, rather than concrete. For example, the societal transformation that some of these proposals aim to achieve is rather vague and is unlikely to gain popular and political support. By contrast, the policies proposed by political leaders address current and specific problems that are part of their agenda. As a result of this problem-oriented approach, the latter proposals are more focused and comprehensive. For instance, Sextius and Licinius targeted the category of wealth that was directly linked to the poverty of plebeians, which these two men fought to alleviate; that is, land. Similarly, Roosevelt argued only for a temporary surtax to fund America's war efforts; that tax was meant to be lifted when the war was over. By rooting their proposals within concrete and current problems, these leaders created policies that are less ambitious but more feasible than those proposed by the scholars in our sample.

Another common feature of the proposals made by politicians is that most come in the form of policy packages because they address multidimensional problems and solving them requires multiple policies. Most of these policy packages include some social reforms, which may increase support for these packages. This facilitates the introduction of measures that limit wealth and that are rather unpopular with sections of the population. Combining such measures seems to be key to raising the popularity of income and wealth cap policies.

A final difference between the two categories of policies we examine here concerns the *level* of the income they target. While all proposals made by scholars suggest a low ratio between a maximum and a minimum income, of which the highest sets the maximum at 10 times the minimum income, the policies designed by political leaders propose much higher ratios. For example, Roosevelt pushed for a maximum gross income of $67,000, which by 2022 standards is the equivalent of $1.2 million. Considering that in 1942 the U.S. federal minimum wage was $624 per year,[7] back then Roosevelt proposed to limit the maximum income to 107 times the minimum wage. Moreover, the highest tax rate of 88% that was set by the Revenue Act of 1942 targeted gross incomes above $200,000, which in 2022 equivalents represents $3.6 million. In this case, there is a ratio of 321 between the minimum wage and the maximum income – if we consider $200,000 as a maximum income.

In short, the proposals made by politicians suggest that income caps do not necessarily require a very low cap. Nowadays, even a ratio of 107 to 1 or 321 to 1 would be a substantial improvement compared to the current ratio of 2730 between the highest incomes and the current minimum wage in the U.S. (see Table 8).

Finally, it should be noted that in his thesis 'The political economy of degrowth', Parrique et al. (2019) presented a research-based proposal that covers all the parameters we consider here. Except for this important feature, his proposal reinforces our analysis as it addresses a general rather than a concrete problem, proposes a low ratio between a maximum and a minimum income and is linked to a single policy; namely, a 'universal autonomy allowance'.

The first finding may shed new light on research about public acceptance of income caps. Recent research shows little public support for income caps (Khan et al., 2022; Koch, 2021; Robeyns et al., 2021). This lack of support may be due to the shortcomings of policies proposed by scholars that we identify in this paper and which the recommendations made above aim to address. For example, Koch (2021) found that only 24.8% of the respondents of a survey conducted in Sweden support capping the maximum income at €145,000. Similarly, Robeyns et al. (2021) report that only 11% of the respondents to their own survey agree that there should be a maximum limit to personal income and only 5% agree that there should be a limit to personal wealth. While these authors conclude that support for caps is generally low, we argue that this should not limit research on public acceptance of such policies. In this regard, the differences we found between the rather vague policies proposed by scholars and the more concrete policies proposed by politicians could provide new insights into how to increase public support. For instance, Burak (2013) found that setting caps at higher levels – one difference that has been identified above – significantly increase public

[7] U.S. federal minimum wages were calculated as follows: hourly minimum wage X 40 h per week X 52 weeks per year. The minimum wage was 0.3$/h in 1942 and 7.25$/h in 2022.

Table 6
Comparison of the four historical proposals by political leaders.

