

## POTENTIAL FOR DEGROWTH: ATTITUDES AND BEHAVIOURS ACROSS 18 EUROPEAN COUNTRIES

**Abstract.** *Avoiding a whole-scale collapse of the civilisation-supporting ecosystems within this century will require a change in the social metabolism, as well as expectations, aspirations, behaviours and attitudes of the majority of the global population, especially in the Global North. In absence of the technological innovation to allow maintenance and expansion of the current energy utilisation by the global society, but without the collapse-inducing byproducts, the societies will require a transformation along the lines of a degrowth scenario. The main goal of this paper is to explore to what extent is environmentally motivated degrowth potential present among European populations on the level of attitudes and evaluation of behaviour. In order to do so we use the ISSP research module Environment survey data from 2011, analysing comparative findings for 18 European 'old' and 'new' democracies. Our findings indicate the prevalence of common awareness of environmental limits to growth among all participating European national populations, but a different potential to apply them in a degrowth scenario between 'richer' and 'poorer' states, as well as between younger and older European degrowthers.*

**Keywords:** *degrowth, environmental limits, sustainability, social transformation, Europe, ISSP*

### Introduction

“Indeed, these three fundamental questions of economic organization – *what, how, and for whom* – are as crucial today as they were at the dawn of human civilization.” (Samuelson & Nordhaus, 1998: 8)

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In the run-up to another global regulatory struggle concerned with climate-wrecking economic ‘side-effect’ at the Paris 2015 COP, the debate about the environmental consequences of international economic growth and associated material consumption have gained academic and policy prominence again. The global strategy response has so far been twofold. One strategy response is to call for a rapid and radical transition to a “green economy” intensely decoupled from material use and carbon emissions in energy production (UNEP, 2011). The other one is to completely change focus away from economic growth as the societal developmental goal with globally destructive consequences (Dietz & O’Neill, 2013; Jackson, 2009; Kallis, 2011).

Whilst the former strategy would also require a social transition traditionally associated with a major technological change (in energy production and distribution, for example) (Park, 1954; Polany, 1968; Pomeranz, 2009) it is currently primarily a problem of missing sufficiently implementable technological innovation (Steinberger, Krausmann, Getzner, Schandl & West, 2013; Tienhaara, 2009). But should it ever materialise, it promises to require a lesser upheaval to the social structures through which the embodied solar energy is distributed and the governance mechanisms altering their dynamics, than is the case with modification of social and governance structures to lessen the environmental impact of the current technology (Domazet et al., 2014). For much of the world population it is more akin to a business as usual scenario that requires no fundamental societal transformation.

The latter, the approach broadly characterised as degrowth (Schneider, 2008, 2010), involves a technological change as well. The current energy transformation technologies are clearly unsustainable given the sustenance-threatening consequences of dramatic climate change induced by the end of the century through the business-as-usual path of fossil fuel utilisation by a growing global population. A global population would have to dramatically reduce the use of existing fossil-fuel energy, increase the efficiency of those it cannot avoid utilising and replace them with renewable energy sources wherever possible (Jackson, 2009). Such a transition is associated with a much more radical social transformation for it decouples social and personal development and improvement aspirations from increase in economic production and consumption (material or ‘dematerialized’) within a given population. In simpler terms, it asks of the population to be prepared to do with less in terms of energy and material products.

Regarding social transformation it is significant how new concepts, ideas, paradigm shifts and social movements tackling these issues emerge in contemporary societies. For instance, in 2014 in Leipzig, Germany, Fourth International Conference on Degrowth for Ecological Sustainability and Social Equity has gathered various social actors (academicians and activists)

around the topic of degrowth and reflecting upon concrete steps towards sustainable societies beyond the imperative of growth<sup>1</sup>. Previously, activist and research communities have tackled the impact of degrowth and various degrowth scenarios at international conferences such as Paris in 2008, Barcelona in 2010 and Montreal and Venice in 2012, but also within the civil society organizations and initiatives in Canada, Spain, Greece or France (Baykan, 2007). We could say that in recent years a rising number of engaged social actors began to form a sort of social coalition dealing with implementation of degrowth transition, underlined by democratic processes calling for “downscaling the economy and bringing it within ecological limits” (Cattaneo, D’Alisa, Kallis & Zografos, 2012).

Contemporary societies, perceived either as industrial or post-industrial, are characterized with processes of marketization and economization of non-economic societal systems (i.e. welfare, healthcare, arts, education, civil society etc.). Economization became the main principle of societalization while at the heart of this principle lays the imperative of growth. Therefore, degrowth implies a change of the concept of the economy of growth but not only in terms of a GDP decline. It implies a change in nature of production and consumption, aiming at social and environmental sustainability (Demaria, Schneider, Sekulova & Martinez-Alier, 2013). Low or negative rates of GDP change in fact privilege inherited wealth worsening existing social inequalities in the long run, which in turn act as a barrier to democratic support for environmentally sustainable strategies (Piketty, 2014; Wilkinson & Pickett, 2010; Žitko, 2014). Degrowth should not be seen as a solely economic concept but more as a social concept with multi-contextual and multi-dimensional layers, since it incorporates activism and research in justice, critical analysis of development’s relation to utilitarianism, wellbeing, reformism and radical alternative practices. It encompasses topics of our past and our future in terms of our everyday life practices and potentials.

