



Utredning om misstanke om avvikelse från god forskningssed

Bakgrund

På uppdrag av Rektor har undertecknade fått i uppgift att utreda misstankar om avvikelser från god forskningssed (dnr L 2023/165) i enlighet med högskolans anvisningar i denna typ av ärende (dnr L 2021/85).

Utredningsgruppen har bestått av professor Magnus Tideman (ordf), professor Magnus Jonsson och högskoledirektör Catarina Coqaund. Högskolejurist Jenny Moberg har bistått gruppen med juridisk kompetens.

Process

Utredningsgruppen har, efter ett inledande sonderande möte, haft 3 st protokollförda möten. Inför och mellan mötena har underlag inhämtats och sammanställts. Utredningsgruppen har efter analyser av materialet varit i kontakt med högskolans bibliotek och utbildningsstöd för kompletterande upplysningar.

Nedan presenteras utredningens resultat och bedömning.

Utredning

I Högskolelagen framgår att god forskningssed ska värnas i högskolors verksamhet (1 kap §3a). God forskningssed definieras av Vetenskapsrådet (2017) och av ALLEA (2018) och avser i korthet forskarens ansvar för att bedriva forskning enligt principerna tillförlitlighet, ärlighet, respekt och ansvarighet (ALLEA 2018). Det är den enskilde forskarens ansvar att se till att arbetet bedrivs under trygga och etiskt säkerställda former. Det handlar bland annat om att vara väl förtrogen med forskningsetiska principer och regler och dess tillämpning i forskningens alla faser, dvs från planering till publicering. Forskning som berör människor och som på något sätt hanterar känsliga personuppgifter ska enligt gällande lagstiftning etikprövas (Lag om etikprövning av forskning som avser människor, 2003:460). Forskarens ansvar för att följa god forskningssed framgår även i Lagen om ansvar för god forskningssed och prövning av oredlighet i forskning, § 4, 2019:504)

Utredningsgruppens uppdrag har inte varit att utreda oredlighet i forskning utan annan avvikelse från god forskningssed. Frågan om oredlighet i forskning har inte ingått i gruppens uppdrag utan hanterats i särskild ordning (dnr UI 2023/133).

Olika typer av avvikelser kan bli aktuella (se Vetenskapsrådet 2017 och ALLEA 2018). I det här aktuella fallet handlar det om avvikelsemisstankar när det gäller frågorna:

1. Kan det aktuella fallet bedömas som inom ramen för det sk studentundantaget?
2. Om inte, har forskning som innehåller känsliga personuppgifter genomförts och eventuellt publicerats i någon form utan nödvändigt etiskt tillstånd?

Beroende på svaren på ovanstående frågor väcks olika följdfrågor avseende behov av etisk prövning, information till respondenter, inhämtande av samtycke, behandling av personuppgifter och anonymitet.

Baserat på det underlag utredningsgruppen tagit del av kan det konstateras följande:

Studentundantaget (§2) är tillämpligt endast inom ramen för högskoleutbildning på grund- eller avancerad nivå. Undantaget ska användas restriktivt och bara om forskningsarbetet är ett moment i utbildningen. Det arbete studenterna gör får inte överlappa med ett forskningsprojekt, inte leda vidare till eller vara en del av ett forskningsprojekt eller vara avsett att publiceras i vetenskaplig tidskrift, då måste det etikprövas i enlighet med Lag (2003:460) om etikprövning av forskning som avser människor.

Klaus Solberg Söilen har vid upprepade tillfällen publicerat bearbetade studentarbete i vetenskapliga tidskrifter tillsammans med de berörda studenterna (en sökning ger elva träffar på sampublicerade arbeten sedan 2013), **bilaga 1**. Att publicering varit en avsikt/uttalad ambitionen även i det här aktuella fallet om befolkningskontroll, **bilaga 2**, framgår också av meddelande daterat 220322 och powerpointbild, **bilaga 3 och 4**. Det aktuella studentarbetet har i bearbetad form även publicerats med enbart Klaus Solberg Söilen som författare, **bilaga 5**. De tidigare publicerade artiklarna (bilaga 1) bedöms inte vara av den karaktär att etikprövning krävs, även om två av dem kan anses ligga nära gränsen. Utredningen kommer därför fokusera nedan på arbetet som dokumenteras i bilaga 2-5 som bedöms vara av etikprövningskaraktär.

Som framgår av bilaga 2 och 5, innehåller enkäten som arbetet grundar sig på frågor om respondenternas religiösa tillhörighet. Detta är en känslig personuppgift enligt etikprövningslagstiftningen. Det innebär att forskning med det innehållet ska etikprövas. Ett undantag från formell etikprövning är studentundantaget som innebär att det inte behövs under förutsättning att det endast utgör ett moment inom ramen för högskoleutbildning på grund eller avancerad nivå. Då behövs inte etikprövning men arbetet ska bedrivas under samma regler som annan liknande forskning och det är forskarens och lärosätets ansvar att se till att arbetet bedrivs under etiskt säkerställda och trygga former. Undantaget ska användas restriktivt och således bara om det är ett moment i utbildningen. Forskningen får som nämnts inte överlappa med ett forskningsprojekt, inte leda vidare till eller vara en del av ett forskningsprojekt eller vara avsett att publiceras i vetenskaplig tidskrift. I dessa fall måste det etikprövas.

Det aktuella fallet som innehåller känsliga personuppgifter och som framgår av bilaga 2 bedöms vara avsett att publiceras. Npof har funnit att Klaus Solberg Söilen har gjort sig skyldig till oredlighet i forskningen rörande det aktuella arbetet och i underlaget framgår nya omständigheter som visar att avsikten har varit att publicera arbetet, **bilaga 6** (Npof:s beslut har när detta skrivs ej vunnit laga kraft). Således skulle arbetet underställts etikprövningsmyndighetens bedömning. Det har enligt de uppgifter som vi haft tillgång till inte skett.

Som en följd av karaktären som etikprövningspliktig forskning ska arbetet följa de forskningsetiska riktlinjerna (se Vägledning om etikprövning av forskning på människor. Etikprövningsmyndigheten 2023). Av detta följer att tilltänkta respondenter ska informeras om forskningens syfte och bearbetning, hantering av personuppgifter, anonymitet etc och informerat samtycke ska inhämtas. Dessa regler har enligt utredningsgruppens bedömning inte följts i det aktuella fallet.

Sammanfattande bedömning

Var och en som arbetar med forskning behöver vara väl förtrogen med forskningsetiska regler och etiska överväganden ska göras inför och under genomförandet av ett vetenskapligt arbete. Särskilt viktigt är att noga överväga risker, inte minst när forskningen rör människor i utsatta och svåra förhållanden och/eller berör känsliga uppgifter som tex religion.

Utredningsgruppen konstaterar att Klaus Solberg Söilen tillsammans med studenter kontinuerligt publicerat bearbetade versioner av studentarbeten som vetenskapliga artiklar. Publicerings-ambitionerna har förmedlats till studenterna under utbildningens gång och vid tidigare publiceringar har studenternas namn angetts tillsammans med Solberg Söilens. Gruppens bedömning är att avsikten i det här aktuella fallet varit att publicera arbetet även om publiceringen har dragits tillbaka. Huruvida detta fall är att betrakta som oredlighet tar utredningsgruppen inte ställning till utan hänvisar till den hantering som skett i särskild ordning. Utredningsgruppens uppgift har varit att utreda ev. annan avvikelse från god forskningssed.

Utredningsgruppen menar därför att studentundantaget inte är tillämpligt och kan konstatera att avvikelse från god forskningssed förekommit när det gäller avsaknad av etikprövning av forskning som innehåller känsliga personuppgifter (religion) och därpå följande brister i information till respondenter, samtycke till deltagande i forskningsprojekt och behandling av personuppgifter.

Utredningsgruppen bedömer inte allvarlighetsgraden avseende avvikelsen från god forskningssed. I enlighet med högskolans anvisningar (Dnr L 2023/165) ska ärenden som kan falla inom annan myndighets tillsyn överlämnas till den myndighet som ska utreda ärendet (punkt 3, Ibid). Det är denna myndighet som i så fall får bedöma allvarlighetsgraden. Samtidigt vill utredningsgruppen understryka både forskarens och lärosätets ansvar att se till att forskning, både inom ramen för undervisning och som fristående forskning, bedrivs under etiskt säkerställda och trygga former.

Halmstad den 15 april 2024

Magnus Tideman

Professor, ordförande

Magnus Johnsson

Professor

Catarina Coquand

Högskoledirektör

Bilagor:

1. Publikationer med studenter
2. Befolkningskontroll
3. Mail till studenter
4. Powerpointbild från presentation 2023
5. Publikation - Social, economic, and policy aspects of Degrowth through population control: Is a young generation willing to be nudged into having fewer children in return for a tax reduction or financial bonus?
6. Beslut i fråga om oredlighet i forskning

Publikationer med studenter

1. Social, economic, and policy aspects of Degrowth through population control: Is a young generation willing to be nudged into having fewer children in return for a tax reduction or financial bonus?
2. Improving last mile delivery for e-commerce: the case of Sweden
3. Exploring a corporate entrepreneurship process through an accelerator program and key success factors: A case studies from Bangladesh
4. A Comparative Study of Chinese and Western MBA Programs
5. An Assessment of Customer Shared Value in the Restaurant Industry – a Survey from Sweden.
6. An evaluation of Business Intelligence Software systems in SMEs – a case study
7. Bara segrar bygger
8. Factors shaping vendor differentiation in the Business Intelligence software industry: Finding the Optimal Platform for Funders and Entrepreneurs
9. How Phases of Cluster Development are Associated with Innovation - the Case of China
10. Optimal ways for companies to use Facebook as a marketing channel
11. Using the SSAV model to evaluate Business Intelligence Software

We want to know whether a hypothesis was accepted (A) or rejected (R). The hypotheses themselves are not directly influenced by the characteristics of the participants (Nationality and Age). In the data collection section below, we show how the scope of the survey is narrowed down. Four questions regarding the participants' characteristics (i) Level of Income; (ii) **Religion**; (iii) Level of Education; and (iv) Gender are linked to the two financial steering elements (i) Income Tax Reduction; and (ii) Bonus Payment. We want to find the steering elements' impact on the willingness of people to change their behavior toward having children.

s.11, Social, economic, and policy aspects of Degrowth through population control: Is a young

| | | |
|-----------------|--------------------|------|
| Religion | Christian | 32.1 |
| | Muslim | 27.4 |
| | Buddhist | 0.9 |
| | Jewish | 0.8 |
| | Hindu | 6.5 |
| | Atheist / Agnostic | 19.5 |
| | Others | 4.9 |
| | No Answer | 8.0 |

s.12, Social, economic, and policy aspects of Degrowth through population control: Is a young

From Klaus Solberg Söilen

To Klaus Solberg Söilen; Maja Björklund; Gentrit Dobreva; Emma Harrysson; Taher Hosain; Henrik Nohr; Muhammad Qasim; Awais Munir; Jan Wessel; Silas Jonas Fritz; Alena Fridrichova; Harmanpreet Kaur -; Menu Geethika Nishadi Lokuketagodage Dona; Muhammad Naeem; Luzia Martins Liberio Coelho; Valentina Meglaj; Prudence Kahwema; Elvan Yilmaz; Linda Lichte; Syed Ali Sardar; Uzma Nauman; Mizna Zahid; Bimala Tiwari; Kudzaishe Rukobo; Amna Javaid; Lukas Dick; Quratul Ain Imran; Henry Bwambale; Khuram Shahzad; Gurvinder Kaur; Bram Nederlof; Gwendoline Mahmang Sanji; Naqash Zafar; Rida Salim; Arnold Kramer; Antonia Dartsch; Timothy van Kassel; Abdul Ghafoor; Carl Henrik Hegethorn; Jincy Kaleekal; Usman Mushood; Mohammad Azizul Hakim; Nurana Gasimova; Denis Zachej; Najrudheen Karikkulakkatt; Santosh Basnet; Adeela Noureen; Badar Rashid Chaudhry; Rizwan Abbas; Syed Rubyat Ahsan; Huzaifa Waqas; Mubin Ahmed; Shanib Tufail; Muhammad Ehsan Latif; Emelie Jones Oldby; Bilal Shafique; Junaid Ajmal; Syed Shah Hassan; Amna Altaf; Muhammad Umer

Cc

Sent Tuesday, 22 March 2022 10:27

Subject General feedback on our project

Dear student,

I have now read and re-read our project paper. I have also spent many hours editing it, seeing what can be used and what needs to be changed. These are my conclusions:

In short the parts that did work relatively well was the method and statistics given that the data was actually collected in a correct way, which I have no guarantee for. One weakness was that we did not get good data (sample size) on average bonus payments. All other parts were lacking in some sense. However, we should remember that this is your first time with a scientific article project, so I think you all did more or less ok. My job is to encourage you, to get you interested in science. I hope I achieved that to some extent.

