Intergenerational Justice in Aging Societies

A Cross-national Comparison of 29 OECD Countries

SGI Sustainable Governance Indicators

BertelsmannStiftung

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Editorial

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Intergenerational Justice in Aging Societies: A Cross-national Comparison

How well do OECD member states live up to the principles of intergenerational justice? How clearly can such principles be measured? And how can cross-national comparisons help foster improved strategizing in policymaking?

The study presented here by Pieter Vanhuysse provides answers to these questions. It is conceived as an evidence-based contribution to a debate often marked by polemics rather than reasoned scholarly analysis. Intergenerational justice is a complex and politically controversial hot-button issue. But pitting the interests of older generations against those of younger generations should not be exploited for political purposes. We need instead to consider objective, empirical information regarding existing imbalances in order to address their associated injustices.

Without claiming to be empirically or theoretically exhaustive, this study offers some crucial insights and key empirical indicators relevant to the discourse on intergenerational justice in aging societies. As is the case with all complex social matters – and intergenerational justice ranks among the most complex – achieving a full measure of social reality that is at once concise and readily understandable as well as precise and comprehensive, is a rather utopian aim. With this in mind, the study presented here focuses on providing a readily understandable measure and illustration of findings derived from a set of clearly identifiable indicators addressing the three core principles of sustainability. The indicators comprising the Intergenerational Justice Index (IJI) represent important environmental, economic-fiscal and social aspects of this highly complex subject. The IJI study was conducted within the context of the Bertelsmann Stiftung's Sustainable Governance Indicators (SGI) project, which has been examining since 2009 OECD member states' performance in sustainable governance. Focusing on intergenerational justice exclusively, the IJI addresses an important topic within the broader discussion of sustainability. It does so by assessing policy outcomes and the legacies – that is, the unfair burdens – they entail for future generations. At the same time, it also examines the extent to which current socioeconomic policies in OECD countries reflect a bias toward today's older or younger generations. Given the fact that demographic developments in most OECD countries involve an increasingly larger and thus more powerful cohort of older voters, the findings and insights of this study are also highly relevant as regards the question of democracy itself.

How does this study differ from other approaches pursued to date? What new insights does it have to offer? For starters, where possible, the study sets policy outcomes in direct relationship to a country's demographic structure, and does so in quantifiable terms. This means, for example, when considering economic-fiscal aspects of intergenerational justice, the index looks not to national debt

levels in absolute terms as a mortgage on the future, but public debt per child instead, that is, a country's national debt relative to its demographic structure.

Furthermore, the study's indicators offer compelling information about intergenerational imbalances in terms of social outcomes and policy measures. Expressed in ratios, these imbalances include poverty rates among children in relation to those among the elderly, and an innovative ratio of states' social spending patterns for older in relation to younger generations. Once again, Vanhuysse places each OECD state's spending pattern in the context of their respective demographic development.

The concept of an ecological footprint underlies the index's environmental dimension of intergenerational justice. An ecological footprint refers here to a measure of the negative impact left behind by a current generations' consumer behavior and productivity.

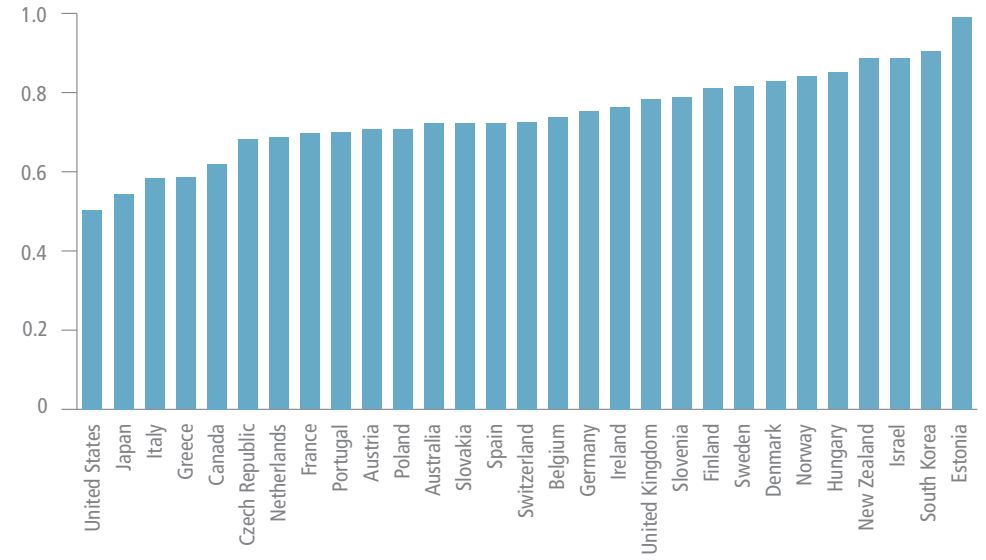
Drawing on these intuitively plausible indicators and taking into account the qualitative assessments of the SGI country reports (see www.sgi-network.org), the study yields some interesting results useful in developing concrete policy recommendations that should, in many respects, resonate positively among different and even competing political parties. In addition, Vanhuysse argues in favor of some rather provocative strategies that are offered here in the spirit of driving further critical debate. So, what are the key results and conclusions generated by the study?

Key findings, in brief

Among the 29 OECD countries included in this study, Estonia ranks highest overall in terms of intergenerational justice.* Other top performers include South Korea, Israel, New Zealand, Hungary, and the North European states of Norway, Denmark, Sweden and Finland. Whereas Germany ranks in the mid-range at place 13, the United States, Japan, Italy and Greece rank firmly at the bottom of the index. These countries must target considerable reforms if they are to achieve greater intergenerational justice.

* The 29 OECD countries examined are: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, United Kingdom and United States. Due to limited data availability and comparability, the five remaining countries (Chile, Iceland, Luxembourg, Mexico and Turkey) are not in included in the study's country sample.

Intergenerational Justice – Overall Results



Source: Computations by Pieter Vanhuysse, see pp. 29-38. | BertelsmannStiftung

It is important to note that each country's profile of strengths and weaknesses differs considerably depending on the specific dimension of intergenerational justice examined. It is also important to bear in mind that the (long-term) effects of the global economic and financial crisis are not yet fully visible in the results. What do the findings for each dimension of the index tell us?

Public debt per child: Estonia's children face the lowest burden

Estonia, the index's top performer, receives particularly strong marks in the economic-fiscal dimension of intergenerational justice. In other words, Estonia features the lowest level of public debt – expressed as "public debt per child" – among all 29 OECD states surveyed. This means, for example, that whereas a child in Estonia currently bears "only" $6,400 in public debt, a child in Greece currently bears $299,000, a child in Italy $308,000, and in Japan, with its high levels of public debt and top-heavy demographic structure, a child there bears a crushing $794,000 in public debt. Germany also performs rather poorly on this front: every young person in the country under the age of 15 shoulders an approximate $267,000 in public debt. By contrast, the countries of South Korea, Poland, Slovakia, the Czech Republic and New Zealand perform rather well in this dimension, featuring per child debt levels of $50,000 to $65,000.

Ecological footprint: none of the surveyed countries are intergenerationally just

Among the 29 surveyed OECD states, overall top-ranked Estonia also scores relatively well in terms of its ecological footprint, showing a footprint of 4.7 gha (global hectares) per capita. Despite its small size in land area and limited biocapacity, the northern country numbers among the few OECD

states showing a net-ecological surplus. In other words, its biocapacity exceeds and can therefore absorb its ecological footprint. The three OECD countries currently leaving behind the smallest ecological footprint per capita for future generations are Hungary (3.6 gha), Poland (3.9 gha) and Israel (4 gha). However, the biocapacity of each of these countries is not sufficient to compensate for their respective footprints. The countries with the largest ecological footprints are Denmark (8.3 gha), the United States (7.2 gha) and Belgium (7.1 gha). Germany ranks above-average in this dimension, generating a per capita ecological footprint of 4.6 gha. However, Germany's biocapacity is not enough to compensate for the footprint generated by German society. Worth noting here is that measured within the global context, all OECD countries are currently creating an ecological footprint that exceeds the Earth's capacity. Indeed, 1.8 gha per capita is the limit if we are to leave behind a manageable global ecological footprint for future generations.

Child poverty relative to old-age poverty – particularly strong performance among North European states

Findings for child poverty rates – particularly when placed, as they are in this context, in relation to old-age poverty rates – also show mixed results. With a child poverty rate of 11.1 percent, overall top-ranked Estonia fails to rank above average in this area. High levels of child poverty can have strong negative implications for future education, job and income opportunities among a cohort. Societies with high child poverty rates therefore generally bear a deficit in terms of intergenerational justice. Societies in which child poverty rates clearly exceed old-age poverty rates bear an even larger intergenerational justice deficit.