Social transformation and shift towards non-growth oriented societies assumes, as the degrowth theoreticians and activists underlay (Cattaneo et al., 2012), achievement of a degrowth scenario as the widening and deepening of the process of democratization, thus leading to social emancipation. Social changes unfolding in either more revolutionary or evolutionary social dynamics, but holding within the frames of widening and deepening of the process of democratization, depends on the existence and formation of specific value orientations. For restructuring social relations in order to make a shift towards degrowth orientation certain inter-dependent principles, as Latouche argues, are required. His “Rs” of degrowth include eight

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<sup>1</sup> <http://leipzig.degrowth.org/en/>

inter-dependent principles. Re-evaluate what matters. Reconceptualize key notions such as wealth, poverty, value, scarcity and abundance. Restructure the productive apparatus and social relations to fit these new values. Redistribute wealth and access to natural resources between North and South and between classes, generations and individuals. Relocalize which means producing on local level thus descending all economic, political and cultural decisions at that level. Reduce production and consumption, especially for goods and services with little use value but high environmental impact. Re-use products and Recycle waste (Latouche, 2009).

Latouche's degrowth principles are broad social concepts needed for thinking in terms of social transformation towards sustainable and equitable societies, but one principle needs to be mentioned as a widening of Latouche's degrowth principles and that is social trust. For social emancipation through democratically based social transformation, social trust seems to be a necessary social prerequisite, especially in terms of relocalizing social practices and decision-making. Emancipatory potential of ('developed') societies to make a u-turn for reduction of economic production and consumption, thus leading to achievement of degrowth scenarios, can be explored through analyzing the prevalence of attitudes and practices connected with Latouche's degrowth inter-dependent principles. All of these inter-dependent principles as social concepts have an axiological notion immanent not only for philosophical dimension of degrowth concept, but also as socially existent ideas at individual level. The main goal of this paper is to explore to what extent are some of the Latouche's degrowth "Rs" present among European populations on the level of attitudes and evaluation of behavior. In order to do so we use the International Social Survey Programme research module Environment which focuses on environmental attitudes, beliefs and behavior.

## Methodology

For the purpose of exploring the degrowth potential in Europe we use the data for 18 countries (Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Finland, France, Germany, Latvia, Lithuania, Norway, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, United Kingdom) participating in the ISSP module Environment, and fielded during 2009, 2010 and 2011<sup>2</sup>. As degrowth measures we have used several indicators assessing value orientation and intended behavior concerning degrowth concept, and in the analysis will be used as dependent variables.

<sup>2</sup> ISSP Research Group (2012): *International Social Survey Programme: Environment III – ISSP 2010. GESIS Data Archive, Cologne. ZA5500 Data file Version 2.0.0, doi:10.4232/1.11418*

### *Dependent variables*

As degrowth indicators we have used ISSP variables presenting personal willingness to make a material sacrifice in order to protect the environment, assessment of personal behaviour in line with mentioned degrowth principles and attitudes on economic growth-environment trade-off (table 1).

Composite measure *Attitudes of Material Sacrifice* (AMS) includes measures of willingness to: a) pay much higher prices in order to protect the environment; b) pay much higher taxes in order to protect the environment; c) to accept cuts in one's own standard of living in order to protect the environment<sup>3</sup>. It is thus a direct expression of the diffusion within a particular state's population of individuals willing to make sacrifices and support policies that demand greater material investments from individuals whilst providing smaller material benefits for them from resource extraction. The latter is what is required for reduction of the ecological footprint of individual societies, and the overall global population in the end, in order to bring them in line with the projected sustainable state.

*Degrowth-compliant pro-environmental behaviour (DCPEB)* is presented by a set of variables that, rather than measuring actual behaviour, measures respondents' intentions to take part in pro-environmental behaviour environment, such as recycling of glass, plastic and paper, buying 'green' products, saving water and choosing alternative means of transportation instead of travelling by car or saving energy. This indicator presents evaluation of personal behaviour and effort in line with degrowth orientation.

On top of indexes, composite measures of willingness for material sacrifice and personal efforts for environmental reasons, we also use single variable indicators of agreement/disagreement with general statements concerning economic growth-environment trade-off. These report on the prevalence within individual states of individuals who agree or disagree with statements whose affirmation or denial is a lemma of ecological and democratic strands of the degrowth conceptualisation. We divide these statements into those that express awareness of the immediate trade-off between growth as we know it and environmental protection, and those that express awareness of general ecological limits of growth, and name them Active Degrowth and Passive Degrowth respectively. The items were measured on a Likert-type acceptance scale ranging from 1 = "strongly agree"; 2="agree"; 3= "neither agree nor disagree"; 4="disagree"; 5 = "strongly disagree". Active Degrowth is represented by two single-variable (attitude) indicators (10a