However, on the critical side: The theory presented did not fit with the statistics we did, but read like a separate paper, not well enough related to population control. There are too many bits and pieces on "degrowth" that do not fit together as one streamline of thinking. This often happens when there are many contributors and no one to take care of the entirety, so it was also a bit expected. The discussion and analysis part after the data was not strong, often just repeating what had already been said. The abstract did not catch the essence of the findings and implications, not did the conclusion. But as said, do not this discourage you.

As the paper can not be submitted as it is I will only include the names of students who I think made a significant part in the final version as co-authors but I will leave a note of acknowledgement to all who passed the course in paper instead were it to be published. I hope that is ok with you. If I hear no objections here on blackboard i will take it as a yes.

Klaus Solberg Söilen

14/03/2023, 08:45

Dear students,

I received both groups works yesterday before the deadline, thank you. It looks very existing. Now is the time when I need to go in an read trough and make corrections in all parts as part of a feedback which I will send back to you on Blackboard. This will give me the possibility to set individual grades. Please allow for 10 days+ for this work. Your grade will be entered directly in Ladok afterwards.

Thanks for taking the course! I now it has been tuff on many of you, but I hope you learned something about the scientific method and how to do research. Good luck with our next courses. For those continuing in the 2nd year I will see you then in the course about the classics in business and economics.

Regards

Klaus

PS. After I have made corrections, there is a possibility that we can publish together. It depends on the number of errors and fixes in the papers. If you would like NOT to have your name on the [paper when publishing](#) or if you object to the publication in any way around the lines we talked about in class, let me know before March 18. Otherwise I will take your non-reply as a contract of approval.

The student project

Last year's project: (let's go through it in detail)

1 Social, economic, and policy aspects of Degrowth through
2 population control: Is a young generation willing to be nudged
3 into having fewer children in return for a tax reduction or
4 financial bonus?

5 **Keywords**

6 Environmental policy, financial incentives, Degrowth, nudge theory, Malthus, Georgescu-
7 Roegen

8 **ABSTRACT**

9 This article focuses on environmental change through population control and its social,
10 economic, and policy aspects. Is society caught in a trap of resource competition that threatens
11 our existence? Thomas Malthus thought so and made the connection between population size
12 and available resources. Georgescu-Roegen developed these ideas further with Bioeconomics,
13 later studied under the notion of Degrowth. Most research since has focused on the supply-side,
14 arguing for more sustainable products. Few have looked at the demand-side and how to achieve

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10 economic, and policy aspects. Is society caught in a trap of resource completion that threatens
11 our existence? Thomas Malthus thought so and made the connection between population size
12 and available resources. Georgescu-Roegen developed these ideas further with Bioeconomics,
13 later studied under the notion of Degrowth. Most research since has focused on the supply-side,
14 arguing for more sustainable products. Few have looked at the demand-side and how to achieve
15 population control as a strategy for Degrowth. The novelty of this article is that it uses nudge
16 theory to present empirical data from 987 surveys and suggests that a young generation is willing
17 to have one or no children against the promise of a monetary reward in the form of a tax
18 reduction or a bonus payment. Furthermore, the analysis shows that moderating factors such as
19 religion, income, and gender impact the decision to accept tax reductions or bonus payments. But
20 it also shows that people with high incomes and higher education are less incentivized to have
21 fewer children. We compare results to the literature, discuss the implications of our findings and
22 suggest future studies.

23

24 **1. Introduction**

25 The earth's capacity to provide for all its inhabitants has a limit that we cannot exceed,
26 Thomas Malthus notes in "An Essay on the Principle of Population" ([Malthus, 1798](#)). He argues
27 that population growth is insurmountable and that it will be impossible for the earth to provide
28 humankind with enough sustenance. More than two centuries later, in a book entitled "The
29 Entropy Law and the Economic Process," Georgescu-Roegen ([1971](#)) reminds us that energy can
30 never be restored to its initial state after a product has been generated and that this notion is
31 fundamental to the study of economics. Ever since, the degrowth literature has acknowledged
32 Nicholas Georgescu-Roegen as its primary ideological figure ([Kerschner, 2010](#)), as he was the
33 first to recognize the biophysical constraints to growth ([Bonaiuti, 2011](#)). Since then, it's also been
34 common, but not uncontroversial, to argue that if the population decreases, fewer households
35 with poverty, hunger, and gender bias will require aid and support ([Nhat Minh Pham, 2020](#)).
36 With a smaller population, the world will find it easier to deal with public health constraints,

37 illiteracy, and gender inequality ([Nhat Minh Pham, 2020](#)). The consequence is that there will be
38 fewer to take care of an aging population, and labor costs will increase ([Nations, U., 2017](#)). The
39 UN's projected global economic growth rate until 2050 is thought to decrease from 1 to 0,5%. At
40 the same time, the population is thought to increase from 8 to 10 billion people ([Nations, U.,
41 2022](#)). Most of the population increase is thought to find place primarily in Africa, but also to
42 some extent in India and Asia. India, Nigeria, Pakistan, Congo, and Somalia stand out, forecasted
43 to represent 45% of all population growth until 2050 ([Nations, U., 2022](#)).

44 Critics of population growth insist that it will lead to resource shortages, environmental
45 destruction, and resulting hardship and unrest ([Bergaglio, 2017](#)). Going back a generation, Paul
46 Ehrlich, in "The population bomb," warns about the consequences of what a large population
47 will do to the environment ([Ehrlich, 1968](#)). In 2009 he revisited the problem and concluded that
48 "the basic message is even more important today than it was forty years ago" ([Ehrlich, P. R.,
49 Ehrlich, A. H., 2009, p. 63](#)). In the article, the authors suggest that "optimum population size
50 might be 1.5 to 2 billion" ([p. 68](#)). The exact figures are repeated in a 2018 interview with the
51 Guardian newspaper. Tucker, a geographer, suggests that the planet can support 3 billion and
52 that we should try to achieve a 1.5 total fertility rate (TFR) by 2030 ([Tucker, 2020](#)).

53 The global population will have to reduce the use of existing 'fossil fuel resources
54 significantly and replace these with other 'renewable energy sources' ([Jackson, 2009](#)). This
55 requires a social transformation to shift people's mindsets to accept new concepts and social
56 movements ([Bergaglio, 2017](#)). These are what we call supply-side initiatives, looking at how
57 individuals can reduce their consumption. Reducing the number of consumers is referred to as
58 demand-side and can be the choice of individuals, groups, or states. In this article, we examine
59 how governments can implement policies to reduce the population. Dodson et al. ([2020, p. 3](#))
60 argue that the Shared Socioeconomic Pathway (SSP) population trajectories used by the IPCC in
61 its Assessment Reports tend to hide the role explicit policies can play in determining future
62 fertility rates.

63 If we look at population patterns in Europe, the world population was projected to be 1.6
64 billion in 1900 following the first Industrial Revolution. By 2000, it had risen to 6.1 billion
65 ([Population Reference Bureau, 2019](#)). Due to significant socio-economic advancement and
66 advances in science and technology, notably medical research, the world's population has
67 quadrupled in 100 years, resulting in increased living standards and life expectancy. In the fall of
68 2011, the world population passed 7 billion, and the total world population is now approaching 8
69 billion. With an annual growth of 0.9 percent, the world population is projected to reach 9.1
70 billion by 2040 ([Worldometers, 2022](#)).

71 72 *1.1. Research Gap*

73 The topic of Degrowth through population control is missing from the 1994 Cairo
74 Conference, the 2014 Conference on Degrowth for Ecological Sustainability and Social Equity
75 in Leipzig, the 2008 international conferences in Paris, 2010 in Barcelona, and from the
76 Montreal and Venice Conference in 2012 ([Baykan, 2007](#)). Supply-side topics have dominated,

77 like the role that educating girls and empowering women have played in reducing birth rates
78 ([Cattaneo, D'Alisa, Kallis, and Zografos, 2012](#)).

79 A growing body of research indicates that people in both advanced and developing
80 economies are ready to pay for green regulations ([Combes, 2018](#); [Inglehart, 1995](#); [Jones, 2009](#);
81 [Sulemana, 2016](#)). The most sophisticated environmental policies are found in wealthier
82 countries, particularly member nations of the European Union ([Kamstra et al., 2009](#)). Even
83 though numerous studies discuss the issue, they were done with older data from the last century
84 ([Brechin and Kempton, 1994](#); [Dunlap and Mertig, 1995](#); [Gerhards and Lengfeld, 2008](#)), or they
85 have been confined to a specific country ([Drews, 2016](#)). One exception is Gerhards and
86 Linfield's concise cross-national analysis ([Gough et al., 2008](#)) which utilizes Euro barometer
87 2006 data. It demonstrates that a considerable proportion of people in most European nations
88 oppose ecologically destructive growth. Regardless of fundamental beliefs, the desire for a
89 secure environment rises in conjunction with a country's wealth ([Franzen and Meyer, 2010](#)).

90 To close some of the research gaps, we want to examine public approval for growth
91 reduction through population control in 10 European nations. Concentrating the survey on
92 comparable countries or continents regarding wealth makes sense to explore the possibility of
93 possible future EU policies. We want to determine whether it is possible to achieve a significant
94 decrease in the population through voluntary choice, unlike e.g., in China, with the one-child
95 policy active between 1980-2015. Neither financial solutions like tax reductions nor monetary
96 bonuses have been explored to achieve population control for Degrowth.

97

98 **2. A literature review and theory**

99

100 Malthus, in "Essay on the Principle of Population" ([1798](#)), argues that substantial growth
101 in population, an increase in the current population's usage of finite resources, or a combination
102 of both might have ecological repercussions. This prediction now seems clear: Environmental
103 deterioration is a significant worry in 21st-century Europe, and population size is a considerable
104 consideration ([Nhat Minh Pham, 2020](#)). Solving it will require good data. As Kate Raworth
105 reminds us of in "Doughnut Economics" ([2017](#)), empirical data on the nexus between
106 population, urbanization, and other socio-economic factors with the environment is needed to
107 understand what solutions may be possible.

108 Critics of population degrowth argue that humankind has grown because of our
109 innovations, dispelling "Malthusian" fears about population growth ([Simon, 1998](#)). Many
110 environmental economists, on the other hand, believe that a sustained economy requires a
111 balanced human population ([Daly and Farley, 2004](#)). This problem can be achieved through
112 understanding various adverse effects of expansion (primarily many of which are related to
113 beyond carrying capacity) and the effectiveness of available interventions to revert growth
114 ([O'Sullivan, 2020](#)). It seems voters are willing to commit individual sacrifices, and the younger
115 population is more dedicated than the older, making the age or generational factor an interesting
116 variable to study ([Ančić and Domazet, 2015](#)).