The North European states of Denmark, Finland, Norway and Sweden, together with Slovenia, perform comparatively well in this dimension and have the lowest rates of child poverty (ranging from 3.7 percent to 7 percent). At the other end of the scale are the United States (with an exceedingly high rate of 21 percent), Israel and the southern European states of Portugal, Spain and Italy, also showing high child poverty rates. Each of these countries faces an urgent need to take action in addressing these problems.

In the Netherlands, Canada, the Czech Republic, France, Italy and Poland, children are in many cases affected more heavily by poverty than are the elderly. In the Netherlands, the child poverty rate is 5.5 times higher than the rate of old-age poverty; in Canada, child poverty rates are three times as high, and in the Czech Republic, 2.5 times as high. Germany has in recent years improved its child poverty rate, which now stands at 8.3 percent in contrast to an old-age poverty rate of 10.3 percent, according to OECD statistics. Indeed, battling old-age poverty is sure to number among Germany's most pressing sociopolitical challenges in the coming years.

Heavy imbalances in social spending patterns for young and old

Several OECD states show considerable imbalances in the distribution of social spending for young and older generations. Countries such as Poland, Greece, Italy, Slovakia and Japan allocate a disproportionately large share of social expenditures for the elderly (i.e., citizens 65 years of age and older) relative to that allocated for young people. Remarkably, however, these spending ratios cannot always be explained by a country's demographic structure. In demographically top-heavy Greece, for example, the state spends six times as much on the elderly as it does on its younger citizens, whereas Sweden – which has a similar demographic structure – spends only 3.4 times as much on the elderly. In an even more drastic example, Poland, with its relatively "younger" demographic profile, spends 8.6 times more on its elderly citizens than it does on its younger citizens. In comparison, New Zealand, which has a demographic structure similar to that of Poland, spends only 2.7 times as much on its elderly as it does on the young and therefore ranks third in terms of spending ratios. With a somewhat better spending ratio, South Korea occupies the top rank in this dimension, and is followed by Ireland (rank 2). Belgium ranks just behind New Zealand in fourth place, and is followed by Estonia, which once again ranks among the top performers in fifth place. Noteworthy are the examples of the four "oldest" societies in the OECD: Whereas social spending patterns in Italy and Japan show a strong bias toward the elderly, the spending bias in Germany is comparatively moderate. In Germany, social spending on the elderly is "only" 4.2 times higher that that on the young. And Sweden, which has an even "older" demographic structure, exercises a more even hand in distributing social spending across the generations. In fact, Sweden – despite its aging demographics – manages to invest more in its young people than is the case in other demographically similar OECD states.

Policy recommendations and issues for continued discussion

What can governments of aging OECD states do to generate greater intergenerational justice in their societies? What challenges require the most urgent attention? And what areas should particularly unjust states such as the United States, Japan, Italy and Greece focus on most?

Prudent spending and targeted investment in expanding capabilities, particularly among the young

Improving spending patterns by exercising greater prudence in government spending and investment is just one effective means of creating greater intergenerational justice. Vanhuysse identifies "double whammy intergenerational earmarking" as one such strategy by which tax revenues raised in one dimension of intergenerational justice are earmarked for spending in another. Such an approach might involve, for example, slating revenues (or at least a share thereof) generated by environmental taxes for investments targeting early childhood education or efforts to improve the ability to combine family and career goals.

Investment in early childhood education is key to promoting intergenerational justice

Targeted investment in high-quality early childhood education can play a particularly important role in securing intergenerational justice. Evidence suggests that such human capital investments yield long-term positive effects on an individual's educational and career opportunities later in life, as well as on his or her overall socioeconomic opportunities. States that target early investment in improving the capabilities and opportunities of their youngest members of society demonstrate commitment to strategies that are not only ethically but economically sound. Indeed, this kind of human capital investment – particularly at the earliest stages of childhood – is clearly a much better option than reparatory measures or compensatory social spending, both of which are vastly more expensive. In Germany, where debates about the effectiveness of family policy have high currency, a strategic course for spending policy must soon be set.

Pro-family right-to-vote reforms as an incentive for intergenerationally just policymaking

Another effective means of pushing aging OECD states with disproportionately older electorates toward securing intergenerational justice is to reform voting rights by including children vis-à-vis their families. This far-reaching idea calls for parents to act as proxies for their children who are not of voting age by providing a vote on their behalf equal to one-half of a fully eligible vote. Proxy votes of this nature would, in many ways, mark both a symbolic and practical shift toward intergenerationally just policies. Through their parents, children would for the first time be able to exercise their political voice as full citizens. Doing so would grant considerably more weight than ever before to the interests of children and families in aging OECD societies. As a result, governments would be compelled to pay greater attention to the needs and interests of younger generations in their policymaking and platforms. Furthermore, in the context of the declining birth rates observed in aging OECD societies, parents with proxy votes would in effect be awarded for their demographic and societal contribution. Vanhuysse considers this a positive alternative to other models that effectively "punish" those members of society without children by, for example, subjecting them to higher tax rates. Finally, proxy votes can act as an incentive in increasing voter participation rates among parents and lead, at the very least, to more balanced participation rates between younger and older generations.

Proxy votes clearly number among the most complex proposals in the intergenerational justice debate. Addressing the full spectrum of this idea in all its consequences goes beyond the scope of this study. The recommendations proposed here should therefore be understood as an attempt to think outside the box and go beyond the usual attempts to address the problem of intergenerational justice by implementing or redesigning policies and instruments of social redistribution.

Measuring Intergenerational Justice – Toward a Synthetic Index for OECD Countries

Pieter Vanhuysse

Introduction

Intergenerational justice has been a key concept within theories and discussions of social justice since at least John Rawls's (1971) general Theory of Justice and two seminal intergenerational justice-focused volumes, R.I. Sikora and Brian Barry's (1978) Obligations to Future Generations and Derek Parfit's (1984) Reasons and Persons. These books made a strong case for systematically analyzing social justice within countries viewed as transgenerational polities (see also Thompson 2009). Decades later, the deep political-theoretical foundations of intergenerational justice are better understood but remain far from completely so, as this concept of justice presents a quite particular set of intractable problems. This includes problems such as how to account for the (tastes of) unborn generations, for future technological progress and for unexpected future exogenous shocks. Further problems include which time discount rates to adopt and how to account for non-overlapping generations, among other theoretical conundrums.[1] In the words of one commentator on the current state of knowledge on intergenerational justice, theories regarding moral duties to younger (let alone future) generations remain "on shaky ground" today (Arrhenius 2009: 343).

This report does not intend to make a contribution to the philosophical-theoretical foundations of intergenerational justice. Rather, in line with earlier work by the Bertelsmann Stiftung on sustainable governance and social justice indicators,[2] the aim is to construct a synthetic intergenerational justice index (hereafter *IJI*) enabling the measurement and comparison of intergenerational justice in practice across a total of 29 OECD member states. Comprised of a few intuitively plausible dimensions, and focusing on a "snapshot" moment in time, the *IJI* as constructed here is eminently pragmatic, empirical and cross-sectional in approach.[3] The unit of analysis is countries, and the *IJI* ought to be understood as a macro-level variable linked primarily (though not exclusively) to government activity rather than to private behavior.[4] The snapshot was taken based on the years for which the most complete recent data was available: the end of the 2000s or the start of the current decade, depending on the dimension.[5]

The aim of this report is pragmatic and empirical: to construct a synthetic index enabling a "snapshot" comparison of intergenerational justice in practice across 29 OECD countries.