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<sup>3</sup> Reliability analysis on these three items for all of the ISSP countries indicates a good internal consistency (Cronbach's  $\alpha$  is 0.84). Therefore, we have constructed an additive index ranging from 3 to 15.

and 11a). The first, concurrent with *Environment-economy trade-off* indicator in Domazet et al. (2014a), exhibits the prevalence of individuals within states' populations who disagree with statement that concern for the future of the environment is exaggerated and unjustifiably prioritised over economic activities and progress. This is linked to considerations of efficacy on the individual and collective levels, perceptions of which are vital to one's willingness to make degrowth commitments concerning economic activity (Meyer, 2010; Ostrom, 2010). The second single-variable (attitude) indicator (11a) measures the normative side of economy-environment trade-off. It captures the prevalence within state's populations of individuals who disagree with a single item statement that their country *needs* economic growth in order to protect the environment. Whilst these variables do not in and of themselves indicate prevalence of support for full-blown economic and social degrowth transformations (Demaria et al., 2013; Kallis, 2011), they do indicate general conceptual support for a shift away from the developmental paradigm by which economic growth leads to remedying of individual scarcity and national environmental problems.

Passive Degrowth is represented by two single-variable (attitude) indicators (11b and 19c). The first captures the prevalence within national populations of individuals who agree with a single item statement that economic growth always harms the environment. Such agreement does not signal that in the growth-environment trade-off the environment should be favoured, but expresses an awareness that such a trade-off exists and thus might indicate abandonment of hope in 'green economies' that would successfully and rapidly decouple economic growth from environmental impact. Whilst less important to efficacy of action, this awareness nonetheless presents a fertile ethical foundation to consider future development strategies that would aim to balance ecological concerns with democratic material aspirations. The second is even more explicit in the expression of limits to growth awareness; it reports on percentage of individuals within national populations expressing agreement with a statement that economic *progress* in their country will slow down unless better environmental protection is enacted. This is an explicit expression of awareness that environmental limits of growth have been reached, and that further economic progress (though explicitly, term growth is not used in this variable) depends on protection rather than destruction of the environmental conditions. This awareness, again, can be perceived as a warning but not an expression of taking sides in environment-growth trade-off, as different environmental protection strategies may still be seen to be compatible with or resultant from focus on achieving economic growth.

Table 1: INDEXES AND INDICATORS OF DEGROWTH ATTITUDES AND BEHAVIORS

INDEXES		ITEMS
<b>Attitudes of material sacrifice index (AMS)</b>		<i>"How willing would you be to:"<sup>a</sup></i>
the reliability coefficient (Cronbach's alpha) for 18 countries is 0.853		(a) "pay much higher prices in order to protect the environment"
0.56 - 0.80 inter-item correlation		(b) "pay much higher taxes in order to protect the environment"
		(c) "to accept cuts in your standard of living in order to protect the environment"
<b>Degrowth-compliant pro-environmental behaviour (DCPEB)</b>		<i>"How often do you make a special effort to..."<sup>b</sup></i>
the reliability coefficient (Cronbach's alpha) for 18 countries is 0.765		(a) "sort glass or tins or plastic or newspaper and so on for recycling"
0.21 - 0.54 inter-item correlation		(b) "buy fruit and vegetables grown without pesticides or chemicals"
range from 6 to 24		(c) "cut back on driving a car for environmental reasons"
		(d) "reduce the energy or fuel you use at home for environmental reasons"
		(e) "choose to save or re-use water for environmental reasons"
		(f) "avoid buying certain products for environmental reasons"
SINGLE-ITEM INDICATORS		ITEMS
<b>Active Degrowth indicators</b>	10a	<i>"And how much do you agree or disagree with each of these statements?"<sup>c</sup></i> <i>"And how much do you agree or disagree with each of these statements?"</i>
	11a	<i>"How much do you agree or disagree with:"<sup>c</sup></i> <i>"Our country needs economic growth in order to protect the environment"</i>
		<i>"How much do you agree or disagree with:"<sup>c</sup></i>
<b>Passive Degrowth indicators</b>		<i>"How much do you agree or disagree with:"<sup>c</sup></i>
	11b	"Economic growth always harms the environment"
	19c	"Economic progress in [COUNTRY] will slow down unless we look after the environment better"

<sup>a</sup> Measured on Likert scale: 1 = "very willing"; 2 = "fairly willing"; 3 = "neither willing nor unwilling"; 4 = "fairly unwilling"; 5 = "strongly unwilling"

<sup>b</sup> Measured on scale: 1 = "never"; 2 = "sometimes"; 3 = "mostly", 4 = "always"

<sup>c</sup> Measured on Likert-type scale: 1 = "strongly agree"; 2 = "agree"; 3 = "neither agree nor disagree"; 4 = "disagree"; 5 = "strongly disagree"

Source: ISSP, 2010 - Environment III

### *Independent variables*

In order to explore socio-demographic characteristics of degrowth across Europe as independent variables we have used age and education. The educational level is a categorical variable with a distinction between no formal qualification, lowest formal qualification, secondary and tertiary educational attainment. Although Latouche emphasize redistribution as an inter-dependant degrowth principle and we added social trust to it, those measures in ISSP were not contextualized as part of sustainable and environmental awareness, and therefore are used as independent variables. Generalized trust is constructed as additive index based on the answers to the statements: a) "Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?"; b) "Generally speaking, do you think that most people would try to take advantage of you if they got the chance, or would they try to be fair?"<sup>4</sup>. As a measure of redistribution orientation we have used the question 2b - "It is the responsibility of the government to reduce the differences in income between people with high incomes and those with low incomes". The answers were recoded from five points (from "strongly agree" to "disagree strongly") to three points.