Case	Motive	Scope	Level	Target	Instrument	Usage of the funds	Policy package
Sixtian–Licinian Rogations	To improve conditions for the poor and advance their interests	Land	Maximum land possession of 300 acres	All individuals	Law prohibiting excess		Linked to debt restructuring, debt regulation and better political representation of the plebeians
Long plan	Fight poverty; prevent exploitation of the poor; avoid overproduction (sufficiency)	Income and wealth	Maximum income ($1 million) Maximum wealth ($5–$50 million) Maximum inheritance ($5 million)	All individuals	Progressive tax up to 100%	Extensive social reforms	Linked to a large policy-package for several groups (the young, workers, the elderly, veterans)
Roosevelt's proposal	Protect the economy; stabilise the cost of living; finance World War 2	Income	Maximum net income of $25,000; twice that sum per married couple	All American citizens	Temporary surtax	Finance the war	National policy package of seven measures
Initiative 1:12	Stop excessive pay and establish fair wages	Wages	Ratio of 12 between maximum and minimum wage within each company	All workers in each company	Law prohibiting excess	Increase low wages	

support as 61% of Americans would support a cap on salaries and 51% would prefer that cap to be set at $1 million or above. Further research could therefore draw on our recommendations to assess public support with other configurations of income caps.

The implications of this first finding can be summarised into four recommendations for policymakers: (1) address all parameters of a policy comprehensively, (2) address specific problems that are currently on the political agenda; (3) design policies as part of a larger policy package that includes social measures; (4) define a maximum through carefully setting the ratio at a level for which public and political support is large.

The second finding is that caps on income and wealth include a broad set of public policies. The analytical framework shows that many configurations are imaginable, and the options for each parameter are numerous. This diversity has two implications. First, policymakers could design specific policies according to different contexts. In this regard, caps could be adjusted to national patterns of income and wealth. For example, in Sweden and Denmark, there is a high degree of wealth inequality, while in southern Europe there is a relatively high degree of income inequality (Skopek et al., 2014). Of course, within a body such as the EU, individual member states would need to coordinate their policies to prevent tax evasion and capital flight.

Second, this diversity reveals that wealth caps might become more achievable if they are set on only certain types of assets, such as property, which currently represents more than 50% of the total wealth in western countries (Piketty, 2017). Local authorities could limit home ownership to fight homelessness, unchecked increases in house prices and an exodus to more rural areas. In Berlin, for example, a successful referendum is pushing the authorities to limit the number of apartments large developers can own to 3000 (Guardian., 2021). According to the British newspaper, 240,000 properties will be affected by this cap – that is, 11% of all Berlin apartments. For degrowth literature on housing, which has focused on other topics such as housing justice, housing sufficiency and reducing demand (Nelson et al., 2018), limits to housing ownership could represent an interesting field of investigation. In the same way, caps on the ownership of farmland – another class of asset – could be set to counter current trends of farmland concentration in many European countries (van der Ploeg et al., 2015). This finding echoes the call of Buch-Hansen and Koch (2019) for further elaboration on wealth caps.

Our third finding is that caps on income and wealth should be considered as means of reducing inequalities in post-growth economies, because they have historically contributed to such reductions. The two American policies we examined here impacted the Revenue acts of 1935, 1942 and 1944, even though they were not initially successful, and may have contributed to keep inequality in the U.S. relatively low for several decades. Although these policies emerged in particular circumstances that favoured tax rises, they could still inspire modern policymakers and complement other measures considered by post-growth scholars to reduce inequality, such as introducing a universal basic income or rent controls and ensuring the universal provision of basic public goods (Hartley et al., 2020; Jackson, 2019; Malmaeus et al., 2020). Our findings from those two cases underline the need for broader research on caps on income and wealth, both among ecological economists and among scholars researching economic inequalities more generally. In this regard, Richard (2017) takes a first step into estimating the potential revenues of wealth caps. In his detailed proposal for a cap set at €2 million, he calculated that expropriating all the assets above that cap would generate a sovereign fund worth €2750 billion.