117 Other critics may say that population control is challenging to implement in the countries
118 that need it the most. Governments prioritize domestic economic difficulties over global
119 economic challenges. This is partly attributable to the fact that domestic institutions only have
120 local and national problem-solving authority ([McCormick, 2018](#)). These political limits function
121 as a veil, hindering the implementation of significant natural reforms. As a result, not only is the
122 narrative of population and economic expansion not perceived through an ecological lens, but the
123 load on natural resources is compounded exponentially, well beyond the earth's potential, due to
124 an unsustainable myopic concentration on growth ([Nhat Minh Pham, 2020](#)). In other words, the
125 countries that need to implement population degrowth cannot manage or afford it. Those that
126 can, can argue it isn't a problem in their country. The fact remains, overpopulation will have
127 negative socio-economic effects since the shared resources accessible to all society's members
128 will be overused, harming the earth ([Hardin, 1968](#)).

129 Looking at financial incentives to steer human behavior may prove to be more palatable
130 than more authoritarian state control in the form of laws, nudging citizens to do what is best for
131 all. Examples of Degrowth through nudging have also been studied by Samerski ([2018](#)), Hobson
132 ([2013](#)), Gyimothy et al. ([2019](#)), and Lenzen et al. ([2022](#)). Nudge theory may be said to have
133 started with James Wilk ([1993](#)) and as a new science of change or
134 metamorphology/transformation with James Wilk ([1999](#)), even though the phenomenon or
135 technic here studied is as old as humankind. Wilk define a General Theory of Intervention,
136 defined as that "which provides an account of what it is for anyone or anything to act and what it
137 is for anyone or anything to be acted upon" ([1999, p. 14](#)). A policy would be one such example.

138

139 *2.1. The development of the degrowth movement*

140 The search for alternative economic models to consumer capitalism has become of
141 paramount importance since the realization that artificial CO2 emissions are to blame for climate
142 change ([Fournier, 2008](#)). The degrowth movement – which started in France during the past
143 decades and led to the foundation of the so-called political party "Parti pour la Décroissance"
144 (2006) – recognizes the need for a profound societal shift ([Büchs and Koch, 2019](#); [Fournier,](#)
145 [2008](#)). It started when Georgescu-Roegen coined the term "degrowth" in 1971 to describe what
146 he saw as the irrevocable damage caused by neoliberal economics' politics of everlasting growth
147 ([Fournier, 2008](#)). The sentiment was that Degrowth demands a conceptual understanding of
148 ecological and social restrictions and the creation of a new socio-environmental public realm
149 which implies a selective decrease of complexity by combining conservation, abandonment, and
150 innovation in a variety of domains ([Deriu, 2012](#)). The degrowth movement hosts several events,
151 the two most notable being the annual "purchase nothing day" in November and the organization
152 of the "Marche pour la Décroissance" ([Fournier, 2008](#)). Even though the movement has spread to
153 other European countries, particularly Italy and Belgium, its ideas have received little attention
154 in Anglo-Saxon academic or public debates ([Fournier, 2008](#)).

155 *2.2. Definition of Degrowth, Degrowth civilization*

156 Degrowth is primarily understood as downscaling and thus bases its actions and
157 reflections on alternative economic models, measurable indicators, energy flows, and statistical
158 evaluations ([Kerschner et al., 2015](#)). It is often described as a science-activist movement that is
159 characterized in ecological economics as an equitable and welfare-enhancing downscaling of
160 economic output and consumption ([Demaria et al., 2013](#); [Kallis, 2011](#); [Schneider et al., 2010](#);
161 [Sekulova et al., 2013](#); [Victor, 2012](#); [Xue, 2014](#)). Degrowth is also used with Garret Hardin's and
162 others' arguments that economic growth should not be a prerequisite for improving human well-
163 being ([Belmonte-Urena et al., 2021](#)). In other words, the fundamental notion is that human
164 development may be achieved without economic growth ([Assadourian, 2012](#); [Kallis, 2011](#)). A
165 genuinely democratic government does not worsen living circumstances and, as a result, does not
166 deny future generations the same choices and political freedoms that we have now ([Deriu, 2012](#)).

167 Since the 2008 crisis, cheap money has led to increased consumption. The deregulation
168 of the banking system and the availability of cheap money that resulted in the private and public
169 borrowing crises were not mistakes but purposeful policy choices made to sustain prosperity
170 ([Kallis et al., 2012](#)). Thus, a degrowth civilization would have to be built on cultural, social,
171 economic, political, and technical ideas that are radically different from those that currently
172 prevail ([Büchs and Koch, 2019](#)).

173 Should individuals choose to stop responding adversely to the term "degrowth" by
174 favoring economic development and a green economy, then it could be a solid maxim and power
175 proverb to overcome the development-based model ([Tomaselli et al., 2021](#)). Even though the
176 academic and activist degrowth communities have grown in recent years, as evidenced by an
177 increase in the number of degrowth conferences, initiatives, and academic publications, the
178 degrowth concept remains without any ready-made political solutions ([Bonaiuti, 2012](#)). The
179 different interpretations of Degrowth suggest that it may stay an ambiguous concept that will
180 contribute to more confusion instead of a clear and constructive debate about environmental
181 policy ([van den Bergh et al., 2011](#)).

182

183 *2.3. Degrowth and the shortcomings in the neoclassical perspective of economics*

184 With "degrowth," the Malthusian discussion over overpopulation is taken over by
185 Georgescu-Roegen. Georgescu-Roegen ([1977](#)) does not think we have a choice but to tackle the
186 problem: "The conclusion is clear and inescapable (...) Sooner or later "growth" (...) must come
187 to an end. (...) The only question is "when"?" (p. 105). Since then, additional growth now relates
188 to worse subjective well-being ([Bonaiuti, 2012](#)), as growth that exceeds the amount required to
189 meet physical/necessities does not contribute to psychological comfort. This has led others to
190 conclude that the existing economic system is incapable of dealing with resource scarcity and
191 affluence ([Andreoni, 2020](#)).

192 Where the European economy had grown by 30% throughout eight centuries, its growth
193 has been exponential since the industrial revolution (circa 1820) ([Bonaiuti, 2012](#)). Besides the
194 economy, the world's population increased between 1820 and 2003 ([Jakob and Edenhofer, 2014](#)).
195 This underlines Georgescu-Roegen's point that a rising population leads to another immediate

196 bioeconomic commandment: namely that "the population of the globe must decrease to the level
197 of the natural carrying capacity of the globe, i.e., to the level at which it can be fed by organic
198 agriculture alone" (1977, p. 112). During the same period (1820-2003), the average per capita
199 income increased nearly tenfold (Jakob and Edenhofer, 2014). It is expected that the real GDP
200 per capita more than doubles between the start of 2005 and 2035, according to the business-as-
201 usual scenario based on 2005 conditions (Victor, 2012).

202 When using the GDP figures, we see that economic growth is not distributed equally. A
203 few affluent individuals own more money and property than whole countries, and hundreds of
204 millions of people are jobless or underemployed (Kerschner et al., 2015). The wealthiest 20% of
205 the world population consumes 82.7 percent of global output, the middle 60% consumes 15.9%
206 of global production, and the bottom 20% consumes merely 1.4% of the global output. Despite
207 this significant difference in consumption, made available by the difference in income, there is
208 no positive link between income per capita and the indicator of subjective well-being in any of
209 the ten most advanced countries (Bonaiuti, 2012). A study by Xue (2012) contends that limited
210 natural resources may not sustain universal wealth at the current level of rich countries.

211 In 1973 Kenneth Boulding, another major contributor to the evolutionary approach to
212 economics that also Georgescu-Roegen represented, famously said, "anyone who believes
213 exponential growth can go on forever on a finite planet is either a madman or an economist"
214 (Gheorghica and Fotea, 2012, p.2). Or, as Georgescu-Roegen (1986) expressed, available energy
215 and available matter are both irrevocably degraded into unavailable states, meaning that growth
216 is only possible for as long as enough energy and materials are available. Neoclassic economics
217 ignores this fact; studying the world of resources like the present generation was the last, and
218 where each person lives a life detached from the larger social group maximizing his options for
219 his own personal benefit in a market with perfect information. As long as this school of thinking
220 dominates in prestigious business schools and decides who gets influential jobs in organizations
221 like the World Bank, IMF, and the UN, it's difficult to see how change is possible.

222 For more than a half-century, humanity has been consuming more global hectares than
223 the earth's biocapacity or, in other words, ecological overshoot (Gheorghica and Fotea, 2012).
224 Still, we carry on as if little has happened. When resources are utilized faster than they can be
225 replenished, they become depleted. It started with the industrial revolution during the time of
226 Malthus. Our need for raw resources expanded as civilization progressed. Today our world is
227 unable to meet our ever-increasing needs (Büchs and Koch, 2019). The global economy's
228 ecological footprint currently exceeds its regeneration capability by around 30% (Büchs and
229 Koch, 2019). The average regeneration capacity in Europe is three times higher (Bonaiuti, 2012).
230 This leads to increased conflicts over resources that are likely to become worse. To change this,
231 we need to change how we study economics. However, Malthus and Gergesu-Roegen show that
232 we do not have to reinvent anything.

233

234 *2.4. The problem, the risks, and how the problem may be solved practically*

235 The degrowth model goes beyond just a decrease in economic production but demands
236 practical, real-life changes in the political, economic, and social system ([Xue et al., 2012](#)).
237 Degrowth emphasizes the need to reduce global consumption and production (social
238 metabolism). It advocates a socially just and ecologically sustainable society with social and
239 environmental well-being replacing GDP as the indicator of prosperity ([Xue et al., 2012](#)). This,
240 however, is easier said than done. Gerber ([2020, p. 237](#)) explains: "The ideology of growth – or
241 growthism – is at the core of capitalism." Gerber argues that growthism sustains capitalism
242 politically because it allows for avoiding redistribution by giving the impression that everyone
243 will continually benefit from it. Due to this, GDP growth remains the key stabilizing mechanism
244 of capitalist economies ([Gerber, 2020](#)).

245 Despite the apparent risks to society, Degrowth activists and the academic community
246 have rejected the axiomatic requirement of economic growth to guarantee general human
247 prosperity ([Kerschner et al., 2015](#)). A review by Kallis et al. ([2018](#)) summarised evidence from
248 ecological economics indicating that proposed green growth paths are unlikely to be sustainable.
249 Unlike the consumption of essential goods, the demand for positional goods is, in its very nature,
250 essentially unlimited ([Bonaiuti, 2012](#)).

251 The longer we wait, the more painful the shock imposed by the earth's inherent limits
252 may be, and the possibility of seeing "ecototalitarian" solutions emerge increases ([Fournier,
253 2008](#)). Throughout the latest ten years, Degrowth has gained ground in the union of a relevant
254 exploration program through global meetings and diaries and the making of examination
255 organizations. Degrowth research in Europe plays a significant role in this development
256 ([Escobar, 2015](#)).

257 The depletion of investment channels in mature economies, the debt load, and
258 Geoeconomics movements are leading to a structural catastrophe ([Bonaiuti, 2012](#)). Less growth
259 implies less material consumption, less CO2 emissions, and less habitat loss as a final effort to
260 keep world ecosystems within acceptable boundaries ([Kallis, 2011](#)). Faced with a widespread
261 economic, ecological, and social crisis, as well as injustice, loss of meaning, instability, and the
262 prospect of the entire financial system collapsing, political movements and expanding segments
263 of the public, are questioning what new plans are in the works ([Bonaiuti, 2012](#)). If the rest of
264 humanity is to escape intolerable poverty, and if humankind is to exist on this planet in a stable
265 and sustainable condition, it will have to adapt to more radical resource management, a radical
266 change in technology and production, and a more modest lifestyle for its citizens ([Asara et al.,
267 2013](#)).

268 Economic growth enhances energy consumption which affects the ecological system,
269 causes climate change, and contributes to an increase in disaster risks ([Tokic, 2012](#)). The logic is
270 that if Degrowth takes place slowly, then the risk of disaster will be minimal ([Tokic, 2012](#)). On
271 the other hand, continual Degrowth for an extended period would make room for a flat economic
272 growth rate, and, as we know that the financial market runs on prediction of the future; stock
273 markets would crash, and then the unstoppable vicious cycle of deflation starts ([Tokic, 2012](#)).