### *Data Analytic Strategies*

First we explored mean values and standard deviations of AMS and DCPEB for each of the 18 European countries along with percentages on each of the Active and Passive Degrowth indicators (table 2). The countries are ranked based on their GDP per capita (USD) data from 2011 (the same year as most of the countries were fielded with ISSP module Environment).

For the purpose of exploring the socio-demographic characteristics of degrowth supporters across Europe we conducted several logistic and OLS regression analyses. Predictors in the model are age and education as socio-demographic elements, and indices of generalized trust and redistribution orientation. Correlates of AMS and DCPEB indexes were explored by linear regression analysis (table 3), while correlates of Active and Passive Degrowth indicators were analysed using logistic regression models (table 4 and 5). Scale on Active and Passive Degrowth indicators was dichotomized in a way that degrowth orientation was assigned with value 1 (strongly agreeing or strongly disagreeing with one of the four statements indicating degrowth

<sup>4</sup> Reliability analysis on these two items for all of the ISSP countries indicates an acceptable internal consistency (Cronbach's  $\alpha$  is 0.75). Therefore, we have constructed an additive index ranging from 2 to 10.



orientation), while non-degrowth orientation was assigned with value 0. Analysis was done on all European national populations as a single sample (individuals as unit of analysis).

## Results

Whilst national development policies are still expressed within nation states and socio-cultural determinants of each of the analysed states influence personal value-orientations, attitudes and behavioural patterns, the eco-social effect of degrowth requires a transnational activation (Chatterton & Pickerill, 2010). However, before looking into degrowth characteristics of European population as a whole (based on the 18 analysed countries), results of “degrowth indicators” are presented for each of the respective countries which are sorted according to national GDP per capita at the time of survey fielding (table 2).

Results presented in table 2 imply a significant variability among European countries in terms of degrowth prevalence and potential among populations. Concerning material sacrifice or more precisely personal willingness to make material sacrifice (give more money and accept reductions of material standard of living) in order to protect the environment, most of the analysed countries have a prevalence of unsustainably oriented populations. Furthermore, their average score on AMS index correlates strongly with national GDP per capita (Kendall's tau\_b: .774,  $p < .01$ ). Transformation of material and social infrastructure into those more suitable to sustainability will also require willing sacrifices on individual level, in terms of greater costs of living or taxes for maintenance of public environmental services (Wapner, 2010). It expresses not just willingness to sacrifice but also a striving or commitment to purposeful action. There is of course an important obstacle, similar to general ‘willingness to pay’ problems, to the use of this in comparative indications of different countries’ commitments to a common cause. Given the differences in affluence between countries, especially among our lower income countries, this might be more of a measure of ‘ability to pay’ than ‘willingness’, and thus be more of an objective development indicator than a measure of population’s willingness for different development strategies (Haanpää, 2006). Previous analyses comparing perceptions of environmental risks with income and poverty risk in 18 European countries have confirmed this (Dolenec et al., 2014).

Concerning degrowth-compliant pro-environmental behaviour there are differences between countries, and differences between the components of the said index within individual countries also. For instance, in most of the countries sorting recyclables is by far the most frequent personal behaviour, while the least common effort is cutting back on driving

Table 2: INDEXES AND INDICATORS OF DEGROWTH ATTITUDES AND BEHAVIORS ACROSS 18 EUROPEAN COUNTRIES IN 2011  
 – MEAN VALUES, STANDARD DEVIATIONS AND PERCENTAGES