Our fourth finding is that studying the context in which the policies proposed by politicians were made enabled us to identify three main common patterns: the policy (1) emerged in a crisis, (2) was combined with other social measures and (3) was proposed by an experienced political leader who enjoyed strong support. These patterns are currently relevant, given that the world is facing a crisis with a war in Ukraine, rising inflation and ongoing climate change that will worsen in the coming years. The cases presented in this paper show that income and wealth cap policies could play a role at this time of crisis, provided that they are integrated within broader policy packages that include measures aimed at alleviating the problems that numerous households face. The funds generated from such caps could finance several eco-social policies and strengthen public support.

5.2. Limitations and avenues for future research

This paper has certain limitations that we discuss below. First, our study is based mainly on research in English and the proposals of Parrique (2019), Concialdi et al. (2019) Giraud and Renouard (2013) and Richard (2017), which were written in French, were therefore not analysed to build our framework. However, these contributions enriched our discussion when it was relevant. To counter this limitation, future studies should consider research published in languages other than English.

Second, our sample of concrete cases has several limitations and our findings should thus be used with caution. Our results are based on a select, rather than a broad, sample of concrete cases promoted by political leaders. Future research should therefore identify relevant proposals more systematically. For instance, other cases exist in French and

Table 7
The final analytical framework (additions in bold).

Question	Parameter	Proposed options
Why?	Motive	• Protect the market economy and private property • Prevent exploitation • Social transformation (steady-state, degrowth, sustainability) • Reduce inequalities • Improve conditions for the poor • Fund education and social experiments • Prevent the unlimited accumulation of wealth • Protect democracy • Prevent the negative impact of the rich • Achieve carbon neutrality • **Stop excessive pay and establish fair wages** • **Finance the war** • **Protect the economy** • **Stabilise the cost of living**
What?	Scope	• Income • Specific type of income (wages) • Wealth • Income and wealth • Income and possibly wealth • **Specific type of assets (land)**
How much?	Level	• Ratio between 5 and 20 • **Absolute amounts**
Who?	Target	• All individuals • All individual taxpayers • **All citizens** • **All workers in each company**
How?	Instrument	Predistribution: • Law prohibiting excess • Benefits and penalties to firms according to their pay differentials • Promote a new common sense in civil society Redistribution: • Progressive tax up to 100% • Wealth tax • Inheritance tax • Public expropriation • Freezing of excess which is managed by a third party • **Temporary surtax**
To fund what?	Usage of the funds	• Minimum income • Education and social experiments • Social measures • Public deficits • **Extensive social reforms** • **Finance the war** • **Increase low wages**
What policy package?	Policy package	• Single policy • Linked to one or two other policies • **Linked to a large policy package**

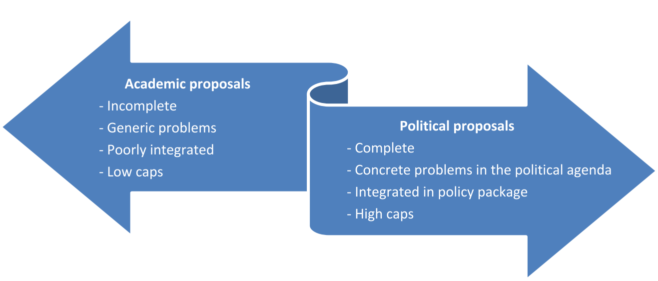


Fig. 3. Differences between scholars' and politicians' proposals.

Table 8
Comparison of the levels of a maximum income proposed by scholars and by politicians.[b]

	Minimum wage in USD		Maximum gross income in USD		Ratio between maximum income and minimum wage
	1942	2022	*1942*	2022	
Highest cap proposed by scholars					10
Roosevelt's proposal	*$624*	$11.200	*$67.000*	$1.2 million	107
Revenue Act of 1942	*$624*	$11.200	*$200.000*	$3.6 million	321
Average income of the top 0.01% of the U. S. population (around 17,000 families)[*]		$15.000		$42 million	2730

[*] Saez (2018). Average gross income of the top 0.01% was 35.8 million in 2018.
[b] All calculations of inflation are based on the CPI Inflation Calculator of the US Bureau of Labor Statistics. Figures were rounded to increase readability.