274 A system of "degrowth accounts" is needed, each with its own set of biophysical and
275 social variables which are derived from the definition of a steady-state economy (O'Neill, 2012).
276 The social indicators are based on the degrowth movement's stated goals and include variables
277 on equity, basic needs fulfillment, free time, sense of community, participatory democracy,
278 unemployment, life expectancy, and subjective well-being (O'Neill, 2012). According to Jarvis
279 (2019), one of the possibilities for Degrowth lies in social phenomenology, which focuses on
280 how people cooperate with others and develop a mutual understanding of common collective
281 goals. Sustainability could be achieved through collective consumption rather than
282 individualized since intentional sharing and togetherness require a higher level of comprehension
283 and sense. However, Belmonte-Urena et al. (2021) argue that the Sustainable Development
284 Goals (SDGs) are written in a way that is unlikely to generate policy adoption consensus,
285 especially among developing countries.

286 Some argue it's essential to avoid self-righteous climate "purist" accusations of
287 "hypocrisy" since this may inadvertently lead to reactionary reinforcement of the status quo, i.e.,
288 demanding all actions are fully consistent may paralyze progress as Degrowth becomes a form of
289 totalitarian thinking turning people away (Kallis et al., 2020). Sustainable Degrowth is more than
290 just a structural concept; it is a radical political project (Kallis, 2011).

291 Degrowth is presented as a societal option rather than a mandate imposed from without
292 for environmental or other reasons (Nebbia, 2012). Along with reducing consumption and
293 output, the degrowth movement's primary goals include decentralizing, developing democratic
294 institutions, and depoliticizing the economy by targeting to meet fundamental human needs and
295 guarantee the quality of life (Schneider et al., 2010; O'Neill, 2012). Degrowth is not just a goal
296 but the prosperous North's path toward a globally equitable SSE (Steady-state economy)
297 (Kerschner, 2010).

298 For Degrowth to be effective, it must be viewed as a shift that is the product of a
299 comprehensive and defined process of shared learning, self-education, social links restoration,
300 and communal transformation, which can only be achieved via a democratic participatory and
301 discursive process (Deriu, 2012). It's possible that technology can help achieve the desired goals,
302 but up until now, it is unclear how (Pesch, 2018).

303 One of the most significant obstacles to Degrowth is the so-called embedding of weak-
304 sustainability principles in mainstream political vision and governance, i.e., the belief that
305 producing higher-quality products is sufficient to address current ecological and social
306 challenges (Sekulova et al., 2013). Furthermore, while developing the right technologies and
307 policies can enhance the environmental impact of economic growth, rebound effects will likely
308 take place (Pesch, 2018). This means that the positive environmental effects are neutralized by
309 negative aspects elsewhere (Pesch, 2018).

310 When looking for solutions, it may be helpful to go back and see what Georgescu-
311 Roegen (1975, p. 377-378) suggests in his eight points for a minimal bioeconomic program: 1)
312 all instruments related to war must be stopped and prohibited; 2) use productive forces to
313 upgrade underdeveloped nations to moderate levels; 3) gradual reduction of population to meet

314 organic agricultural supply level; 4) avoid and regulate any energetic waste (waste from energy
315 production); 5) stopover manufacturing processes through a more conscious consumption of
316 "extravagant goods"; 6) re-educate individuals by replacing the focus on constant renewal in
317 fashion with durability; 7) concerted effort towards making goods durable which would mean
318 adopting a repairable kind of design; 8) come to terms with the allure for infinite speed and
319 improvement that undermines the essential leisure element of a good life.

320 The transition to Degrowth would have to be carefully orchestrated, considering not only
321 the limited availability of material and financial resources but also the need to incorporate the
322 public in deliberative procedures that examine people's perceptions of well-being ([Büchs and](#)
323 [Koch, 2019](#)). Equitable distribution of resources and decision-making powers will be essential
324 for this process ([Büchs and Koch, 2019](#)). Political economists have spent decades thinking and
325 writing about Degrowth and produced their guidelines for a peaceful and enjoyable journey:
326 summarized as delocalize, re-evaluate, re-conceptualize, restructure, redistribute, reduce, re-use,
327 and recycle ([Paulson, 2017](#)). Other researchers suggest capping the resources, resource taxes
328 with affordability safeguards, introducing support local living, high reserve requirements for
329 banks, cooperative firms, and properties, oppositional activism, building alternatives, reformism,
330 research, relocalization, cap basic incomes and consumption, limited birth licenses, etc. Long-
331 term stability would be obtained by reducing the world economy's commodity-price-induced
332 boom and bust cycles at the sacrifice of short-term profits ([Kallis et al., 2012](#); [Assadourian,](#)
333 [2012](#); [Demaria et al., 2013](#); [Xue, 2014](#); [Kerschner, 2010](#)). Moreover, emphasizing the relevance
334 of cultural diversity and advocating for a multicultural approach are other ingredients to consider
335 for Degrowth ([Asara et al., 2013](#)). By encouraging "Frugal consumption," purchasing things at a
336 moderate level in society will further help to reach degrowth goals economically ([Kallis, 2011](#)).
337 Most of these suggestions are what we can group under supply-side Degrowth.

338 [Sekulova et al. \(2013\)](#) state that two techniques must be combined in the degrowth plan:
339 The first lowers the amount of social and economic complexity, while the second entails
340 controlling and influencing the sociocultural setting. [Xue \(2014\)](#) explains how an urban village
341 (urban development typically characterized by medium-density housing, mixed-use zoning,
342 good public transit, and an emphasis on pedestrianization and public space) may work as a
343 spatial component to implement the principle of localism in a degrowth culture or society.

344 The alternative to a degrowth strategy is simply a good policy package with
345 environmental regulation and with complementary measures and institutional changes. Degrowth
346 is justified as an option to be taken democratically and freely rather than as a necessity ([van den](#)
347 [Bergh et al., 2011](#); [Fournier, 2008](#)).

348 [Georgescu-Roegens'](#) 3rd suggestion regarding "gradual reduction of population" may be
349 one such solution on the demand-side. We have seen how most of the literature on Degrowth
350 focuses on the supply-side (more sustainable products). Few authors consider the Malthusian
351 perspective of the demand-side of population control (fewer consumers), not that the first
352 excludes the second. From the literature review, it's clear that there is a need to look at how
353 population control can be achieved, e.g., through policies in the form of financial incentives and

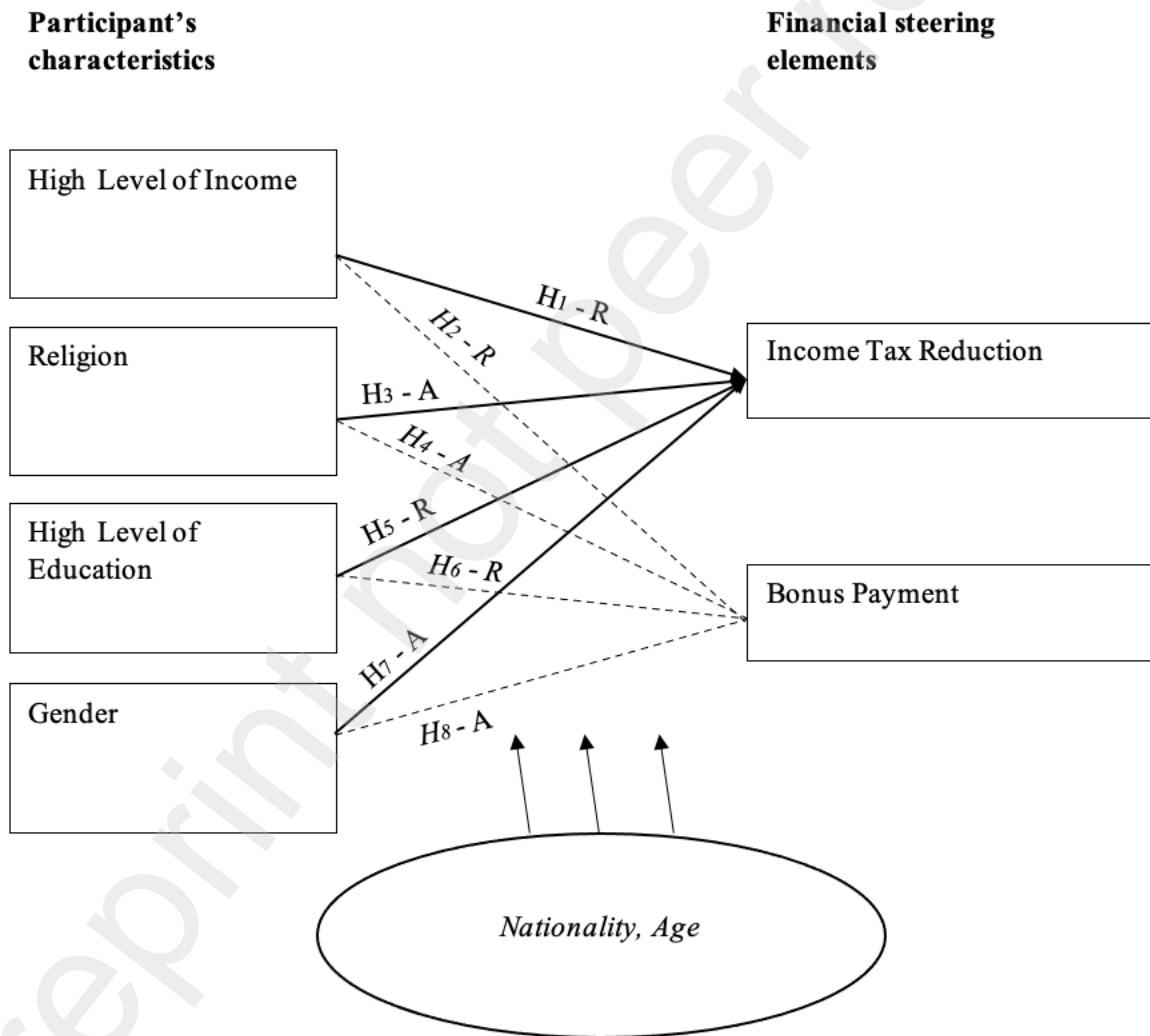
354 maybe nudging. The literature suggests this is a viable way. Financial incentives can be a
 355 motivator for changing the behavior of humans in many areas, be it the motivation and
 356 performance of employees (Thibault, Gagné, Forest, Guerrero, Séguin, and Papachristopoulos,
 357 2017) or influencing people towards healthier behaviors in general (Marteau, Ashcroft and
 358 Oliver, 2009).

359
 360

361 **3. Methodology**

362

363 Based on the literature review, we suggest determining if younger couples are willing to
 364 refrain from having fewer children if they can obtain economic compensation in the form of tax
 365 reductions or a bonus.



366
 367
 368

Fig. 1. Population degrowth Research Model

369 We want to know whether a hypothesis was accepted (A) or rejected (R). The hypotheses
 370 themselves are not directly influenced by the characteristics of the participants (Nationality and
 371 Age). In the data collection section below, we show how the scope of the survey is narrowed
 372 down. Four questions regarding the participants' characteristics (i) Level of Income; (ii)
 373 Religion; (iii) Level of Education; and (iv) Gender are linked to the two financial steering
 374 elements (i) Income Tax Reduction; and (ii) Bonus Payment. We want to find the steering
 375 elements' impact on the willingness of people to change their behavior toward having children.
 376

377 3.1. Data Collection

378 A survey questionnaire was elaborated based on prior knowledge. The questionnaire was
 379 published online via Google Forms anonymously. All questions were set up on a nominal scale.
 380 Following Sekaran and Bougie (2016), this field study could be said to have been conducted in a
 381 non-contrived setting since the research is done in a natural and non-artificial environment with
 382 minimal researcher interference. A cross-sectional study has been undertaken, which creates a
 383 snapshot of the construct at a single point in time (Sekaran and Bougie, 2016).