European countries	GDP per capita (USD 2011)	Material sacrifice (AMS) index*			Degrowth-compliant pro-environmental behaviour index (DCPEB)**			Active Degrowth indicators		Passive Degrowth indicators	
		M	SD	z-values	M	SD	z-values	Q10a Worry too much about environment over jobs (% disagree)	Q11a Environment: protect by economic growth (% disagree)	Q11b Economic growth: harms the environment (% agree)	Q19c Economic progress will slow down without environmental protection (% agree)
Norway	98564	8.44	2.88	,18	13.21	3.14	-,23	50.3%	38.4%	14.6%	35.1%
Switzerland	85794	9.75	2.58	,60	16.25	3.30	,54	50.0%	50.5%	38.6%	43.2%
Denmark	59580	9.31	2.69	,46	14.93	3.28	,21	54.3%	29.0%	23.3%	49.8%
Sweden	57133	8.40	2.81	,17	13.90	3.10	-,05	49.1%	20.0%	14.1%	42.3%
Austria	49686	7.99	2.78	,04	15.79	3.90	,43	46.8%	31.9%	35.7%	39.5%
Finland	48887	8.12	2.81	,08	14.62	3.45	,13	37.9%	51.9%	35.6%	38.9%
Belgium	47807	7.98	2.90	,03	15.51	2.77	,36	32.8%	24.9%	23.1%	23.8%
Germany	43865	8.51	2.83	,20	16.26	3.26	,55	49.5%	27.1%	28.9%	51.2%
France	42641	7.66	3.06	-,07	16.53	3.14	,61	32.7%	28.3%	31.3%	34.6%
Great Britain	38918	7.56	3.11	-,10	14.31	3.79	,05	35.1%	19.2%	15.1%	34.6%
Spain	31820	7.79	2.97	-,03	13.73	3.70	-,10	36.9%	27.9%	25.6%	54.7%
Slovenia	24709	7.91	2.99	,01	14.56	3.22	,11	29.6%	19.3%	35.3%	52.5%
Czech R.	20606	6.60	2.93	-,41	13.58	3.83	-,13	34.3%	14.0%	28.5%	35.5%
Slovakia	17545	7.28	2.94	-,19	12.98	3.73	-,29	32.2%	13.6%	31.8%	39.9%
Croatia	14217	6.31	2.88	-,50	12.99	4.24	-,28	31.7%	18.5%	19.6%	42.7%
Lithuania	12962	6.36	2.79	-,48	12.50	3.85	-,41	32.6%	12.8%	32.0%	46.5%
Latvia	12696	5.70	2.60	-,69	12.09	3.53	-,51	30.3%	15.0%	26.0%	41.4%
Bulgaria	7186	6.36	3.31	-,48	11.46	3.75	-,67	40.0%	10.2%	37.8%	59.4%
<b>Average</b>	<b>39701</b>	<b>7.72</b>	<b>3.06</b>	<b>-,05</b>	<b>14.53</b>	<b>3.73</b>	<b>,11</b>	<b>39.1%</b>	<b>25.8%</b>	<b>27.6%</b>	<b>42.8%</b>

\*Range is from 3 to 15

\*\* Range is from 6 to 24

Source: ISSP, 2010 – Environment III

car for environmental reasons (more in Brajdić Vuković, 2014). But on this measure the correlation with GDP pc weakens (Kendall's tau\_b: .556,  $p < .01$ ), calling for further analysis of social paradigms and material infrastructure for relevant behavioural practices. Personal degrowth-compliant behaviour can be perceived as a personal pro-environmental aspiration and therefore degrowth orientation, however it depends on the available infrastructure suitable for practicing degrowth-compliant behaviour. Based on the results from the composite measure, European population as a whole presents average level of degrowth-compliant behaviour.

Active and passive degrowth indicators, on the other hand, are not indices of individuals' *personal* values and behaviour, but are a collection of comments on the general societal development trends in the trade-offs between environmental conservation and economic activity. Moreover, differences in proportions within and between countries are visible, however in all countries "degrowth critique" of current economic model and its impact on the environment is present.

Although differences among countries suggest socio-structural and socio-cultural conditions which have an impact on dimensions of degrowth concept among respective populations, the concept itself transgresses national boundaries and fundamental societal shifts it requires are not a task for individual states in the contemporary globalized society. It therefore makes sense to analyse all European national populations as a single 'continental' sample. It is thus interesting to see the characteristics of the overall population of European ISSP respondents concerning AMS and DCPEB and expressing support for the measures of Active or Passive Degrowth orientation. For that purpose, we have conducted a linear regression analysis for AMS and DCPEB, while for Active and Passive degrowth indicators we have used logistic regression analysis (table 3).

Concerning AMS predictors in the model education and trust are statistically significant in a way that those with higher educational attainment and those who have more trust in others express more willingness to make material sacrifice in order to protect the environment. Similar is with degrowth-compliant behaviour but with addition of age and redistribution orientation as also significant predictors. It seems that degrowth-compliant pro-environmental behaviour is more prevalent as people became older and within those who are more supportive of governments' redistributive role between citizens with high incomes and those with low incomes (tables 4, 5).

Active and Passive Degrowth orientation tend to differ in the age of the population, with younger population expressing support for Active Degrowth and older population for Passive Degrowth. Level of educational attainment, on the other hand, returns mixed results on support for Active and Passive Degrowth. Higher educational attainment is related with

expressions of disagreement that we worry too much about the future of the environment and not enough about current prices and jobs (variable 10a; part of Active Degrowth) and agreement with statement that country needs economic growth in order to protect the environment (variable 11a; part of Active Degrowth). Educational attainment is also a predictor of agreement with a statement that economic growth always harms the environment (variable 11b; part of Passive Degrowth), but significance of educational stratification is lower. On most our degrowth indicators individuals expressing degrowth-orientation are also individuals supporting redistributive role of the national governments. They are also those expressing higher levels of trust within a society, except on the indicator marking disagreement that their country needs to achieve economic growth in order to successfully protect the environment (variable 11a).