There have been many claims in the academic and popular-scientific literatures in recent years that the aging OECD member states face a looming legitimacy crisis, as the implicit post-World War II "welfare state contract" between generations crumbles due to the increased pro-elderly bias

of public spending patterns and/or increasingly lopsided policy demands by electorally powerful elderly voters (for early warnings, see Preston 1984; Fuchs and Reklis 1992). To give but a few recent examples, publication titles such as The Rise of Gerontocracy? (Berry 2012a), Jilted Generation: How Britain Has Bankrupted its Youth (Howker and Malik 2010), What Did the Baby Boomers Ever Do for Us? (Beckett 2010), The Coming Generational Storm (Kotlikoff and Burns 2004) and The Clash of Generations (Kotlikoff and Burns 2012) all speak volumes in this respect. So too does the fact that in 2008, even former German President Roman Herzog was moved to publicly state his fear that "we are seeing a foretaste of a pensioner democracy... It could end up in a situation where older generations plunder the younger ones."[6]

Some empirical studies appear to support the claim that citizens increasingly perceive a growing intergenerational injustice in many OECD member states. For instance, in a recent study on the intergenerational justice perceptions of more than 2,000 undergraduate university students from a total of eight democracies across four different "worlds" of welfare capitalism, a remarkably consistent pattern was evident across each country surveyed.[7] Students were generally found to perceive the age group composed of elderly citizens to be better rewarded (relative to its own contributions to society) than were two other age groups – adults and young citizens. While this pattern held across all eight countries, the clearest such result was seen in France, where students showed a straightforward profile in terms of perceptions of intergenerational justice in their society: the younger the age group in question, the lower its perceived rewards and the higher its perceived contributions (Sabbagh and Vanhuysse 2010). This may be because the French welfare state uniquely combines a high level of state involvement in welfare provision with a relatively strong pro-elderly welfare spending bias (see section 4 below). Like many Southern European welfare states, and more so than all Anglo-Saxon welfare states save for the United States, Continental European welfare states such as France (but also Belgium and Austria) are simultaneously characterized by heavy tax burdens on labor, average to high levels of labor market exclusion or precarious employment for younger age cohorts, low to average levels of spending on education and active labor market programs, and generous earnings-related public pensions. In other words, young citizens – at least socially advantaged and well-informed university students – do appear to be challenging the form of the intergenerational contract as it exists today. Moreover, this challenge manifests itself in ways that can be made sense of when looking at the nature of prevailing public policies.

The intergenerational justice index captures (a) outcomes that leave legacies for future generations or constitute discrimination between younger and older living generations, and (b) the bias of current policies toward older living generations.

The concept of sustainability that informs the *IJI* as presented in this report follows the philosophy underlying the Bertelsmann Stiftung's Sustainable Governance Indicators (SGI). The starting point for the *IJI* is the moral intuition that since societies are units in which successive generations are

linked together in relationships of obligation and entitlement, "enough and as good" ought to be left by each generation to the succeeding generation. The *IJI* aims to capture two major aspects of intergenerational justice. On the one hand, it measures outcomes that leave legacies for future generations or appear to constitute discrimination between younger and older living generations. These outcomes are ordered along three essential dimensions – social, economic-fiscal and ecological performance. On the other hand, the *IJI* attempts to capture the degree to which current policy output is biased toward older living generations. In other words, the index not only looks at the social, economic-fiscal, and environmental results produced by polities, but also at where on the spectrum of intergenerational justice welfare states are positioned in terms of its policy outputs (pro-elderly spending bias).

With regard to outcomes, the *IJI* assumes that intergenerational justice can only be achieved if performance is sustainable across three dimensions. First, the use of ecosystem resources ideally ought not to exceed its natural regeneration capacity. We take the ecological footprint created by today's generations as an indicator. Second, social outcomes must ensure that starting conditions and related life chances are largely the same for everyone, and will not deteriorate for future generations. The *IJI* takes child poverty as an indicator in this respect. Third, economic and fiscal outcomes ideally ought not to shift a legacy of burdens to future generations that do not yield corresponding payoffs for these generations. Total public debt per child is the indicator used here. Just outcomes are complemented by just policies. Hence, intergenerational justice demands that current policy output does not unsustainably favor one living generation over another, but rather provides younger and older cohorts with equivalent entitlements over time (see also Lee and Mason 2011). The *IJI* presents the *EBiSS*, a new measure of welfare state spending bias toward elderly persons as its fourth dimension, capturing this second aspect of intergenerational justice. The "snapshot" nature of *IJI* ought to be reemphasized. The index essentially measures policy outcomes and efforts today. So a low *IJI* value would still mean little for intergenerational justice if, purely hypothetically, the country in question could guarantee its young generations a much improved performance on these four dimensions tomorrow (through fast future technological innovation and productivity growth, renewed human capital investment, and so forth).

Clearly, performance on intergenerational justice needs to be viewed in light of the constraints imposed by demographic change: Most OECD member states are aging rapidly today. The working assumption here is that population aging as a demographic concept may be viewed largely as an ethically neutral development for our purposes – a society, or cohorts within it, are not morally blamed for lower fertility and higher life expectancy. But the way in which a country's public policy packages react to this development is not neutral from an intergenerational justice perspective. Obviously a demographically young society might be said to face fewer constraints in treating its currently young citizens well in terms of, say, public spending on education, training or family benefits (dimension 4). But a demographically older country that nevertheless manages to put a comparatively small burden on its young citizens would clearly be intergenerationally just – arguably even more just than the younger country.

A further conceptual note on the changing meaning of 'population aging' and 'old age' is in place here. As a result of better health technologies and healthier behavior and lifestyles, a chronological (or backward-looking) age of, say, 65 simply does not mean the same thing today as it did three or four decades ago. Wide across the OECD world, citizens are living ever longer. In many countries life expectancy currently increases by a month or more per year, every year. As a result, a 65-year-old today has many more life years left to look forward to, and can thus be said to be 'younger,' than an otherwise comparable 65-year-old in the same country thirty years ago (Sanderson and Scherbov 2008; 2010). For purposes of demographic forecasting or to assess citizens' mental or physical fitness or readiness to work, using an alternative forward-looking measure of age (how many birthdays does an individual still have left to celebrate?)[8] is therefore often more appropriate than a standard backward-looking measure (how many birthdays has s/he already celebrated?) However, for the public policy and social spending purposes central to this report, backward-looking cutoff points such as age 65 are still most relevant, if only because most people effectively still work and pay social security contributions only until (and often well before) age 65, and expect to retire, draw pensions and enjoy other elderly benefits and services after age 65.

In light of the above, this report is structured as follows. The next four sections each present and discuss one of the four constituent dimensions of the *IJI* on its own. We start with the outcome legacies: ecological footprint (section 1), child poverty (section 2) and public debt per child (section 3). We continue with the policy output bias: the elderly-bias indicator of social spending, or *EBiSS* (section 4). The fifth section normalizes and visualizes these four dimensions into magic rectangles, and then aggregates them into a single synthetic *IJI* value per country according to two different weighting methods: researcher-imposed weights that take the singularly synthetic nature of the *EBiSS* dimension more heavily into account, and benefit-of-the-doubt weights, which accord more respect to the (revealed) preferences of democratically elected governments themselves. Using the latter method, it is concluded that the most intergenerationally just countries in the OECD for the years under consideration are, ranked in declining order of *IJI* value: Estonia, South Korea, Israel, New Zealand, Hungary, and the four main Nordic countries. The least intergenerationally just countries are found to be, ranked in increasing order of *IJI* value: the United States, Japan, Italy, Greece and Canada. The last section summarizes these findings and offers a range of policy recommendations.

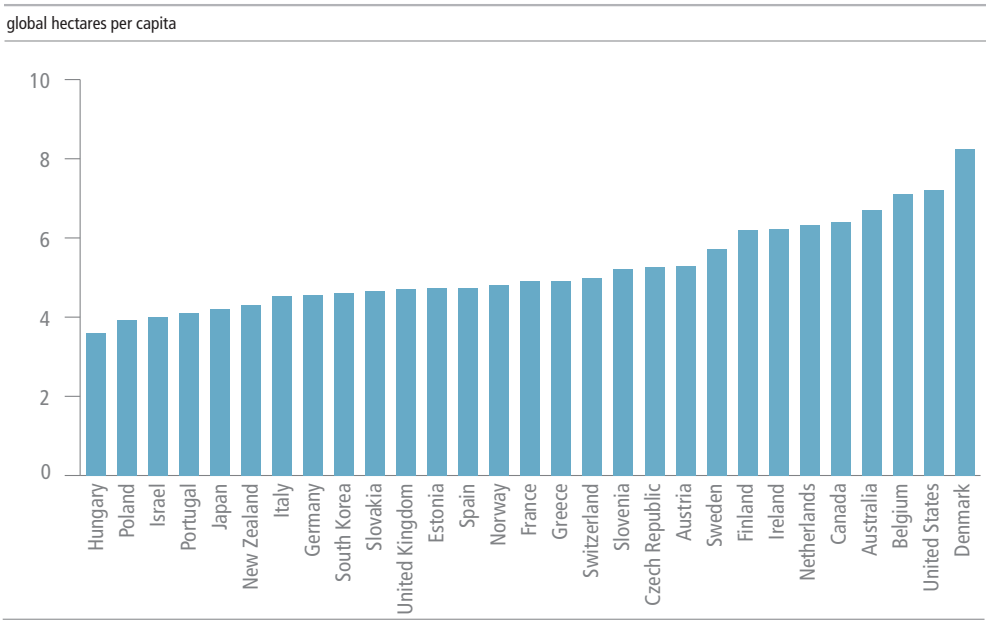
1. The environmental dimension of *IJI*: the ecological footprint

The natural link between ecological sustainability and environmental protection on the one hand and intergenerational justice on the other has been widely noted, not least because of the strong intuitive plausibility, in the case of successive generations, of the Lockean proviso that "enough and as good" should be left for others.[9] As the late Václav Havel (2007) noted, the way in which current generations act (or fail to act) today to mitigate environmental damage and climate change determines the size of the moral footprint these generations leave behind. One way of empirically

gauging this environmental dimension of intergenerational justice is through the ecological footprint measure. Originally conceived by Rees (1992), the ecological footprint is an indicator of the surface of land and water required by an economy to produce all goods consumed in that economy, and to absorb all wastes generated by their production. It is measured in "global hectares" (ghas), which are aggregated units of surface measurement in which all kinds of biologically productive areas are converted by means of equivalence factors (e.g., a hectare of pasture equals 0.5 global hectares; a hectare of forest equals 1.4 global hectares)[10]. The intuitively appealing value of the ecological footprint is that it captures in a single figure the general state of human dependency on nature, or alternatively, the pressure put by human societies on their natural environment.