384 For the determination of the population within the research, a demographic scale was
 385 applied in which the top 15 countries were considered upon their democracy ranking (Economics
 386 Intelligence Unit, 2021). We clustered these countries based on their geographical location,
 387 which formed 10 European countries. Solely European countries were analyzed as they tend to
 388 share similar cultures and habits, which forms a good basis for comparative analysis. We looked
 389 at a specific age group of young adults with an age span of between 25 and 37 years, dependent
 390 upon the country, as citizens of different countries have babies at different ages. To prevent any
 391 bias, we added a two-year time span, as there was a high dependency upon the country.

392 Convenience sampling refers to the sample being selected "*based on their accessibility to*
 393 *the researcher*" (Leavy, 2017, p.110), which simplifies the process of obtaining a large sample
 394 population in a brief period. Master students' private social networks were used to distribute the
 395 questionnaire. The snowball method was implemented, which helped identify further potential
 396 respondents through the first respondents and their network (Leavy, 2017). In February 2022, the
 397 questionnaire was published online, and data collection was conducted between the 8th and the
 398 20th of the month (13 days). In total, 987 valid questionnaires were completed. Table 1 shows the
 399 main characteristics of the respondents.

400

401 **Table 1**

402 Sample Group

| Criterion | Response | Percentage (%) |
|-------------------------|------------------|----------------|
| Gender | Male | 53.2 |
| | Female | 45.7 |
| | Diverse / Others | 0.4 |
| | No Answer | 0.7 |
| Country (living) | Denmark | 7.1 |
| | Finland | 4.4 |

| | | |
|-----------------------------|------------------------|------|
| | Germany | 21.2 |
| | Iceland | 5.2 |
| | Ireland | 4.4 |
| | Luxemburg | 0.3 |
| | Netherlands | 9.1 |
| | Norway | 4.6 |
| | Sweden | 40.4 |
| | Switzerland | 3.4 |
| Age | 25 | 13.8 |
| | 26 | 7.5 |
| | 27 | 11.1 |
| | 28 | 9.9 |
| | 29 | 14.0 |
| | 30 | 10.7 |
| | 31 | 6.8 |
| | 32 | 8.2 |
| | 33 | 4.2 |
| | 34 | 3.0 |
| | 35 | 3.9 |
| | 36 | 2.6 |
| | 37 | 4.3 |
| Education | Lower than High School | 1.9 |
| | High School | 13.3 |
| | Bachelor | 39.1 |
| | Master | 40.9 |
| | PhD | 3.7 |
| | No Answer | 1.0 |
| Household Income (€) | 2500 or less | 35.3 |
| | 2,500 – 5,000 | 33.5 |
| | 5,000 – 7,500 | 16.6 |
| | 7,500 – 10,000 | 6.3 |
| | More than 10,000 | 2.6 |
| | No Answer | 5.7 |
| Religion | Christian | 32.1 |
| | Muslim | 27.4 |
| | Buddhist | 0.9 |
| | Jewish | 0.8 |
| | Hindu | 6.5 |
| | Atheist / Agnostic | 19.5 |
| | Others | 4.9 |
| | No Answer | 8.0 |

404 **3.2. Common Method Bias**

405 As this study is based on self-reported data from a single survey, we applied procedural
406 and statistical methods to address common methodological errors ([Podsakoff, MacKenzie, Lee,](#)
407 [and Podsakoff, 2003](#)).

408 As a statistical procedure to demonstrate the robustness of the results, we calculated a
409 single Harman factor based on an exploratory factor analysis with all independent and dependent
410 variables. The Harman factor test yielded the first factor accounting for only 23,2 % of the
411 observed variance, indicating that general method bias is likely not to be a problem in this study
412 ([Podsakoff et al., 2003](#)).

413 We also considered framing effects that have an impact on the survey results. Since this
414 study has no control group to observe, the observations obtained here can be put in context with
415 the findings of Kahneman and Tversky ([1979](#)). To provide context, Kahneman and Tversky
416 show that people tend to be more risk-averse when they win than when they lose. Thus, the
417 formulation in this study may lead to increased risk aversion for specific individuals, causing the
418 results to be biased in one direction. Therefore, it can be stated that cases described in diverse
419 ways elicited different reactions ([Kühberger, 1998](#)).

420 Non-Response Biases were also considered. Master students gathered the data from their
421 connections. The differences in education will influence the probability of answering a scientific
422 survey ([Berg, 2005](#)). We found this accurate and spent more time getting answers from less-
423 educated respondents.

424

425 3.3. Data Analysis

426 For Hypothesis testing, the chi-square testing for independence has been used to establish
427 whether different variables are dependent or independent. In case the chi-square analysis has
428 more than 20% of the cells with an expected count of less than 5, the Fisher-Freeman-Halton
429 Exact Test, in combination with the Monte Carlo simulation, was used ([Pallant, 2020](#)). For all
430 tests, a significance level of $\alpha = 5\%$ has been chosen. Hence the p-value can be determined as
431 0.05. If p is lower than 0.05 a significant relationship between the variables is existent. If a
432 relationship exists, a different look at the statistics will explain why the hypothesis is
433 substantiated or not. To determine the effect size/correlation coefficient of existing relationships,
434 the Cramer's V will be analyzed as all crosstabulations are larger than a 2X2. The standards for
435 the interpretations of Cramer's V Values are according to Gravetter and Wallnau ([2017](#)).

436 Finally, to assess the research reliability, the Split-Half test was used, and validity was
437 assessed based on content validity, criterion-based validity, and construct validity.

438

439 3.4. Hypothesis Testing

440 $H_1 =$ People with a high income can be encouraged more easily by tax reduction to have
441 fewer children

442 To test this hypothesis, we first need to establish what can be seen as "high income." Households
443 with a monthly gross income higher than 5,000€ (or equivalent) are categorized as high-income
444 households. The chi-square analysis established the following outcome: The chi-square value is
445 6.958, the degree of freedom is ten, and the p-value is 0.729. There is no relationship between

446 income and willingness to have fewer children when offered tax reduction. Therefore, no further
 447 research is needed, and *the hypothesis is rejected*.

448 $H_2 = \text{People with a high income are not likely to be encouraged by bonus payments to}$
 449 $\text{have fewer children.}$

450 Same as for H_1 , households with a monthly gross income higher than 5,000€ (or equivalent) are
 451 categorized as high-income households. The chi-square value is 14.675, the degree of freedom is
 452 ten, and the p-value is 0.144. There is no relationship between income and willingness to have
 453 fewer children when offered bonus payments. Therefore, no further analysis is needed, and *the*
 454 *hypothesis is rejected*.

455 $H_3 = \text{People with a certain religion can easier be encouraged by tax reductions to have}$
 456 children.

457 To analyze whether there is a relationship between religion and the willingness to accept tax
 458 reduction, two possibilities (options) had limited responses which is the reason for using the
 459 Fisher-Freeman-Halton Exact Test. After running the test, the analysis shows a Fisher Exact
 460 Value of 63.405 and a p-value <0.001. Therefore, a relationship does exist between religion and
 461 the willingness to have fewer children when offered tax reduction, and *the hypothesis is*
 462 *accepted*. Cramer's V has a correlation coefficient of 0.186, which shows that religion has a
 463 small to moderate effect on the willingness to accept tax reductions.

464 The following table (Table 2) shows that Christians and respondents who did not want to answer
 465 the question are clearly less likely than expected to accept tax reductions to have fewer children.
 466 Also, agnostics and atheists are somewhat less likely to accept the offer. On the other hand,
 467 Muslims and Hindus are more likely to accept this incentive system.

468 **Table 2**

469 Religion & Tax Reduction

| Religion & The Willingness to accept tax reduction | | | | |
|---|----------------|------------|-----------|----------------------|
| | | <u>Yes</u> | <u>No</u> | <u>Anyways wants</u> |
| | | | | <u>0-1 child</u> |
| Christian | Actual Count | 104 | 173 | 40 |
| | Expected Count | 125.3 | 144.2 | 47.5 |
| Muslim | Actual Count | 136 | 102 | 32 |
| | Expected Count | 106.7 | 122.8 | 40.5 |
| Buddhism | Actual Count | 5 | 4 | 0 |
| | Expected Count | 3.6 | 4.1 | 1.3 |

| | | | | |
|------------------|----------------|------|------|------|
| Jewish | Actual Count | 2 | 2 | 4 |
| | Expected Count | 3.2 | 3.6 | 1.2 |
| Hindu | Actual Count | 39 | 19 | 6 |
| | Expected Count | 25.3 | 29.1 | 9.6 |
| Atheist/Agnostic | Actual Count | 71 | 82 | 39 |
| | Expected Count | 75.9 | 87.3 | 28.8 |
| Other | Actual Count | 16 | 27 | 5 |
| | Expected Count | 19.0 | 21.8 | 7.2 |
| No Answer | Actual Count | 17 | 40 | 22 |
| | Expected Count | 31.2 | 35.9 | 11.8 |

Fisher-Freeman-Halton Test

Value 63.405

P-Value <0.001

Cramer's V

Value 0.186

Actual Count = The actual number of answers in the questionnaire
 Expected Count = The expected count in case there is no relationship between religion and the willingness to accept tax reduction

471

472 $H_4 =$ People with a certain religion can more easily be encouraged by bonus payments to
 473 have fewer children.

474 The same criteria are used for H_3 . The Fisher Exact Test value is 50.742 and has a p-value of
 475 <0.001. Therefore, there is also a relationship between religion and the willingness to have fewer
 476 children when offered bonus payments. *The hypothesis is accepted.* The Cramer's V is 0.169.
 477 Hence, religion's effect on the willingness to accept bonus payments is small to moderate.

478 Table 3 supports the outcomes of H_3 : Christians and respondents who did not want to answer the
 479 question are less likely than expected to accept bonus payments to have fewer children, while
 480 Muslims and Hindus are more likely than expected to accept the scheme. In other groups, there
 481 are more minor differences.

482 **Table 3**

| Religion & The Willingness to accept bonus payments | | | | |
|--|----------------|-------------------|-----------|--------------------------------|
| | | <u>Yes</u> | <u>No</u> | <u>Anyways wants 0-1 child</u> |
| Christian | Actual Count | 83 | 194 | 40 |
| | Expected Count | 105.7 | 163.8 | 47.5 |
| Muslim | Actual Count | 107 | 131 | 32 |
| | Expected Count | 90.0 | 139.5 | 40.5 |
| Buddhism | Actual Count | 4 | 5 | 0 |
| | Expected Count | 3.0 | 4.7 | 1.3 |
| Jewish | Actual Count | 1 | 3 | 4 |
| | Expected Count | 2.7 | 4.1 | 1.2 |
| Hindu | Actual Count | 35 | 23 | 6 |
| | Expected Count | 21.3 | 33.1 | 9.6 |
| Atheist/Agnostic | Actual Count | 63 | 90 | 39 |
| | Expected Count | 64.0 | 99.2 | 28.8 |
| Other | Actual Count | 17 | 26 | 5 |
| | Expected Count | 16.0 | 24.8 | 7.2 |
| No Answer | Actual Count | 19 | 38 | 22 |
| | Expected Count | 26.3 | 40.8 | 11.8 |
| <u>Fisher-Freeman-Halton Test</u> | | <u>Cramer's V</u> | | |
| <i>Value</i> | 50.742 | <i>Value</i> | 0.169 | |
| <i>P-Value</i> | <0.001 | | | |

Actual Count = The actual amount of answers in the questionnaire
 Expected Count = The expected count in case there is no relationship between religion and the willingness to accept bonus payments

486 $H_5 =$ People with a high level of education can be encouraged more easily by tax
 487 reduction to have fewer children.

488 A high level of education is considered everything from Bachelor's level or higher. The Fisher
 489 Exact Test value is 14.082, and the p-value is 0.157. There is no relationship between the level of
 490 education and the willingness to have fewer children when offered tax reductions. Therefore, no
 491 further analysis is needed, and *the hypothesis is rejected*.

492 $H_6 =$ People with a higher level of education can easier be encouraged by bonus
 493 payments to have fewer children.