## **Conclusion**

The above analysis detects traces of the correlation between prosperity and environmentally-motivated-degrowth explored in detail elsewhere (Dolenec, Domazet & Ančić, 2014; Domazet, Ančić et al., 2014). This correlation is related to the prosperity thesis (Diekmann & Franzen, 1999), which claims that populations with higher average wealth express higher levels of environmental concern out of greater readiness to pay for environmental resilience as a scarce good. Such a thesis remains highly problematic for social transformation required for degrowth in the absence of the (seemingly miraculous) wealth generation decoupled from local and global environmental impact (Steinberger et al., 2013). National populations, and especially highly developed ones such as the European populations surveyed here are, must find democratic motivation for transformation of social practices in line with environmental sustainability, which will include some form of degrowth strategies (in the sense of degrowth broader than simple economic reading, as outlined in the Introduction), even amongst the comparatively poorer populations, given that the growth space is severely limited from an ecological perspective.

The idea to grow first, attain greater average wealth, and then deal with environmental issues later has been empirically delegitimised as a strategy (Simmons, 1993; Steinberger et al., 2013). In that sense the spread of national scores on measures of acceptance of material sacrifice (AMS), behavioural sacrifice of comfort (DCPEB) and Active Degrowth indicators is not encouraging. It shows wealthier countries' populations lead the way in degrowth-compliant orientation, but even those remain at levels insufficient for democratic mobilisation despite the history of highest material consumption and environmental impact per capita in the world (Schaffartzik et al.,

Table 3: ORDINARY LEAST SQUARES REGRESSION ANALYSIS OF AMS AND DCPEB INDEXES ACROSS 18 EUROPEAN COUNTRIES IN 2011.

	Material sacrifice (AMS) index		Degrowth-compliant pro-environmental behaviour (DCPEB)	
	Beta Coeff.	Sig.	Beta Coeff.	Sig.
Age	-.003	.642	.170	.000
Education	.135	.000	.052	.000
Trust	.225	.000	.079	.000
Redistribution orientation	-.009	.170	.071	.000
F-ratio	450.318		179.722	
F-Sig.	.000		.000	
R-squared	.284		.206	
Adjusted R-squared	.080		.042	
Number of countries	18		18	
Number of observations	20573		16263	

Source: ISSP, 2010 - Environment III

Table 4: LOGISTIC REGRESSION OF ACTIVE DEGROWTH INDICATORS ACROSS 18 EUROPEAN COUNTRIES IN 2011.

European Countries	Q10a Worry about future environment*					Q11a Environment: protect by economic growth*				
	β	s.e.	Wald	Sig.	Exp	β	s.e.	Wald	Sig.	Exp
Age	-.011	.001	133,753	.000	.989	-.005	.001	28,249	.000	.995
Education	.527	.024	492,156	.000	1,693	.199	.025	65,087	.000	1,220
Trust	.166	.008	456,354	.000	1,181	.106	.008	172,645	.000	1,112
Redistribution orientation	.214	.022	93,200	.000	.807	-.032	.022	2,055	.152	.969
Nagelkerke R <sup>2</sup>	.129					.030				
Number of countries	18					18				
Number of observations	16297					15666				

\* Answers "4" and "5" coded as 1, answers "1-3" coded as 0.

Source: ISSP, 2010 - Environment III

2014). Previous analyses have shown a reversal of the prosperity trend on awareness of ecological limits of growth within the sample of 18 European countries, as well as wider global ISSP sample (Domazet, Ančić et al., 2014; Domazet & Ančić, n.d.). Passive Degrowth indicators do not distinguish between wealthier and poorer European societies, showing that awareness of environmental limits of growth is not limited to national wealth, but the readiness to act on it is.

As with the distinction between individual 'willingness to pay' and 'ability to pay' presented above, this may be another example of infrastructural

Table 5: LOGISTIC REGRESSION OF PASSIVE DEGROWTH INDICATORS ACROSS 18 EUROPEAN COUNTRIES IN 2011.

European Countries	Q11b Economic growth: harms the environment**					Q19c Economic progress in [COUNTRY] will slow down**				
	β	s.e.	Wald	Sig.	Exp	β	s.e.	Wald	Sig.	Exp
Age	,004	,001	18,531	,000	1,004	,008	,001	56,246	,000	1,008
Education	-,238	,024	94,732	,000	,788	-,059	,026	5,047	,025	,943
Trust	-,109	,008	179,631	,000	,897	,013	,009	2,177	,140	1,013
Redistribution orientation	,321	,024	181,345	,000	1,379	,337	,024	202,167	,000	1,400
Nagelkerke R <sup>2</sup>	,059					,030				
Number of countries	18					18				
Number of observations	14533					13044				

\*\*Answers “1” and “2” coded as 1, answers “3–5” coded as 0.