Denmark leaves the largest ecological footprint, followed by the United States, Belgium, Australia, Canada, the Netherlands, Ireland, Finland, and Sweden.

Figure 1: Ecological footprint, 2008



Source: www.footprintnetwork.org, data extracted June 1, 2012. | BertelsmannStiftung

As Figure 1 shows, Denmark produced the biggest environmental pressure in 2008, with a footprint of over eight global hectares per person. It was followed by the United States and Belgium (over seven gha per capita), and then by Australia, Canada, the Netherlands, Ireland, Finland, and Sweden (between 6.7 and 5.7 gha per capita).[11] On the environmentally friendly side of the spectrum, Hungary, Poland, Israel, Portugal, Japan and New Zealand all produced an ecological footprint of between 3.6 and 4.3 gha per capita.

Hungary leaves the smallest ecological footprint, followed by Poland, Israel, Portugal, Japan, and New Zealand.

For richer information regarding any given country's current use of natural resources, the absolute measure of human ecological pressure provided by the ecological footprint can also be assessed in relation to the actual capacity of the natural environment to sustain that pressure, as given by a biocapacity measure. This measure estimates the maximum quantity of natural resources that can be produced without harming the potential for future production.[12] Comparing the actual pressure put by current generations on the natural environment with the hypothetical level of pressure compatible with full preservation of the natural environment's potential produces the net ecological surplus, defined as a country's biocapacity in a given year minus its ecological footprint in that year. In other words, a net ecological surplus occurs when the biocapacity of a country exceeds its ecological footprint; similarly, a net deficit occurs when the footprint exceeds biocapacity.[13] Defined in this way, net ecological surplus can be used as a physical measure of the environmental reserves (if positive) or deficits (if negative) created by current generations and left by them to subsequent generations. While this measure does not directly measure government efforts in the area of environmental intergenerational justice, it does serve as a partial and indirect measure of such efforts. For instance, the biocapacity component depends on policy-amenable dimensions such as ecosystem management, agricultural practices such as fertilizer use and irrigation, and ecosystem degradation (in addition to less directly policy-amenable dimensions such as weather and population size), while the ecological footprint component depends on consumption and production efficiency, which are also indirectly related to government policy. [14] [15]

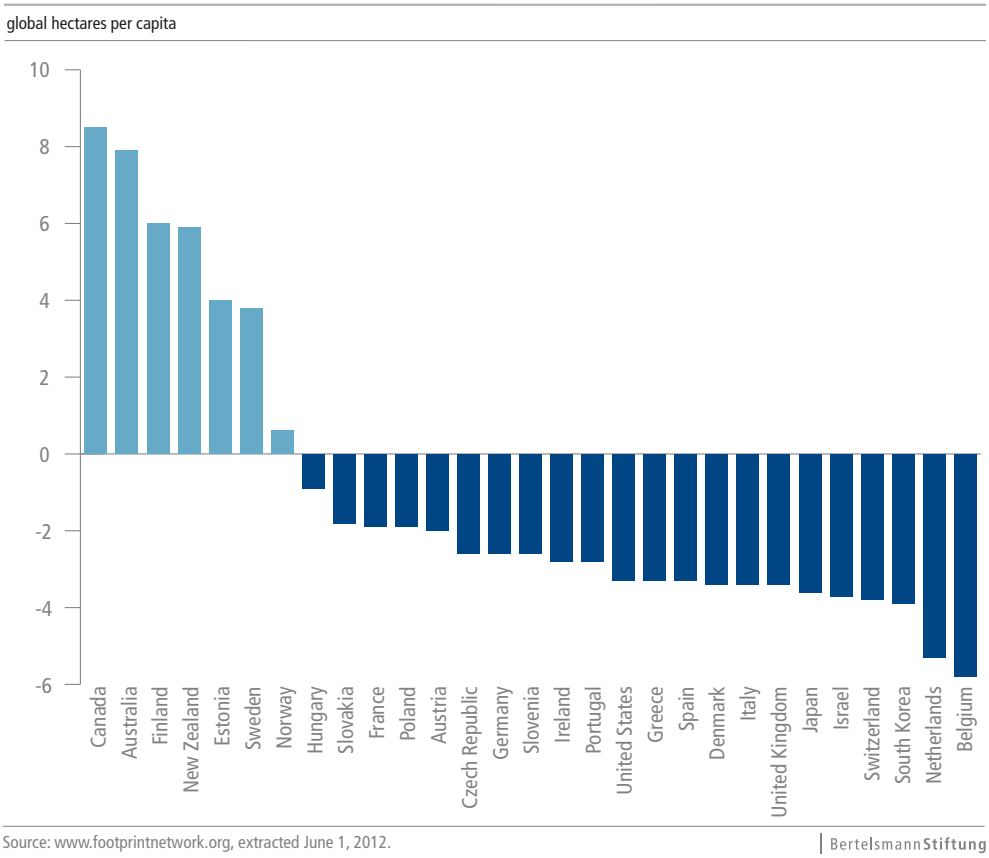
Only seven OECD nations, almost invariably with a low population density, are environmental creditor countries: Canada, Australia, Finland, New Zealand, Estonia, Sweden and Norway.

OECD member states show considerable variation in terms of net ecological surplus, ranging from Canada's surplus of +8.5 global hectares per person on the left side to Belgium's deficit of 5.8 global hectares per person on the right side of Figure 2. Only seven of 29 OECD nations demonstrated an ecological surplus in 2008 (light blue columns), led by countries with a large land mass and consequently low population density, such as Canada (+8.5 global hectares per person), Australia (+7.9 gha), Finland (+6 gha), New Zealand (+5.9 gha), Estonia (+4 gha), Sweden (+3.8 gha) and Norway (+0.6 gha). While having a large biologically productive land mass is not a necessary requirement for producing a net ecological surplus (as shown in the case of tiny Estonia), it clearly helps. The clearest examples are Canada, Australia and Finland, which ranked respectively first, second and third best in terms of net ecological surplus despite actually producing respectively the fifth, fourth, and eighth-largest ecological footprints in the OECD (Figure 1). By contrast, New Zealand managed to rank fourth-highest in terms of net ecological surplus while producing the sixth-lowest ecological footprint, and Estonia and Norway also produced relatively small ecological

footprints. By contrast, countries such as Portugal and, even more so, Israel and Japan, produce comparative very small footprints (Figure 1), which gives them an advantage in the calculation of their overall *III* (below). Yet once their small levels of biocapacity are taken into account these three countries are significant ecological debtor nations (Figure 2).

By far the largest environmental debtor nations are Belgium and the Netherlands, followed by other high-density countries such as South Korea, Switzerland, Israel, Japan, the United Kingdom, and Denmark, as well as Italy, Spain, Greece and the United States.

Figure 2: Net ecological surplus, 2008



Source: www.footprintnetwork.org, extracted June 1, 2012.

BertelsmannStiftung

No fewer than 22 OECD countries showed a net ecological deficit (dark blue), led by Belgium and the Netherlands, which has the highest population density in the OECD. These two countries had deficits of respectively 5.8 and 5.3 global hectares per person. Next were South Korea, Switzerland, Israel, Japan, the United Kingdom, Italy, Denmark, Spain, Greece and the United States, all with deficits of over 3 global hectares per person.

Only New Zealand, Estonia and Norway combine a net ecological surplus with a small or medium-size ecological footprint.