Belgian public companies where maximum wages were introduced for top managers. Another limitation of this sample concerns the dependence between the two datasets because the concrete cases were identified from the 10 academic documents. This could result in a lack of diversity if proposals from researchers were very similar to those from politicians – which is not the case according to our findings. This limitation also impacts the innovative character of our research because we analyse proposals that have been already identified and we do not bring new cases to light. However, the added value of our research is to be found in our comparative approach and in the lens of analysis that we used to study the 4 concrete cases (i.e. the analytical framework). This research is also the first to present historical contextualisation for several cases. Finally, further research could also investigate proposals that are not public policies, to gain a broader understanding of caps. Such proposals might include, for example, the caps that Plumley and Wilson (2023) studied in the context of sport, the caps that Gradin found in non-profit cooperatives (Gradin, 2015) or the caps that Abramitzky (2008) examined in communities such as Israeli kibbutzim.

Third, our study is based on qualitative content analysis, which means that the process of coding data involves subjectivity, reflecting the authors' knowledge of the field, as well as their ontological and epistemological positions. Our paper follows the pragmatism paradigm (Saunders et al., 2019), which aims to contribute practical solutions to specific problems – in this case, the rising inequalities in the post-growth economy. As a result, our research question aimed to build a practical tool for researchers and policymakers.

Our study opens several avenues for future research. Ecological economists, for example, could calculate the revenues a state could generate from specific income caps and wealth caps, explain how these revenues could finance the eco-social policies required for the post-growth transformation of the society and estimate their impact on greenhouse gases emissions. Political economists could similarly use our framework to explore how policies that are comprehensive and integrated in broader packages could gain more public support. Furthermore, it would be interesting to study the political processes through which such policies are challenged and negotiated by political actors during their implementation. Further research could also draw on our analytical framework to discuss what types of caps – or combination of caps – would fit with contemporary or post-growth societies.

6. Conclusion

In the context of the post-growth transformation of society, caps on income and wealth represent an innovative tool that can complement other policies aimed at the fair distribution of resources, which is a central objective of the degrowth movement. The present paper explores this under-researched tool and provides new insights that can inform the debate on how such policies should be designed to help this transformation. We constructed an analytical framework of seven parameters that we identified as essential components of all the policies we considered here and examined how these parameters might be defined in different contexts. The framework shows that many configurations are imaginable, and the options for each parameter are numerous. Additionally, the two U.S. examples we presented show that proposals of income caps can reduce inequalities and should therefore be treated as a viable solution to the problem of inequality in post-growth economies.

Our analysis revealed recurring patterns; namely, that such policies tend to emerge during crises and to form part of larger packages that include social measures and are supported by experienced political leaders. On the basis of our findings, we made specific recommendations that aim to increase public support for such policies: to design comprehensive policies that address concrete and current problems and to package them together with other social measures. While post-growth scholars commonly advocate eco-social policies, such as minimum income guarantees or the reduction of working time, we argue that policies of income caps and wealth caps could finance these eco-social policies and should therefore be part of the new eco-social contract that such scholars envisage.

Declaration of Competing Interest

The authors declare no conflict of interest.

Data availability

Data will be made available on request.

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Appendix A. Appendix

Table 9
List of the 16 documents about income and wealth caps without policy proposals.

(Bertomeu and Raventós, 2020)	(Friedman, 2008)
(Blumkin et al., 2013)	(Kramm and Robeyns, 2020)
(Burak, 2013)	(León, 2019)
(Cardoso et al., 2022)	(Llense, 2010)
(Cigna, 2019)	(Medeiros, 2006)
(Concialdi, 2018)	(Penn and Berridge, 2016)
(Daly, 1996)	(Robeyns, 2017)
(Drewnowski, 1978)	(Robeyns et al., 2021)

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