Source: ISSP, 2010 – Environment III

insufficiencies, in this case socio-economic rather than material, for degrowth-compliant strategies among poorer European populations. Even on normative grounds, it can be considered unfair to expect those with less resources in contemporary globalised economy to lead the contribution to the common endeavour, or as Shue says “if the wealthy have no general obligation to help the poor, the poor certainly have not general obligation to help the wealthy” (Shue, 1999: 543). But as the degrowth movement, introduced above, is trans-national, so the environmental constrictions and strategies required to address them are. National populations are political subjects in contemporary Europe, but a global transition along the lines of degrowth movements’ invocations requires a transnational mobilisation, especially in a wealthy and highly interconnected region such as Europe is. In this sense we aimed to examine the overall European degrowth-oriented population as a democratic actor in its own right.

Our results indicate that there is a significant difference between Active Degrowth and Passive Degrowth supporting populations within the overall European sample, on top of and in combination with the differences exhibited by national populations.<sup>5</sup> Whilst ‘European degrowth supporters’ are

<sup>5</sup> Whilst the collection of individual respondents reported on here is not a representative sample of the overall European population, but a collection of different size representative samples of national populations of 18 participating countries, based on previous and above analyses there is no reason to assume that nationality influences the profile of degrowth-orientation individuals. More explicitly there is no reason to assume as a starting hypothesis that odds of age group or redistribution orientation are affected by the values of the degrowth-compliant answers to Active and Passive Degrowth variables (predictors) and nationality of the respondent. Nonetheless, these results should be used as first indication of trends among European population to be followed by further analysis on a representative European sample scaling the national participation in accordance with the distribution of national population sizes in Europe.

invariably those already expressing individual concern for the environment and individually committed to material sacrifice, they are also people who support the redistributive role of the government and tend to have greater level of social trust. Educational attainment also plays a part in degrowth-support according to our measures, but its role is much less clear and requires further analysis and elucidation. This is not unexpected given the theoretical expectations of the social degrowth transition, including greater social cohesion and redistribution of outputs of production in lieu of shifts in social metabolism.

What is clear, though, is the age difference, with younger 'European degrowthers' being more supportive of the Active Degrowth measures and older 'European degrowthers' more supportive of the Passive Degrowth measures. Interestingly, this 'passive' awareness of normative environmental limits of economic growth, combines with self-reporting of individual sacrificial behaviour, as degrowth-compliant pro-environmental behaviour is also more prevalent as people became older. This need not be surprising, as we might be seeing an influence of aspiration-dampening (some might say wisdom) with age, a certain transformational defeatism along the lines of more-conservative-as-you-age. There is also a hang-up of the twentieth-century ecological modernisation approach at play here, affecting older more than younger populations (Cifrić, Čaldarović, Kalanj & Kufrin, 1998). As the Active and Passive Degrowth statements test the overall societal strategies and not personal 'devil-may-care' attitudes the age-dependent difference should not be ascribed to the different life-prospects of the age groups. A natural follow-up to these indicative findings would be testing the relationship between contextual socio-demographic characteristics of degrowth supporters across Europe and viable and positive degrowth-oriented mid-term policies and long-term development strategies on a representative sample of entire European population. It would also be interesting to see whether there is overlap in these characteristics and support between European and global populations, especially those already expressing high proportion of support for some of our degrowth-orientation measures.

What is clear is that on the whole the European degrowth-compliant population motivated from environmental perspective is neither negligent nor of irrelevant size, whilst still presenting a minority in both 'rich' and 'poor' European states. It is a population of individuals with value-sets overlapping with Latouche's (2009) R's, in for example calls for redistribution, community cohesion and localisation through social trust. It is also a population with marked willingness to commit individual sacrifices from the perspective of material self-interest, and crucially its younger segment is more dedicated to possible proactive measures than the older one is. And whilst there is no difference between citizens of 'richer' and 'poorer' European states in the awareness of environmental limits of growth, with generally 'older

environmentalist degrowthers' opting for this normative approach, wealth and economic output of individual states is a reliable predictor of their overall population's willingness to support proactive degrowth transformation, practice pro-environmental behaviour and commit to individual material sacrifice. This would indicate a possible cleavage between 'richer' and 'poorer' Europeans in aspirational choice between technologically induced 'green economy' and socially induced degrowth, which calls for a better targeted and more nuanced comparative research than the survey employed here permitted. Its findings could help inform the widening and deepening trans-national pan-European process of democratization, aiming at eventual social emancipation for a just degrowth scenario implementation.