Again, land mass and population density appear important but not crucial in this regard. While the ecological debtor list is dominated by smaller countries with high population density such as Belgium, the Netherlands and South Korea, it also features larger countries with somewhat lower population density rates such as the United Kingdom, Italy, and Spain. In this last-cited country, for instance, biocapacity remained more or less constant between 1961 and 2008 (at around 1.2 gha per person), while the population's ecological footprint more than doubled in the same period. [16] Sweden, by contrast, narrowly reduced both its biocapacity and its ecological footprint in this same period.[17]

2. The social dimension of *IJI*: child poverty

The case for just policies is particularly strong when dealing with youth, and even more so in the case of children. One potential candidate as an indicator of the social dimension of *IJI* could be youth unemployment as compared to elderly workers' unemployment. Youth unemployment is undoubtedly a major social problem, especially in contemporary Europe, leading to legitimate worries about a "scarred" or "wasted" generation. For instance, in early 2012, one in three workers aged below 25 were unemployed in Italy, Ireland and Portugal, and as many as one in two in Greece and Spain (Annunziata 2012). Moreover, these unemployment rates appear to some degree to be policy related, or at least related to policy inaction. Youth unemployment is not just high today in countries such as Italy and Spain: On average, it has stood at 30 percent in Italy and at 32 percent in Spain over the past 40 years (Annunziata 2012). Yet the plausibility of relative youth unemployment as an indicator of social justice is weakened by the fact that there is also a significant, if hard to measure, agency aspect to any unemployment indicator of any age group (personal effort). This renders it hard to attribute unemployment rates solely and unambiguously to socially unjust policies. Moreover, there are also exogenous structural factors largely independent of national policymaking that lie behind youth unemployment levels (such as large external shocks caused elsewhere), and even life stage aspects. To be sure, youth unemployment rates in advanced economies have historically been higher than those of older age groups. But this is partly because young people, by sheer virtue of being young, still have fewer contacts, less on-the-job experience and less job-search experience, and also because young people tend to leave jobs more

often to search for better opportunities and because they have fewer dependents to care for (Morsy 2011; O'Higgins 2012). This is not to say, of course, that domestic policy has no effect at all on youth unemployment. Minimum wages and employment protection legislation, for instance, are disproportionately likely to hurt younger workers and to protect older workers.[18]

On the high child-poverty side of the spectrum, the United States is an outlier, followed by three Southern European countries, Israel, Canada, Japan, Australia and Poland.

We opted for child poverty as a better proxy for the social dimension of *III*. Even more so than youth or adolescents, underage children are by nature an at-risk population group that has a strong moral claim to protection. Obviously, for the most part children can neither economically fend for themselves nor can they have a political voice (but see section 6, below). This invalidates the agency argument mentioned above, and it redirects the burden of responsibility more firmly toward public policy. Cumulative research in sociology, psychology and economics shows that child poverty can create a legacy of problems decades into poor children's futures, as it has dynamic knock-on effects that reach far into their subsequent lives and which start from birth onward – indeed, even from before birth. These range from lower levels of school readiness and early educational outcomes, to lower cognitive and behavioral skills and lower high school completion rates, and later still to lower wages and home ownership rates and higher rates of adult unemployment, welfare dependency and poverty, and so on.[19] Poor children have worse outcomes at school than do their peers, both because their families have fewer financial resources and because their parents generally have less education, higher rates of single and teenaged parenthood, and poorer health, often because of comparatively unhealthy lifestyles.[20] In addition, there are environmental effects of living in neighborhoods and going to schools with high poverty rates. For instance, poor children also tend to go to high-poverty schools, a circumstance that further reduces the educational and labor market chances of even the most talented poor children.[21] Any society that leaves a high proportion of its youngest citizens in poverty thus clearly lacks in intergenerationally just arrangements.

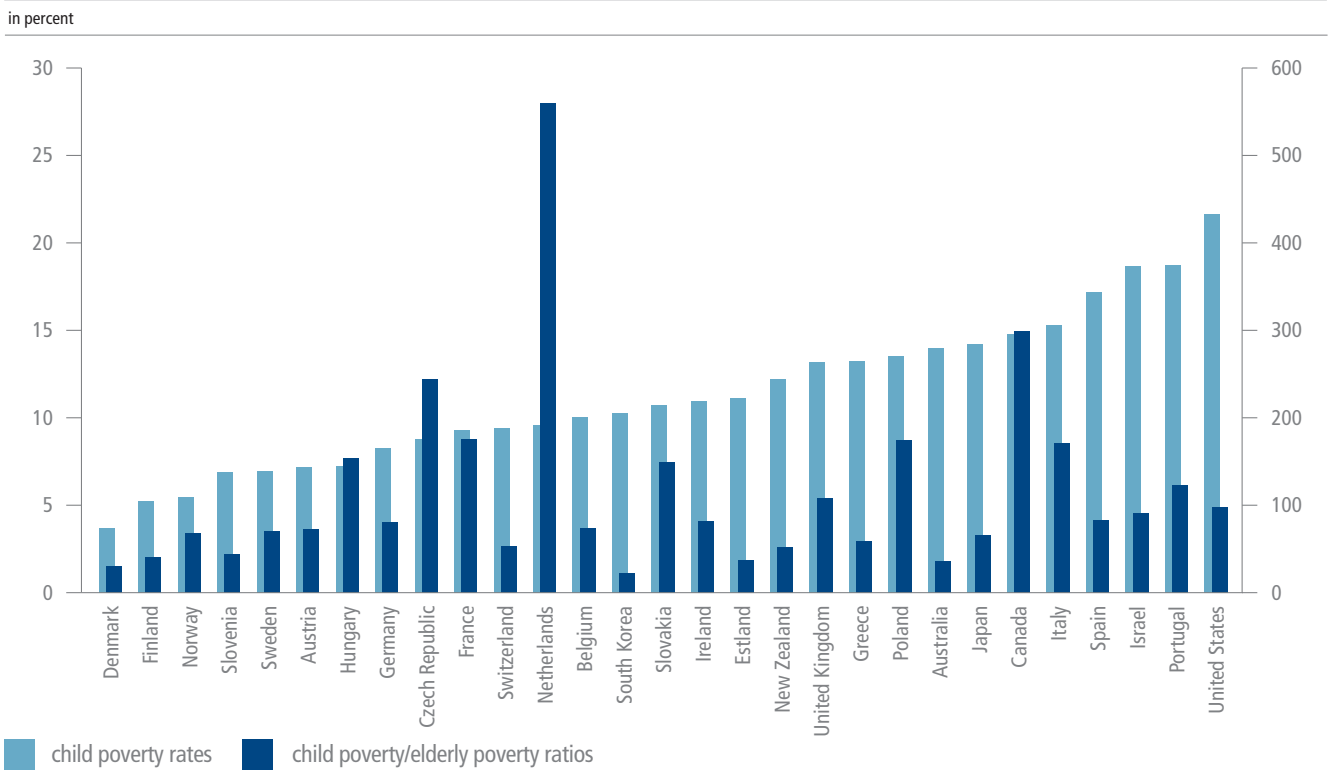
Nordic countries occupy four of the bottom five ranks in terms of child poverty rates, along with Slovenia. This group is followed by Austria, Hungary, Germany and the Czech Republic.

Figure 3 shows child relative poverty rates across the OECD in the late 2000s (left axis, light blue columns).[22] On the high-poverty side of the spectrum, the outlier was the United States, where more than 21 percent of children lived in poverty, followed by Southern European countries such as Portugal, Spain and Italy, as well as Israel and Canada (between 19 percent and 15 percent), then Japan, Australia, Poland, Greece and the UK (between 14 percent and 13 percent). At the low-child-poverty end of the spectrum, the Nordic countries occupied four of the bottom five ranks, along with Slovenia (between 3.7 percent and 7 percent), followed by four other

Central and Continental European countries – Austria, Hungary, Germany and the Czech Republic (between 7 percent and 9 percent).

High child poverty rates are worrying enough in themselves. From the perspective of intergenerational justice, they are arguably worse still when they are much higher than poverty rates among elderly people in the same country. Figure 3 therefore sheds light on just such a relative ratio – child poverty rates as divided by elderly poverty rates (right axis, dark blue columns). This indicates that countries such as the Netherlands, Canada and the Czech Republic, but also France, Italy and Poland have an additional case to answer in terms of intergenerational justice (on which more below in section 5). Child poverty rates in the first three countries were respectively 5.5, three and 2.5 times higher than poverty rates among the elderly, and they were more than 70 percent higher still in the latter three countries. By contrast, in South Korea, Denmark, Finland, Estonia, Slovenia and Australia, child poverty rates were only between 23 percent and 40 percent as high as elderly people's poverty rates.

Figure 3: Child poverty rates (left axis), and child poverty/elderly poverty ratios (right axis), late-2000s



Note: Thresholds for both child poverty and elderly poverty are defined as less than 50 percent of median equivalized household income.

Source: OECD (2011).