494 For H_6 , the same criteria as for H_5 have been used. Everybody on a bachelor's level or higher is
 495 considered a person with a high level of education. The Chi-Square Test gave the following
 496 results: The chi-square value is 21.769, the degree of freedom is ten, and the p-value is 0.016.
 497 There is a relationship between the level of education and willingness to have fewer children
 498 when offered bonus payments. Cramer's V shows that even when there is a relationship, the
 499 effect of the level of education on the willingness to accept bonus payments is small (Cramer's
 500 V : 0.105). Table 4 shows that the only two categories which were more likely than expected to
 501 accept this scheme are "Lower than High School" and "Master's." Therefore, even though a
 502 relationship exists, *the hypothesis is rejected*.

503

504 **Table 4**

505 Education & Bonus Payment

| Education & The Willingness to accept bonus payments | | | | |
|--|----------------|-------------------|-------|-------------------------|
| | | Yes | No | Anyways wants 0-1 child |
| Lower than High School | Actual Count | 10 | 7 | 2 |
| | Expected Count | 6.3 | 9.8 | 2.8 |
| High School | Actual Count | 39 | 64 | 28 |
| | Expected Count | 43.7 | 67.7 | 19.6 |
| Bachelor | Actual Count | 120 | 211 | 55 |
| | Expected Count | 128.7 | 199.5 | 57.9 |
| Master | Actual Count | 148 | 204 | 52 |
| | Expected Count | 134.7 | 208.8 | 60.6 |
| PhD | Actual Count | 11 | 20 | 6 |
| | Expected Count | 12.3 | 19.1 | 5.5 |
| No Answer | Actual Count | 1 | 4 | 5 |
| | Expected Count | 3.3 | 5.2 | 1.5 |
| <u>Chi-Square Test</u> | | <u>Cramer's V</u> | | |
| <u>Value</u> | 21.769 | <u>Value</u> | | 0.105 |
| <u>Df</u> | 10 | | | |
| <u>P-Value</u> | 0.016 | | | |

Actual Count = The actual amount of answers in the questionnaire
 Expected Count = The expected count in case there is no relationship between education and the willingness to accept bonus payments

506

507 $H_7 =$ There is a relationship between gender and the willingness to accept tax benefits to
 508 get fewer children

509 As before, the Fisher-Freeman-Halton Exact Test has been used due to limited responses in
 510 particular answer possibilities. The Fisher Exact Test value is 15.373 with a p-value of 0.008.
 511 Therefore, a relationship exists, and *the hypothesis is accepted*. The Cramer's V correlation
 512 coefficient is 0.085, which can be considered a small effect that gender has on the willingness to
 513 accept tax reductions. Table 5 shows that men are more likely to accept the incentive system,
 514 whereas women are less likely than expected.

515 **Table 5**

516 Gender & tax reductions

| Gender & The Willingness to accept tax reduction | | | | |
|---|----------------|-------------------|-----------|------------------------------------|
| | | <u>Yes</u> | <u>No</u> | <u>Anyways wants 0-1 child</u> |
| Male | Actual Count | 227 | 226 | 72 |
| | Expected Count | 207.4 | 238.8 | 78.7 |
| Female | Actual Count | 160 | 218 | 73 |
| | Expected Count | 178.2 | 205.2 | 67.6 |
| Diverse/Others | Actual Count | 3 | 0 | 1 |
| | Expected Count | 1.6 | 1.8 | 0.6 |
| No Answer | Actual Count | 0 | 5 | 2 |
| | Expected Count | 2.8 | 3.2 | 1.0 |
| <u>Fisher-Freeman-Halton Test</u> | | <u>Cramer's V</u> | | |
| <u>Value</u> | 15.373 | <u>Value</u> | 0.085 | |
| <u>P-Value</u> | 0.008 | | | |

Actual Count = The actual amount of answers in the questionnaire
 Expected Count = The expected count in case there is no relationship between gender and the willingness to accept tax reduction

518

519 $H_8 =$ *There is a relationship between gender and the willingness to accept bonus*
 520 *payments to get fewer children.*

521 For H_8 , the same criteria apply as for H_7 . The Fisher-Freemmann-Halton Exact Test shows
 522 a value of 16.757 and a p-value of 0.001. This shows that a relationship also exists between
 523 gender and the willingness to get fewer children when offered bonus payments. *The hypothesis is*
 524 *accepted*. The Cramer's V correlation coefficient is 0.089, which can be considered a small effect

525 the gender has on the willingness to accept bonus payments. Table 6 shows that when it comes to
 526 bonus payments, men are more likely to be influenced by the scheme than women.

527 **Table 6**

528 Gender & Bonus payments

| | | Gender & The Willingness to accept bonus payments | | |
|-----------------------------------|----------------|--|-----------|--------------------------------|
| | | <u>Yes</u> | <u>No</u> | <u>Anyways wants 0-1 child</u> |
| Male | Actual Count | 200 | 253 | 72 |
| | Expected Count | 175.0 | 271.3 | 78.7 |
| Female | Actual Count | 127 | 251 | 73 |
| | Expected Count | 150.3 | 233.0 | 67.6 |
| Diverse/Others | Actual Count | 2 | 1 | 1 |
| | Expected Count | 1.3 | 2.1 | 0.6 |
| No Answer | Actual Count | 0 | 5 | 2 |
| | Expected Count | 2.3 | 3.6 | 1.0 |
| <i>Fisher-Freeman-Halton Test</i> | | <i>Cramer's V</i> | | |
| <i>Value</i> | | <i>Value</i> | | 0.089 |
| <i>P-Value</i> | | | | |
| | | | | 0.001 |

Actual Count = The actual amount of answers in the questionnaire
 Expected Count = The expected count in case there is no relationship between gender and the willingness to accept bonus payments

531 **3.5. Reliability**

532 If several items (subordinate answer options, which refer to a superordinate concept)
 533 point in the same direction of either supporting or declining it, there is the possibility to make a
 534 statement about the consistency between those items ([Sekaran and Bougie, 2016](#)).

535 The approach of dividing the instrument of measurement into two halves makes it
 536 possible to state how reliable the two-item scale is. Since our two measured aspects are not
 537 describable by a scale, this method is the only appropriate way to prove its reliability ([Eisinga et
 538 al., 2013](#)). For the conducted research, the result of the calculation can be found in Table 6. It
 539 states a coefficient of 0.890, which *shows a strong correlation between the measurements of both*
 540 *items* and means that reliability is given

541 **Table 7**

542 Split-half reliability

Split Half Reliability Test

| | | |
|--------------------------------|-----------------------|-------|
| Spearman-Brown Coefficient | <i>Equal Length</i> | 0.890 |
| | <i>Unequal Length</i> | 0.890 |
| Guttman Split-Half Coefficient | | 0.890 |

543

544 *3.6. Validity*

545 Criterion-based validity has been created by using measures that differentiate individuals
546 based "on a criterion it is expected to predict" (Sekaran and Bougie, 2016, p. 206). To ensure a
547 construct validity through convergent validity, the concept of "monetary incentives change how
548 many children people want to have" was tested with two different instruments: First, tax
549 reduction (0-1 child) vs. high tax payments (3+ children) and second, a bonus payment for 0-1
550 child.

551 *3.7 Choosing the sample*

552 As the research is aimed at the behavior of the population in democratic countries, the top
553 15 democracies were identified by using the Democracy Index by The Economist Intelligence
554 Unit (EIU). The age span reflects at what mean age the population births their first child, as
555 follows:

556

557 **Table 8**

558 Country and Age

| Country | Ages span Female | Age span Male |
|------------------------|-----------------------------|--------------------------|
| Iceland | 25-30 | 25-30 |
| Denmark | 27-31 | 29-33 |
| Norway | 27-31 | 29-34 |
| Sweden | 27-32 | 29-34 |
| The Netherlands | 27-32 | 30-35 |
| Germany | 27-32 | 28-33 |
| Finland | 28-33 | 27-31 |
| Ireland | 28-33 | 32-37 |

| | | |
|--------------------|-------|-------|
| Switzerland | 28-33 | 32-37 |
| Luxemburg | 28-33 | 30-34 |

559

560 The bonus payment corresponds to the same amount of money as the tax reduction. Overall, the
 561 total of the respondents' providing valid data has been distributed as follows:

562 **Table 9**
 563 Country and Responses

564

| Country | Responses |
|------------------------|------------------|
| Iceland | 51 |
| Denmark | 70 |
| Norway | 45 |
| Sweden | 399 |
| The Netherlands | 90 |
| Germany | 209 |
| Finland | 43 |
| Ireland | 43 |
| Switzerland | 34 |
| Luxemburg | 3 |
| Total | 987 |

565

566 **4. Analysis, implications, and future research**

567 Overall, respondents prefer tax reductions to bonus payments. The reason for this may be
 568 that tax reduction is seen less as handouts or is less associated with social welfare payments. We
 569 see that the difference in reaction relies on sex, whereas for males, it makes no difference (44%
 570 accept the bonus and 44,6% accept tax reductions). For females, the difference is significant
 571 (35,8% accept the bonus and 45,7% tax reduction). Future studies should look at why.

572 Overall, respondents are favorable to the scheme, with the exception of higher income
 573 earners and highly educated, but even a percentage of these groups will accept it. Tax reductions
 574 are slightly more preferred. The implications of this may be that the state needs to raise taxes in
 575 other ways in the short term to compensate for the extra cost due to the scheme. In the long term,

576 theory suggests there may be economic savings. If the population decreases, fewer households
577 with poverty, hunger, and gender bias will require aid and support ([Nhat Minh Pham, 2020](#)).

578 A relationship exists between religion and the willingness to have fewer children when
579 offered tax reduction. Christians and respondents who did not want to answer the question are
580 less likely to accept tax reduction to have fewer children. Also, agnostics and atheists are
581 somewhat less likely to accept the offer. On the other hand, Muslims and Hindus are more likely
582 to accept the scheme. This means that tax policies are less likely to have an effect on certain
583 religious groups, and this may again eschew the population size of certain religious groups,
584 which makes policies based on religion a politically sensitive issue.

585 UN population statistics show that the population will not increase in the western world
586 but that most of the growth is expected on other continents and in particular, in certain countries.
587 To give tax reductions and bonuses in the western world will not help solve this problem. Our
588 study does not show if countries with high birth rates will accept the scheme. Future studies
589 should look at this and in particular, how money can be transferred directly to households to
590 avoid high overhead and corruption and increase the efficiency of payments. It may be that direct
591 digital currency transactions (cryptocurrencies or central bank digital currencies, CBDC) are
592 better suited. Household acceptance of CBDC is already high ([Söilen and Benhayou, 2021](#)).

593 Those households accepting bonus payments among European counties suggested
594 payments between 1€ to 10.000€ (range) to refrain from having less than two children (0 or 1).
595 The average person who accepted the proposal wanted 702€ per month. This figure is likely to
596 be lower for other continents with a lower living standard and should be studied further.

597 A major argument among supply-side degrowthists is that a large population is needed to
598 take care of an aging population and that the cost of labour will increase if not the population is
599 maintained ([Nations, U., 2017](#)). This is true. It may also be that people from countries with
600 higher birth rates will immigrate in larger numbers to fill these positions. It may also be that
601 innovation and new technologies will solve this problem as household robots become common
602 and the devices become cheaper. Among demand-side degrowthists, Malthus thought people
603 would starve as the population increased as there would not be enough food, but he could not
604 foresee innovation in the agricultural industry. Supply-side degrowthists suggest that population
605 growth is no problem due to innovations, dispelling "Malthusian" fears about population growth
606 ([Simon, 1998](#)). This argument may hold true in certain western countries but not so far in other
607 parts of the world. Instead, we see an increase in immigration due to poorer living conditions in
608 counties with higher birth rates.

609 The research shows that environmental policies can make a substantial difference, and
610 the results agree with Dodson et al. ([2020](#)). They argue that the Shared Socioeconomic Pathway
611 (SSP) population trajectories used by the IPCC in its Assessment Reports tend to hide the role
612 explicit policies play in determining future fertility rates.