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Appendix 1: AGE, EDUCATION, TRUST AND REDISTRIBUTION ORIENTATION ACROSS 18 EUROPEAN COUNTRIES IN 2011-  
MEAN VALUES, STANDARD DEVIATIONS AND PERCENTAGES

	N	Age		Education				Trust		Redistribution orientation		
		M	SD	no formal qualification	lowest formal qualification	secondary level	tertiary level	M	SD	disagree (strongly)	neither nor	agree (strongly)
Austria	1019	46.16	17.60	1.6	17.9	68.2	12.4	6.28	1.94	13.5	17.8	68.7
Belgium	1142	49.74	18.47	3.9	15.3	52.6	28.1	6.17	2.31	11.6	13.6	74.9
Bulgaria	1003	48.12	18.15	1.3	5.1	40.6	53.0	4.30	1.97	7.2	12.7	80.1
Croatia	1210	45.60	16.65	2.3	11.5	65.5	20.7	5.31	2.03	9.1	19.0	71.9
Czech R.	1428	47.28	17.41	0.1	9.6	75.0	15.3	5.36	1.96	20.8	22.1	57.1
Denmark	1305	49.12	16.83	5.7	3.1	36.9	54.4	7.43	1.99	27.1	12.7	60.2
Finland	1211	44.29	16.46	6.5	6.7	37.3	49.5	6.61	2.18	15.5	12.9	71.6
France	2255	48.39	17.88	1.2	14.4	43.1	41.3	5.36	1.96	15.3	10.5	74.2
Germany	1407	49.57	17.56	2.0	34.7	43.6	19.7	6.11	2.03	22.9	15.6	61.5
Latvia	1000	44.90	17.25	2.2	10.6	59.3	27.9	5.38	1.95	8.8	12.6	78.6
Lithuania	1023	45.08	18.47	1.1	6.3	48.9	43.7	5.31	1.71	4.0	13.9	82.2
Norway	1382	48.43	16.02	0.4	5.1	45.9	48.6	7.71	1.94	24.3	19.9	55.8
Slovak R.	1159	44.20	17.04	0.7	22.0	65.0	12.3	4.97	1.89	7.9	15.1	77.0
Slovenia	1082	48.64	18.49	3.7	16.5	57.4	22.3	4.99	1.96	7.1	7.5	85.3
Spain	2560	48.41	17.67	9.2	20.1	49.4	21.4	5.45	1.89	12.1	9.4	78.5
Sweden	1181	49.04	16.47	0.8	17.7	43.0	38.5	7.22	2.03	17.3	23.6	59.1
Switzerland	1212	48.92	17.76	0.6	15.9	54.9	28.6	6.61	1.81	27.1	16.2	56.7
Great Britain	934	47.31	17.63	21.3	6.3	34.4	38.1	6.25	2.23	23.2	23.9	52.9
Total	23514	47.57	17.53	3.6	13.9	50.9	31.7	5.92	2.17	15.5	15.0	69.6

Source: ISSP, 2010 - Environment III

Appendix 2: CORRELATION COEFFICIENTS FOR DEPENDANT AND INDEPENDENT VARIABLES

		Correlations									
		AMS	DCPEB	10a	11a	11b	19c	Age	Educa- tion	Trust	Redistribution orientation
AMS	Pearson Correlation	1	,336**	,314**	,148**	,028**	,148**	-.025**	,178**	,248**	-,051**
	Sig.		,000	,000	,000	,001	,000	,000	,000	,000	,000
DCPEB	Pearson Correlation	22074	16605	16636	15955	14840	13197	21994	21914	21459	21323
	Sig.	,336**	1	,142**	,102**	,081**	,164**	,170**	,031**	,095**	,063**
10a	Pearson Correlation	16605	17398	13144	12642	11831	10463	17356	17272	16918	16819
	Sig.	,314**	,142**	1	,239**	-,081**	,023*	-,131**	,237**	,206**	-,120**
11a	Pearson Correlation	16636	13144	17532	13088	12207	10964	17473	17388	16991	16958
	Sig.	,148**	,102**	,239**	1	,172**	-,166**	-,053**	,092**	,116**	-,031**
11b	Pearson Correlation	15955	12642	13088	16760	12353	10908	16706	16643	16294	16240
	Sig.	,028**	,081**	-,081**	,172**	1	,115**	,054**	-,119**	-,140**	-,139**
19c	Pearson Correlation	14840	11831	12207	12353	15574	10093	15226	15471	15158	15121
	Sig.	,148**	,164**	,023*	-,166**	,115**	1	,079**	-,045**	-,005	,130**
Age	Pearson Correlation	13197	10463	10964	10908	10093	13860	13829	13764	13499	13474
	Sig.	-,025**	,170**	-,131**	-,053**	,054**	,079**	1	-,214**	,032**	-,055**
Education	Pearson Correlation	21994	17356	17473	16706	15526	13829	23399	23212	22586	22450
	Sig.	,178**	,031**	,237**	,092**	-,119**	-,045**	-,214**	1	,169**	-,117**
Trust	Pearson Correlation	21914	17272	17388	16643	15471	13764	23212	23321	22507	22376
	Sig.	,248**	,095**	,206**	,116**	-,140**	-,005	,032**	,169**	1	-,107**
Redistribution orientation	Pearson Correlation	21459	16918	16991	16294	15158	13499	22586	22507	22683	21862
	Sig.	-,051**	,063**	-,120**	-,031**	,139**	-,130**	,055**	-,117**	-,107**	1
		21323	16819	16958	16240	15121	13474	22450	22376	21862	22547

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

Source: ISSP, 2010 - Environment III