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Put differently, the Czech Republic and Germany may have had similar child poverty rates in the late 2000s, at just above 8 percent. But while these rates were almost 2.5 times higher than poverty rates among the elderly in the Czech Republic, they were 20 percent lower in Germany. Similarly, Canada and Japan had similar child poverty rates, at just above 14 percent. But while this poverty rate was three times higher than elderly poverty rates in the first case, it was 35 percent lower in the second. Perhaps most strikingly of all, the Netherlands and Belgium had essentially the same child poverty rate, at around 10 percent. But this child poverty rate was more than 5.5 times higher than elderly people's poverty rates in the Netherlands, but one-fourth lower in Belgium. Accordingly, child poverty is far more problematic from an intergenerational justice perspective in the Czech Republic, Canada and the Netherlands than in Germany, Japan or Belgium.

The Czech Republic and Germany have similar child poverty rates, but these are 2.5 times higher than elderly poverty rates in the Czech Republic and one-fifth lower in Germany.

The same level of child poverty is more than 5.5 times higher than poverty among the elderly in the Netherlands, but one-fourth lower in Belgium.

3. The economic and fiscal dimension of *IJI*: public debt rates per child

The intergenerational justice implications of debt levels have been acknowledged and vigorously debated by political economists, public finance experts and public choice theorists for many decades now.[23] Within political and legal theory, this issue is arguably at least as old. As early as 1790, U.S. founding father Thomas Jefferson was deeply concerned that profligate current generations might mortgage the future of succeeding generations by extensive borrowing and irresponsible spending patterns, thus passing on a debt burden (Wolf 2008). Jefferson therefore proposed legislation requiring that public debts be retired by the same generation that incurred them. Another founding father, James Madison, countered that some debts might be incurred primarily in order to benefit future generations, in which case such debt could be passed on with the benefits if it could not be retired before the arrival of the future generation. Yet Madison too was convinced of the general need to restrain living generations from leaving unjust and unnecessary burdens to succeeding generations (Wolf 2008: 13–14).

In practice, OECD governments have generally overseen significant increases in debt levels over the past few decades. In the 20 years since 1980, public debt levels have risen in 18 out of 23 OECD countries, from an average of 39 percent to 63 percent of GDP. The only significant exceptions were Ireland, the UK, New Zealand and Norway. Population aging was again a major contributing factor to high debt levels, macro-fiscal imbalances and high net debt interest payments (Wagschal 2007: 226; 233; 240). To be sure, the consequences faced by current governments and current

adult citizens of high debt levels and high debt interest burdens are serious enough. Debt interest payments reduce the capacity of governments not just to supply public goods, but also to grow and to refinance themselves (Reinhart et al. 2012; Reinhart and Rogoff 2010a, 2010b). The contemporary euro zone troubles offer a vivid reminder of the severe real-life impact of high debt levels and related fiscal parameters on current generations in nations such as Greece, Italy, Spain, Portugal and Ireland (Corsetti 2012).

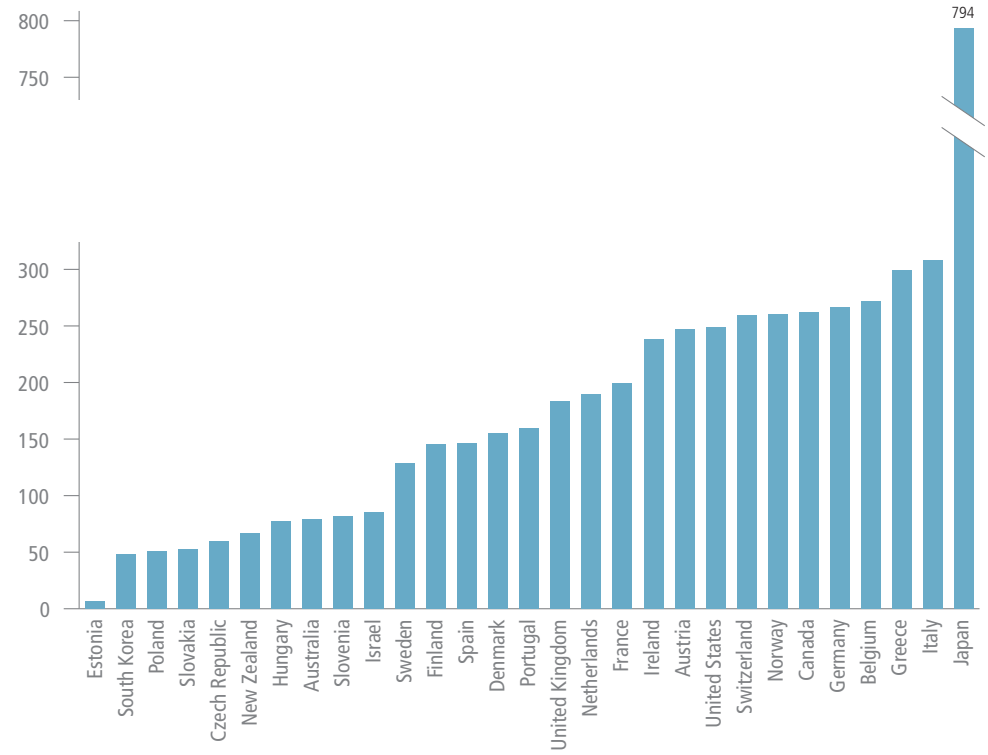
But the consequences of high public debt levels for younger (and future) generations of citizens are arguably particularly dire. High debt levels not only force younger generations to forego any benefits they might have gained in the future from present investments. High debt levels also shift consumption toward current generations and away from future (younger) generations, as the latter generations will typically be responsible for financing repayment of this debt through lower consumption or significant productivity increases (Buchanan 1964; Bowen et al. 1964). Recent evidence shows, for instance, that the most publically indebted EU economies today will also face the highest increases in public spending related to the retiring baby boom generations over the coming decades (Peeters and Groot 2012). So whereas a macro-social context of population aging, and a concomitant growth in societal spending needs toward elderly generations, should actually require current generations to increase the stock of resources to be left to the next generations, high debt levels in fact do precisely the opposite. They reduce that stock, thereby compounding rather than correcting intergenerational injustice.

Among high debt-per-child nations, Japan is a clear outlier, followed by Italy, Greece, Belgium, Germany, Canada, Norway, Switzerland, the United States, Austria and Ireland.

To capture this dimension of intergenerational (in)justice, we analyze debt per child, defined here as the total general government debt in a given country (in billions of U.S. dollars in 2011) divided by the total number of persons in that country aged between 0 and 14 years. Admittedly, such an analysis would ideally need to be complemented by the inclusion of reliable information on future productivity and future economic growth rates, which is hard to come by. Note, however, that the recent economics literature points to a negative correlation between public debt and economic growth.[24] As Figure 4 shows, variance in debt per child within the OECD is very large.[25] On the high-debt side of the spectrum, the off-the-scale outlier is Japan, where each person aged below 15 faced an outstanding amount of government debt of $794,000 in 2011. Though some distance behind, Italy and Greece occupied the next two ranks, with around $310,000 to $300,000 in debt per child. They were followed by Belgium, Germany, Canada, Norway, Switzerland, the United States, Austria and Ireland, with around $270,000 to $240,000 debt per child.

Among low-debt-per-child nations, Estonia leads the pack, followed by South Korea, Poland, Slovakia, the Czech Republic, New Zealand, Australia, Israel, and two other Central European countries.

Figure 4: Debt per child, 2011



Note: Debt per child chart values (left axis) are equivalent to total general government debt in a given country in US dollars in 2011 / number of persons in that country aged 0-14 in 2011. Debt data refer to general government gross debt in national currencies, current prices, converted to USD using OECD exchange rates.

Sources: IMF World Economic Outlook online database for debt data (April 2012).
World Bank World Development Indicators online database for population data.
Data were extracted October 4, 2012 for debt and October 26, 2012 for population.

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At the other end of the spectrum, Estonia currently saddles its youngest generation with comparatively very low levels of government debt – less than $6,500 per child. South Korea, Poland, Slovakia, the Czech Republic and New Zealand too still show relatively low debt rates (around $50,000 to $65,000 per child). Two other Central European countries, Hungary and Slovenia, along with Australia and Israel, follow next on the relatively low debt-per-child side of the spectrum (between $75,000 and $85,000). It is important to note that when the unequal domestic ownership of government debt and consequently unequal intra-family wealth transfers are taken into account, public debt levels per child also become a key measure of intragenerational inequality (see Albertini et al. 2007; Albertini and Kohli 2013). That is, to the degree that the children of current debt holders

in countries such as Japan, Italy, Greece or Belgium can be expected to inherit much of this capital wealth from their parents, high public debt levels per child can be argued to be much less of a concern for these particular children, but all the more so for today's children of parents who do not own or cannot bequeath government debt. From a public policy perspective, this would point to the use of other intergenerational justice instruments as redress, such as higher inheritance or wealth taxation, as well as measures to level the playing field from birth, such as early childhood education and care spending (on which more in section 6, below).