613 The policy tool of financial incentives we suggest may be a constructive tool to achieve
614 "optimum population size," whatever the ideal population figure may be, 2 billion ([Ehrlich, P.
615 R., Ehrlich, A. H., 2009, p. 63](#)) or 3 billion, as suggested by Tucker ([2020](#)).

616 Supply-side degrowthist literature asking for “downscaling the economy” has not been
617 heard or had limited impact so far. The opposite is true; actual downscaling in the same period
618 the research has been carried out has gone in the opposite direction. We are consuming more
619 non-renewable natural resources than ever, producing less sustainable products, and as a result,
620 we are filling the atmosphere with more CO2. This suggests at least that supply-side initiatives
621 are not enough by themselves.

622 A growing body of research indicates that people in both advanced and developing
623 economies are ready to pay for green regulations ([Combes, 2018](#); [Inglehart, 1995](#); [Jones, 2009](#);
624 [Sulemana, 2016](#)). In this study, financial incentives can work to reduce population growth. Most
625 sophisticated environmental policies are found in wealthier countries, particularly member
626 nations of the European Union ([Kamstra et al., 2009](#)). So, compromising a certain degree of
627 growth for environmental reasons is unlikely to be controversial with the average citizen in
628 Europe. The population is willing to commit individual sacrifices, and the younger population is
629 more dedicated than the older population, making the age or generational factor an important
630 variable to study ([Ančić and Domazet, 2015](#)). This study confirms that the younger generation is
631 likely to accept financial incentives.

632 Nudge theory started with James Wilk ([1993, 1999](#)) as metamorphology/transformation
633 and "General Theory of Intervention," which provides an account of what it is for anyone or
634 anything to act and what it is for anyone or anything to be acted upon" ([1999, p. 14](#)). The
635 usefulness of Degrowth through nudging has been shown by Samerski ([2018](#)), Hobson ([2013](#)),
636 Gyimonthy et al. ([2019](#)), and Lenzen et al. ([2022](#)). The findings in this study support and
637 strengthen Nudge Theory.

638 A reading of the degrowth literature shows that field is detached from raising economic
639 theory discussions, avoiding discussion within existing schools of economic thinking.
640 Georgescu-Roegen ([1986](#)) argues against Neoclassical. He shows that the assumptions in
641 neoclassic economics are the very reason for an irresponsible depletion of non-renewable world
642 resources.

643 Activism has also led to the position that long-term stability is obtained by reducing the
644 world economy's commodity-price-induced boom and bust cycles at the sacrifice of short-term
645 profits ([Kallis et al., 2012](#); [Assadourian, 2012](#); [Demaria et al., 2013](#); [Xue, 2014](#); [Kerschner,](#)
646 [2010](#)). Asara et al. ([2013](#)) argue that cultural diversity and advocating for a multicultural
647 approach are options for Degrowth. By encouraging "frugal consumption," purchasing things at a
648 moderate level in society will help reach degrowth goals economically ([Kallis, 2011](#)). The
649 activist turn of the degrowth literature has done little to increase Degrowth in society. Equitable
650 and welfare-enhancing downscaling of economic output and consumption ([Demaria et al., 2013](#);
651 [Kallis, 2011](#); [Schneider et al., 2010](#); [Sekulova et al., 2013](#); [Victor, 2012](#); [Xue, 2014](#)) is important,
652 but the past three decades have shown it isn't the answer by itself to Degrowth in society.
653 Instead, financial incentives can be a motivator for changing the behavior of humans in many
654 areas, be it the motivation and performance of employees ([Thibault, Gagné, Forest, Guerrero,](#)
655 [Séguin & Papachristopoulos, 2017](#)) or influencing people toward healthier behaviors in general
656 ([Marteau, Ashcroft and Oliver, 2009](#)). Our research supports these findings.

657 Simply stating that the degrowth model goes beyond just a decrease in economic
658 production but demands significant changes in the political, economic, and social system (Xue et
659 al., 2012) is insufficient. As Fournier (2008) reminds us, the fact that action needs to be taken
660 sooner than later makes this more difficult.

661

662 *4.1. Limitations*

663 This research is an empirical study and builds knowledge on how to achieve Degrowth
664 through population control. We have only studied two types of financial incentives; tax
665 reductions and financial bonuses. There are many more, including gifts and preferred treatments.
666 There are also non-voluntarily measures more often associated with non-democratic states, like
667 China's one-child policy.

668 The respondents who have been included are from 10 countries where some countries are
669 overrepresented, like Sweden. In an ideal representative study, we would only accept as many
670 answers from each country as in relation to each country's total population. Most of the
671 population growth is in Africa and Asia. For future studies, it's interesting to see how our data
672 differs from that gathered on other continents and how initiatives in Europe and the Western
673 world may help in questions of population control in other countries. That last part is the major
674 challenge.

675

676 **5. Conclusion**

677

678 The analysis of this study suggests that the degrowth literature can be divided into
679 three parts: contributions that omit population degrowth as a strategy, indifferent, and those
680 that are against it. In the analysis, we distinguish between supply-side degrowthists and
681 demand-side degrowthists, where the supply side dominates academic output and the policy
682 agenda. It also shows how the degrowth literature has changed direction after Georgescu-
683 Roegen and how engagement with economic theory is essential for a more fruitful discussion.

684 Supply-side degrowthism, which focuses on decreasing the supply of goods or making
685 them more sustainable, has not led to the intended results; on the contrary: Our products are
686 becoming increasingly unsustainable. What has increased, first of all, and maybe in part
687 because of the literature and the attention the subject is getting in media, is greenwashing and
688 companies' realization that they at least must appear to be seen to stand on the right side of
689 history. There have also been some actual improvements on the supply-side, but maybe first of
690 all, in the study of Law. For example, the recent passing of EU laws extends the warranty on
691 products and consumer rights (extended guarantee periods, return policies, digital products
692 now included). Demand-side degrowthists, who study how demand can be reduced by reducing
693 the number of consumers, have been few and attracted less attention, also because the issue is
694 controversial. Most contributions to population degrowth come from non-social scientist fields,
695 first of all in the natural sciences, like in the tradition and example of James Wilk (biologist),
696 Tyler (geographer), or Georgescu-Roegen (physicist become economist).

697 As so often is seen in the social sciences, the degrowth field is also suffering from
698 academic tribalism, the founding of smaller academic groups who do not read or cooperate
699 much outside of their group, where the focus is less on solving real-life problems ([Calof et al.,](#)
700 [2022](#)).

701 Demand-side degrowthism deserves more attention. The perspective suggested in this
702 study is to combine a Malthusian direction with financial incentives (Nudge Theory) as we ask to
703 what extent a younger generation is willing to have fewer children in return for tax reduction and
704 bonus payments. The scheme that is suggested is a 10% tax reduction for 1 or 0 children, no
705 change for two children, and a 10% tax increase for three or more children. The respondents
706 were asked to fill in the required monthly amount for a bonus payment. For all answers in the
707 survey, there were smaller differences in the hypotheses set up depending on whether the
708 financial incentive was tax reduction or bonus payment. Overall, respondents prefer tax
709 reduction (39,19%) to the bonus payment (33.3%).

710 The data come from 10 selected European countries. The study shows how population
711 degrowth can be promoted or achieved. More specifically, the study shows that there is a
712 positive correlation between gender, religion, and financial incentives. Households want from 1€
713 to 10.000€ (range) to refrain from having less than two children (0 or 1), with an average of 702€
714 per month.

715 The first hypothesis (H1) is that people with a high income can be encouraged more
716 easily by tax reductions to have fewer children. We did not find support for this (R). H2 was that
717 people with a high income are not likely to be encouraged by bonus payments to have fewer
718 children. We did not find support for this either (R). It seems people with high income are more
719 likely to think they can afford to have more children and thus will not refrain from financial or
720 economic motives. H3 was that people with a certain religion could be encouraged by tax
721 reductions to have children. H4 was that people with a certain religion could more easily be
722 motivated by bonus payments to have fewer children. Both of these hypotheses were accepted
723 (A). Christians and people who answered they did not want to fill in religion are less likely to
724 accept a tax reduction or bonus payment. People supporting Islam and Hinduism were. H5 was
725 that people with a high level of education could be encouraged more easily by tax reductions to
726 have fewer children. H6 that people with a higher level of education can easier be encouraged by
727 bonus payments to have fewer children. Both hypotheses were rejected (R). People with higher
728 education noted as having a bachelor's degree or higher said they will not refrain from having
729 fewer children. H7 was that there is a relationship between gender and the willingness to accept
730 tax benefits to get fewer children. H8 that there is a relationship between gender and the
731 willingness to accept bonus payments to get fewer children. Both hypotheses were accepted (A).
732 Women are less likely to accept financial incentives, and women clearly prefer tax reduction to
733 bonus payments, maybe because it is associated with social welfare payments.

734 This paper opens a new line of research related to population control and financial
735 incentives, which promises to be both productive and achieve results if implemented into policy.
736 However, it is only a first attempt at solving the practical problem.

737

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Beslut i fråga om oredlighet i forskning

Beslut

Nämnden för prövning av oredlighet i forskning (nedan nämnden) beslutar att Klaus Solberg Söilen har gjort sig skyldig till oredlighet i forskning.

Bakgrund

Den 29 november 2023 överlämnade Högskolan i Halmstad ett ärende om oredlighet i forskning till nämnden. Överlämnandet har skett i enlighet med 6 § i lagen (2019:504) om ansvar för god forskningssed och prövning av oredlighet i forskning.

Forskningen avser ämnesområdet företagsekonomi och specifikt olika aspekter av tillväxt i relation till befolkningskontroll.

Överlämnandet avser misstankar om plagiering. Misstankarna avser följande manuskript:

- Söilen, Klaus Solberg (2022). Social, Economic, and Policy Aspects of Degrowth Through Population Control: Is a Young Generation Willing to Be Nudged into Having Fewer Children in Return for a Tax Reduction or Financial Bonus?. [S.l.]: SSRN. Preprint.

Manuskriptet publicerades som en preprint den 22 november 2022 på Elseviers Open Access-server Social Science Research Network (SSRN) samtidigt som det skickades in till tidskriften Ecological Economics. Manuskriptet har också samtidigt publicerats som en preprint på plattformen Digitales Archiv. Det avpublicerades från SSRN den 28 september 2023.

Misstankarna rör att Klaus Solberg Söilen ska ha redigerat en studentrapport och under eget namn sänt in rapporten enligt ovan. Studentrapporten är framtagen inom ramen för en kurs på avancerad nivå vid Högskolan i Halmstad. Studentrapporten är:

Klaus Solberg Söilen, Amna Altaf, Syed Rubyat Ahsan, Junaid Ajmal, Rizwan Abbas, Maroof Abdul, Mubin Ahmed, Sheikh Bilal, Maja Bjorklund, Santosh Basnet, Linda Lichte, Luzia Coelho, Badar Rashid Chaudhary, Lukas Dick, Antonia Dartsch, Alena Fridrichova, Silas Fritz, Abdul Gafoor, Menu Geethika, Nurana Gasimova, Azizul Hakim, Carl Hegetorn, Emma Harrysson, Syed Shah Hassan, Quratulain Imran,

Emelie Jones, Gurvinder Kaur, Najrudheen Karikkulakkatt, Timothy van Kassel, Prudence Nyarai Kahwema, Harmanpreet Kaur, Jincy Kaleeka, Arnold Kramer, Muhammad Ehsan Latif, Usman Mushood, Valentina Meglaj, Awais Munir, Adeela Noreen, Bram Nederlof, Muhammad Naeem, Uzma Nauman, Henrik Nohr, Muhammad Qasim, Kudzaishe Manakiro Joseph Rukobo, Rida Salem, Syed Ali Sardar, Gwendoline Sanji, Khuram Shahzad, Shanib Tufail, Bimala Tiwari, Huzaifa Waqas, Jan Wessel, Mizna Zahid, Naqash Zafar, Denis Zachey. *Degrowth through population control: Is a young generation willing to have only one child in return for a tax reduction or a financial bonus?*. (2022). Högskolan i Halmstad. Opublicerad rapport.