4. The pro-elderly bias dimension of *IJI*: the *EBiSS*

In most OECD countries, accelerating population aging as a combined result of longer life spans and lower fertility rates has led to aging electorates and, directly and indirectly, to a rise in the demand for old-age related cash and in-kind spending, and possibly also to lower pressure for spending directed toward younger generations. After all, elderly voters have become an increasingly powerful political constituency not only because they are more numerous, but also because they tend to display higher-than-average voting turnout rates (e.g., Goerres 2009; Vanhuysse and Goerres 2012; Vanhuysse 2012). For instance, in the United States, political engagement by retired persons, once among the least politically active groups, has increasingly been driven by self-interest and dependency on social security programs. This demographic has mounted massive political mobilization campaigns to successfully stifle and even reverse past cutbacks in Social Security and Medicare (Campbell 2002, 2003). Many studies have investigated how welfare spending on particular social programs such as health care, pension programs or elderly care has evolved over time as a result of population aging. But very few scholars have investigated how welfare states as "synthetic wholes" or "social policy package deals" have evolved. Which particular OECD countries are the most biased toward spending on the elderly – and which the least?

4.1. Prior studies of pro-elderly bias: from the ENSR to the ENSS

Only in recent years have researchers started to point out that OECD countries increasingly cluster along pro-old-age versus pro-young lines in their overall spending patterns.[26] As Kuitto (2001: 359) notes, "The main dividing line in welfare effort and underlying welfare policy arrangements in Europe ... (is) whether welfare policy focuses on the provision of social services and cash transfers for the working-age population or on social security via cash transfers especially for people in retirement." In a path-breaking analysis, Lynch (2006) first set out to answer the question of how social policies in 20 OECD democracies differentially protected different age groups between 1985 and 2000, and how this "elderly/nonelderly" spending bias varied across the OECD welfare states.[27] The dependent variable for Lynch (2006) was the "age of welfare," operationalized as the ratio of elderly (E) to nonelderly (N) spending – the ENSR. In this measure, elderly spending (the numerator) includes pensions and services for the elderly, adjusted for the number of elderly persons (defined to be those either aged sixty-five and above or those in formal retirement).

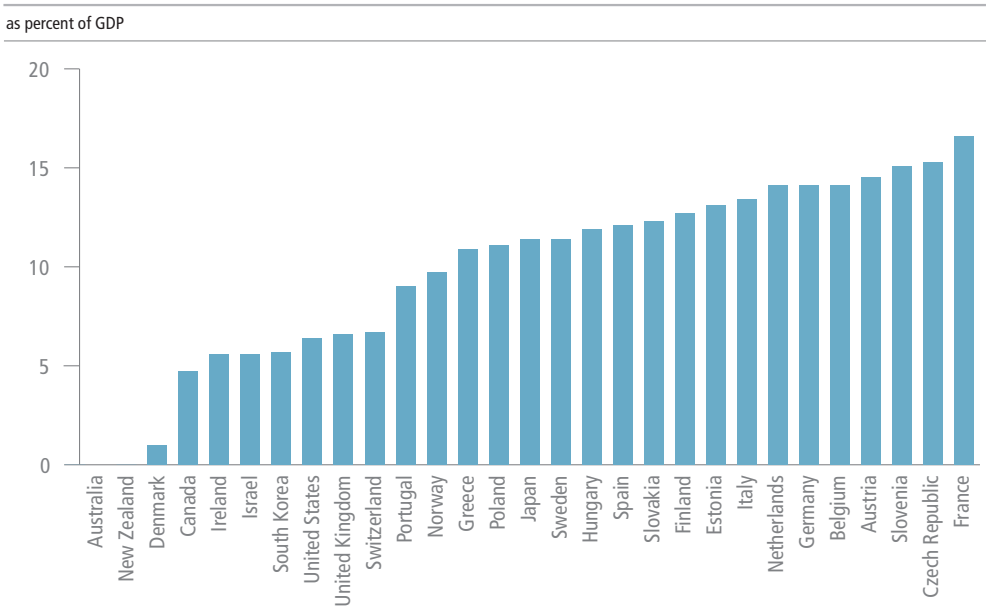
Nonelderly spending (the denominator) primarily includes unemployment benefits, active labor market policies, family allowances and family services, adjusted for the number of nonelderly persons (defined to be those aged below 65). Lynch's (2006: 5, 30) ENSR rankings showed that Japan, the United States, and at some distance behind, Italy, Greece, Portugal, Austria, Germany and Spain were the eight most pro-elderly-oriented OECD welfare states in the sample. Denmark, Sweden, Ireland, Belgium, Finland, Australia, Norway and the Netherlands occupied the bottom eight ranks of the least pro-elderly-biased welfare states in the late 1980s and 1990s. Lynch noted that this ENSR variation did not accord neatly with any of the immediately intuitive explanations, such as welfare regime type, levels of GDP per capita or of general social spending, or even the share of retirement-aged citizens within the total population.

To update Lynch's initial study and enlarge the time period considered, Tepe and Vanhuysse (2010) computed an aggregate measure of the relative overall spending bias toward elderly age groups within 21 OECD welfare states between 1980 and 2003 (an additional eight more years per country) – the elderly/nonelderly spending share, or ENSS. The ENSS is defined as the total (nonadjusted) spending share of two clearly pro-elderly programs (pensions and survival benefits) within a larger "six-program welfare state" consisting in addition of (nonadjusted) spending on less clearly pro-elderly programs such as incapacity benefits, family programs, active labor market programs and unemployment benefits. Largely in line with Lynch (2006), Tepe and Vanhuysse (2010: 233) find that the cross-national variance in ENSS values is remarkably large. Averaged over the entire period considered, the eight countries most heavily biased in their public policy spending patterns toward elderly generations are Greece, Japan, Italy, the United States, Germany, Austria, Portugal and France. At the least pro-elderly-biased side of the spectrum are Denmark, the Netherlands, Ireland, Australia, Sweden, Finland, Norway and Belgium. In other words, at the two ends of the spectrum, the Tepe and Vanhuysse (2010) ranking overlapped with the Lynch (2006) ranking in 15 out of 16 cases. Perhaps counterintuitively, population aging appears not to explain much of the variance between countries in these ENSS values either. In fact, once one controls for other relevant socioeconomic factors such as GDP growth and the size of the service sector economy, demographically older countries simply do not have significantly more pro-elderly-biased welfare states (Tepe and Vanhuysse 2010; see also the longitudinal snapshots in Bradshaw and Holmes 2013). Take countries such as Denmark, Finland and Sweden, which today are demographically relatively old societies, with lower old-age support ratios (respectively 3.7, 3.7 and 3.3) than, for instance, the United States (4.7). These three Nordic countries nevertheless boast much lower, not higher, ENSS values than the demographically "younger" United States, in great part thanks to their greater and longstanding commitment to investment in various family-friendly policies, active labor market policies and similar pro-young policies (Morel et al. 2012; Vanhuysse 2012; Tepe and Vanhuysse 2013).

4.2. Constructing a new elderly-bias indicator of social spending: the *EBiSS*

The elderly-bias indicator of social spending (*EBiSS*) developed here represents a third, more updated and more inclusive step in the effort to measure the general pro-elderly spending bias of welfare states, as it refers to the years 2007 – 2008 for 29 OECD democracies. Like the ENSR and the ENSS before it, the *EBiSS* is a social policy expenditure measure.[28] As such, it does not take into account other means of pursuing social policy goals such as regulation or taxation measures, notably tax expenditures, which can be substantial in countries such as the United States (Howard 2009; Burman and Phaup 2012; Garfinkel et al. 2010). Nor can such a spending measure take into account the likely difference in social rights (or entitlements) perceptions, and hence social policy justice or fairness perceptions, between contribution-financed and general-tax-financed welfare states. In the former type of welfare states, voters may be more likely to perceive programs such as pensions and long-term care as acquired rights. Contribution-financed social benefits tend to acquire a quasi-legal status as vested entitlements or property rights, leading (elderly) citizens to expect to draw their earned rights out of the system once they retire (e.g., Aaron 2009; Scharpf 2000). As Figure 5 shows, within the OECD, social security contributions range from 0 percent of GDP in Australia and New Zealand and 1 percent in Denmark, to around 15 percent in Austria, Slovenia and the Czech Republic, and close to 17 percent in France. Elderly citizens in countries on the right-hand side of Figure 5 will generally have paid in higher amounts of social security contributions during their working lives in return for the implicit promise of concomitant returns during the pension-drawing period of their lives. All else being equal, elderly citizens in these

Figure 5: Social security contributions, 2010



Source: www.oecd.org/tax/taxpolicyanalysis/oecdtaxdatabase.htm, accessed October 30, 2012.