I överlämnandet framkommer att Klaus Solberg Söilen varit lärare och examinator på en kurs på masternivå vid Högskolan i Halmstad där studenterna haft i uppdrag att ta fram en rapport. Högskolan har vid en jämförelse mellan det anmälda manuskriptet och studentrapporten konstaterat att det finns sådana likheter mellan texterna att det kan misstänkas att Klaus Solberg Söilen publicerat material utan att ge tillbörligt erkännande till ursprungskällan.

Klaus Solberg Söilen har yttrat sig till Högskolan i Halmstad och menar att han den 22 mars 2022 gett återkoppling på rapporten till studenterna och meddelat att rapporten inte kunde skickas in till tidskrift för publicering i dåvarande skick. Klaus Solberg Söilen medger också att han har bearbetat rapporten.

Klaus Solberg Söilen har till högskolan angett att det inte är han som laddat upp manuskriptet till plattformen SSRN, men att han sett till att den avpublicerats genom att ha kontaktat utgivaren.

Den anmäldes yttrande till nämnden

Klaus Solberg Söilen bestrider i yttrande till nämnden att han gjort sig skyldig till plagiering. Han anger att det är en student som, på hans uppdrag inom ramen för utbildningen, laddat upp manuskriptet för publicering och att hans e-postadress använts, men att det var ett misstag att det publicerades som en preprint.

Klaus Solberg Söilen framhåller att anmälan inte gäller en artikel i en vetenskaplig tidskrift utan ett "working paper", och att det finns en betydande skillnad. Det som diskuteras i ärendet, menar han, är ett manuskript som skickats till en vetenskaplig tidskrift och avvisats, och att manuskriptet av misstag publicerats som en preprint. Ingenting har publicerats i ärendet, menar han. Han anger att det fortfarande pågår arbete med manuskriptet och att flera studenter kommer att stå som medförfattare när det är färdigställt.

Klaus Solberg Söilen påpekar att han tagit ansvar och sett till att preprintversionen av manuskriptet avpublicerats genom att han kontaktat utgivaren. Det gjordes när han informerats om anmälan. Manuskriptet är inte längre publicerat, framhåller han. Att Högskolan i Halmstad trots detta överlämnat ett ärende till nämnden, menar Klaus Solberg Söilen, är en form av vedergällning i syfte att underminera hans ställning inom akademien.

På fråga från nämndens kansli om han kan ange vilken student det är som laddat upp manuskriptet uppger Klaus Solberg Söilen i ett senare yttrande att han inte längre har någon direkt kontakt med studenterna från den aktuella gruppen och därför inte kan tillhandahålla specifika kontaktuppgifter till dem.

Information från Social Science Research Network (SSRN) och tidskriften Ecological Economics

Nämnden har fått information om omständigheterna runt publiceringen från Social Science Research Network (SSRN). SSRN, som är ett systerbolag till publicisten Elsevier, anger att manuskriptet kom till dem genom deras tjänst First Look. Genom First Look finns möjligheten att hos SSRN publicera en preprint när ett manuskript skickas in till någon av Elseviers peer review-tidskrifter (i aktuellt fall Ecological Economics). Att publicera en preprint är ett aktivt val enligt SSRN. SSRN meddelar angivna författare via e-post när en preprint publiceras.

SSRN publicerade manuskriptet som en preprint den 22 november 2022. De bekräftar att Klaus Solberg Söilen kontaktade dem den 27 september 2023 med begäran om avpublicering. Avpublicering gjordes den 28 september 2023.

Tidskriften Ecological Economics meddelar att manuskriptet refuserades av dem den 20 januari 2023.

Information från Digitales Archiv

Nämnden har från Digitales Archiv fått information om att manuskriptet varit publicerat hos dem genom ett sampubliceringsavtal med SSRN, men att den avpublicerats i samband med att avtalet mellan SSRN och Digitales Archiv upphört.

Information från Web Archive

Nämnden har genom Web Archive erhållit en arkiverad version av manuskriptet så som det var publicerat av SSRN. Det framgår där att kontaktadressen som angivits är en aktuell e-postadress till Klaus Solberg Söilen.

Rättslig reglering

Nämnden ska pröva frågor om oredlighet i forskning enligt lagen (2019:504) om ansvar för god forskningssed och prövning av oredlighet i forskning (nedan lagen).

Definitionen av oredlighet i forskning är enligt 2 §:

en allvarlig avvikelse från god forskningssed i form av fabricering, förfalskning eller plagiering som begås med uppsåt eller av grov oaktsamhet vid planering, genomförande eller rapportering av forskning.

Nämndens prövning sker stegvis utifrån bestämmelsen ovan.

Nämndens motivering av beslutet

Planering, genomförande eller rapportering av forskning

De avvikelser som kan utgöra oredlighet i forskning ska enligt definitionen i 2 § lagen ha begåtts vid planering, genomförande eller rapportering av forskning. Det innebär att begreppet oredlighet avser avvikelser under hela forskningsprocessen.¹ Med rapportering avses både publicering och andra typer av offentliggöranden.²

Klaus Solberg Söilen har angett att manuskriptet är ett "working paper" och att det inte är det samma som en vetenskaplig artikel. Han framhåller att manuskriptet refuserats av tidskriften Ecological Economics och menar med utgångspunkt från detta att ingenting publicerats. Han framhåller även att den preprint som funnits hos SSRN avpublicerats.

Manuskriptet har skickats in till en vetenskaplig tidskrift för publicering, vilket nämnden anser är ett led i rapportering av forskning. Det förhållandet att texten refuserats ändrar inte detta. Även en publicering av en preprint anser nämnden vara en typ av offentliggörande och rapportering av forskning. Att en text avpublicerats ändrar inte nämndens hållning. Manuskriptet ska således prövas av nämnden.

Fabricering, förfalskning eller plagiering

De former av oredlighet som nämnden ska pröva är fabricering, förfalskning och plagiering. Begreppen är inte definierade i lagen, men i förarbetena refereras till att de finns beskrivna i forskningsetiska kodexar och riktlinjer som till exempel Den europeiska kodexen för forskningens integritet.^{3,4}

Plagiering innebär att en forskare använder andras texter, idéer eller arbeten utan att ge tillbörligt erkännande till ursprungskällan.⁵

¹ Prop. 2018/19:58, s. 100.

² Prop. 2018/19:58, s. 49.

³ Den europeiska kodexen för forskningens integritet. Reviderad utgåva. Berlin: All European Academies (ALLEA); 2023, kap. 3.1.

⁴ Prop. 2018/19:58, s. 45, 100.

⁵ Prop. 2018/19:58, s. 45, 100.

Manuskriptet misstänks vara en bearbetad version av en studentrapport. Misstankarna rör plagiering. Klaus Solberg Söilen har beskrivit omständigheterna och att studenternas rapport funnits i olika versioner och att alla studenterna angivits som medförfattare vilken han menar inte är rimligt. Han har meddelat studenterna att han kommer att inkludera de studenter som enligt honom bidragit med något viktigt. Klaus Solberg Söilen anger också att han har gjort betydande ändringar i studentrapporten.

Nämnden har jämfört manuskriptet med studentrapporten i plagieringskontrollverket Ouriginal. Av jämförelsen framgår att manuskriptet till stor del är det samma som studentrapporten. Jämförelsen i Ouriginal visar en överensstämmelse på 73 %. Vid en närmare granskning återfinns både direkt kopiering av stora textstycken och text där formuleringar ändrats eller enstaka ord bytts ut. I övrigt är de båda texternas struktur, tabeller och figurer till stor del de samma.

Nämnden konstaterar att det i manuskriptet inte finns några uppgifter om att manuskriptet skulle ha haft andra medförfattare. Det finns heller ingen hänvisning till studentrapporten i manuskriptets referenslista eller i något acknowledgement. Nämnden anser därför att Klaus Solberg Söilens medförfattare till studentrapporten inte getts tillbörligt erkännande och att manuskriptet innehåller plagiering.

Allvarlig avvikelse från god forskningssed

Det är endast allvarliga avvikelser från god forskningssed som kan utgöra oredlighet i forskning.

Plagiering bör i vissa fall inte anses utgöra en allvarlig avvikelse från god forskningssed, till exempel om det är fråga om en mindre förseelse vid ett enstaka tillfälle.⁶

Nämnden konstaterar att plagieringen i manuskriptet är mycket omfattande i och med att större delen av texten är den samma som i studentrapporten. Även struktur, tabeller och figurer överensstämmer till stor del. Nämnden anser därför att det är fråga om en allvarlig avvikelse från god forskningssed.

Uppsåt eller grov oaktsamhet

Sedan den 1 januari 2020 är forskarens ansvar att följa god forskningssed i sin forskning författningsreglerat enligt 4 §. Hur långtgående ett sådant ansvar kan eller ska vara måste prövas och bedömas i varje enskilt fall.

Enligt 2 § i lagen krävs att den allvarliga avvikelsen från god forskningssed begåtts med uppsåt eller av grov oaktsamhet för att det ska vara fråga om oredlighet i forskning.

⁶ Prop. 2018/19:58, s. 100.

Uppsåt innebär att forskaren ska ha förstått vad han eller hon har gjort medan oaktsamhet innebär att forskaren i vart fall borde ha förstått detta.

Grov oaktsamhet kräver att agerandet framstår som särskilt allvarligt eller klandervärt. Förbiseenden, slarv eller missförstånd bör som regel inte betraktas som grov oaktsamhet enligt förarbetena.⁷

Manuskriptet har skickats in till Elseviers peer review-tidskrift Ecological Economics. Det har i samband med detta publicerats på preprint-plattformen SSRN och hos Digitales Archiv. Klaus Solberg Söilen står som ensam författare på manuskriptet och kommunikationen med tidskriften och plattformarna har skett från något som ostridigt är hans e-postadress. Han har uppgivit att en student, inom ramen för utbildningen, skickat in manuskriptet på hans uppdrag, använt hans e-postadress och att valet av preprint då skett av misstag. Inblandningen av en student har Klaus Solberg Söilen inte kunnat styrka. Genom användandet av hans e-postadress är det utrett att Klaus Solberg Söilen, även med beaktande av de av honom angivna omständigheterna, är ansvarig för att manuskriptet skickats in till tidskriften. Det räcker för att ansvar för oredlighet i forskning kan komma i fråga. Det faktum att Klaus Solberg Söilen begärt avpublicering hos preprint-plattformen efter anmälan om misstänkt plagiering inkommit ändrar inte nämndens bedömning av Klaus Solberg Söilens ansvar.

Manuskriptet innehåller omfattande plagiering av en studentrapport. Nämnden anser att Klaus Solberg Söilen, som erfaren forskare och lärare, bör ha tillräcklig kunskap om att han inte får använda andras texter utan att ge tillbörligt erkännande till ursprungskällan.

Klaus Solberg Söilen har, som nämnden bedömer det, haft handlingsalternativet att exempelvis ange studenter som medförfattare, men avstått. Nämnden menar att plagieringen därigenom inte uppkommit genom förbiseenden eller slarv, utan att Klaus Solberg Söilen agerat med uppsåt.

Sammanfattning av beslutet

Sammanfattningsvis finner nämnden att Klaus Solberg Söilen har gjort sig skyldig till oredlighet i forskning.

Nämnden har fattat beslut i detta ärende efter föredragning av handläggaren Magnus Gudmundsson.



Thomas Bull
Ordförande



Magnus Gudmundsson
Handläggare

⁷ Prop. 2018/19:58, s. 50-51, 100.

Hur man överklagar

Beslut som följer av prövning om oredlighet i forskning får överklagas till allmän förvaltningsdomstol. Ett överklagande ska vara skriftligt och komma in till Nämnden för prövning av oredlighet i forskning (Npof) senast tre (3) veckor efter det att du fått del av beslutet. Om överklagandet kommer in till Npof inom föreskriven tid överlämnas ärendet till Förvaltningsrätten i Uppsala.

Överklagandet skickas företrädesvis via e-post eller per post.

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