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countries would thus have much stronger grounds for grievances than those in countries on the left-hand side, if and when pension spending and related social security spending levels were to be cut back significantly.

Bearing these caveats in mind, the *EBiSS* is calculated as follows. On the elderly-oriented spending side (the numerator), the following public spending programs were included: (1) old-age-related benefits in cash (pensions, early-retirement pensions, other cash benefits) and in kind (residential care/home-help services, other benefits in kind); (2) survivors benefits in cash and in kind (funeral expenses, other in-kind benefits), (3) disability pensions, (4) occupational injury and disease-related pensions, and (5) early retirement for labor market reasons.

Poland, Greece and Italy spend respectively 8.6, 7.5, and almost 7 times as much on each elderly person as on each nonelderly person. Slovakia, Japan, the Czech Republic, Portugal, Slovenia, Austria, the United States and Hungary have very high EBiSS values as well.

Ten countries in a sample of 29 spend five or more times as much per elderly citizen as they spend per nonelderly citizen.

On the nonelderly-oriented side of the *EBiSS* (the denominator), the following public spending programs were included: (1) family benefits in cash (family allowances, maternity and parental leave, other cash benefits) and in kind (day care/home-help services, other in-kind benefits), (2) active labor market programs (employment services and administration, labor market training, youth measures, subsidized employment, employment measures for the disabled), (3) income maintenance cash benefits, (4) unemployment compensation and severance pay cash benefits, and (5) education spending for all levels of education from early childhood to university.[29] To adjust for demographic structure (spending need), the resulting elderly/nonelderly social spending ratio in each country has been multiplied by the country's old-age support ratio, that is, the number of persons aged 20 – 64 over the number of persons aged 65 or more.

The ten least pro-elderly-biased OECD welfare states are South Korea, Ireland, New Zealand, Belgium, Estonia, the Netherlands, Denmark, the United Kingdom, Norway and Sweden.

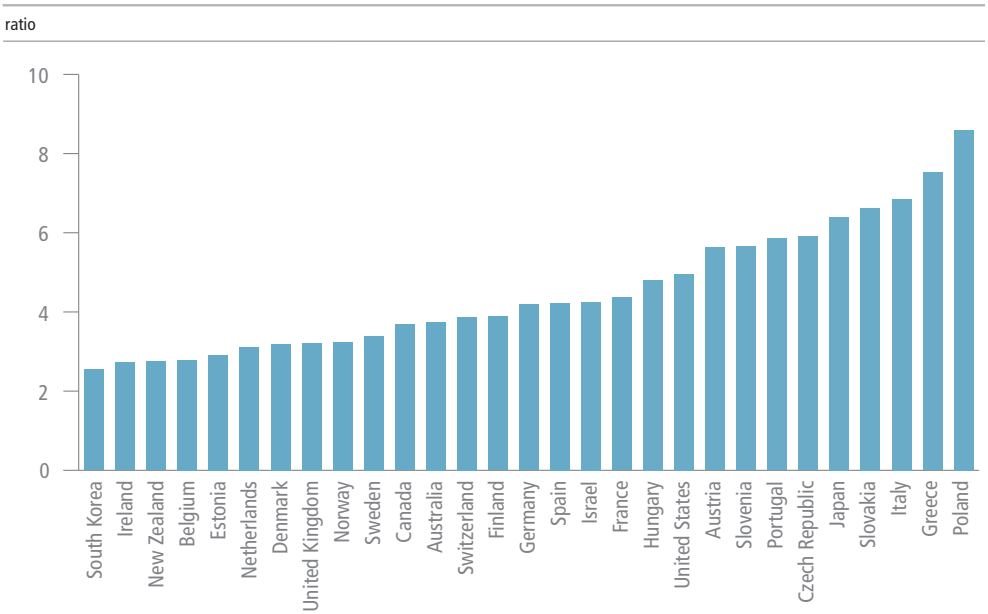
The *EBiSS* variance within OECD countries is very large (Figure 6).[30] Poland is the most pro-elderly-biased welfare state, with an *EBiSS* value of 8.6. This means that the Polish state spent more than 8.5 times as much on each elderly person as it spent on each nonelderly person in the late 2000s. Following at some distance, Greece[31] and Italy (*EBiSS* value around 7 or more), Slovakia, Japan, the Czech Republic and Portugal (between 6 and 7), and Slovenia and Austria (above 5.5) all have very high *EBiSS* values as well. All together, 10 countries in the sample of 29

spent around five or more times as much per elderly person as they did per nonelderly person. On the low-*EBiSS* side of the spectrum, the ten least pro-elderly-biased welfare states in the OECD are South Korea, Ireland, New Zealand, Belgium, Estonia, the Netherlands, Denmark, the United Kingdom, Norway, and Sweden.[32]

The demographically young Slovak society spends 6.6 times as much on every elderly citizen as on every nonelderly citizen. Yet in the equally young Irish society, the state spends only 2.7 times as much.

The demographically young Polish society spends 8.6 times as much on every elderly citizen as on every nonelderly citizen. Yet in equally young New Zealand, the state spends only 2.7 times as much.

Figure 6: The elderly-bias indicator of social spending EBiSS, 2007 – 2008



Source: Author's computations from the OECD SOCX database and OECD (2011).

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It is important to note that public health spending has not been incorporated into the *EBiSS* calculations, as it is notoriously difficult to determine precisely what share of health spending goes to which age groups. But it is almost certain that most health spending goes to older citizens in all countries, especially but not solely in the United States (Aaron 2009). This implies that the *EBiSS* as defined here errs, if anything, on the conservative side, as it almost certainly underestimates the pro-elderly bias of welfare spending. Even so, the implications of these *EBiSS* values are often striking. On the side of the spectrum associated with a low pro-elderly spending bias, the South Korean, Irish, Belgian and Estonian states all spent roughly 2.5 to three times as much per elderly citizen as they spent per nonelderly citizen. But South Korea and Ireland are demographically relatively young countries, meaning that there were still 6.5 and 5.6 nonelderly people to support each elderly person in these countries in 2007. By contrast, Belgium and Estonia were demographically older societies, with much lower old-age support ratios of respectively 3.5 and 3.6.

The demographically old Greek society spends seven times more on every elderly citizen as on every nonelderly citizen. But in the equally old Swedish society, the state spends only 3.4 times as much.

Alternatively, in the demographically young Slovak society (old-age support ratio of 5.5), the state spent 6.6 times as much on every elderly Slovak as on every young or middle-aged Slovak. Yet in the equally young Irish society, the state spent only 2.7 times as much. More striking still, in the demographically young Polish society (old-age support ratio of 4.8), the state spent 8.6 times as much on every elderly Pole as on every young or middle-aged Pole. Yet in the equally young New Zealand society, the state spent only 2.7 times as much. By contrast, in the demographically old Greek society (with a low old-age support ratio at 3.4), the state spent seven times more for every elderly Greek as it spent for every nonelderly Greek. But in the equally old Swedish society, the state spent only 3.4 times more.

Of the OECD's four demographically oldest societies, Italy and Japan have distinctly pro-elderly-biased welfare states, whereas Germany is only moderately, and Sweden very little biased toward the elderly

Demography is not destiny when it comes to social policy. Rather than demographic constraints, it is policy choices as determined by longstanding governance cultures that drive the *EBiSS*.[33] Of the OECD's four demographically oldest societies, Italy (*EBiSS* value of 6.8) and Japan (6.4) show a distinct pro-elderly bias in their social spending patterns, whereas Germany (4.2) shows only a moderate pro-elderly bias and Sweden (3.4) shows relatively little bias. In addition to Southern European countries such as Greece, Italy and Portugal, Central and Eastern European countries such as Slovakia, the Czech Republic, Slovenia, Poland and Hungary are also in the high-*EBiSS* spectrum of the OECD sample.

5. Constructing the synthetic *IJI*

5.1. Normalizing and visualizing the four *IJI* dimensions

To normalize the four *IJI* dimensions (ecological footprint, child poverty, debt per child and *EBiSS*), for each country *i* and each dimension *x* the difference is taken between the maximum performance in the entire OECD sample (*xmax*) and the actual performance of country *i* (*Xi*). This difference is then divided by the difference between the maximum (*Xmax*) and minimum (*Xmin*) performance in the 29-country set. The normalized values *Xni* can thus be expressed as:

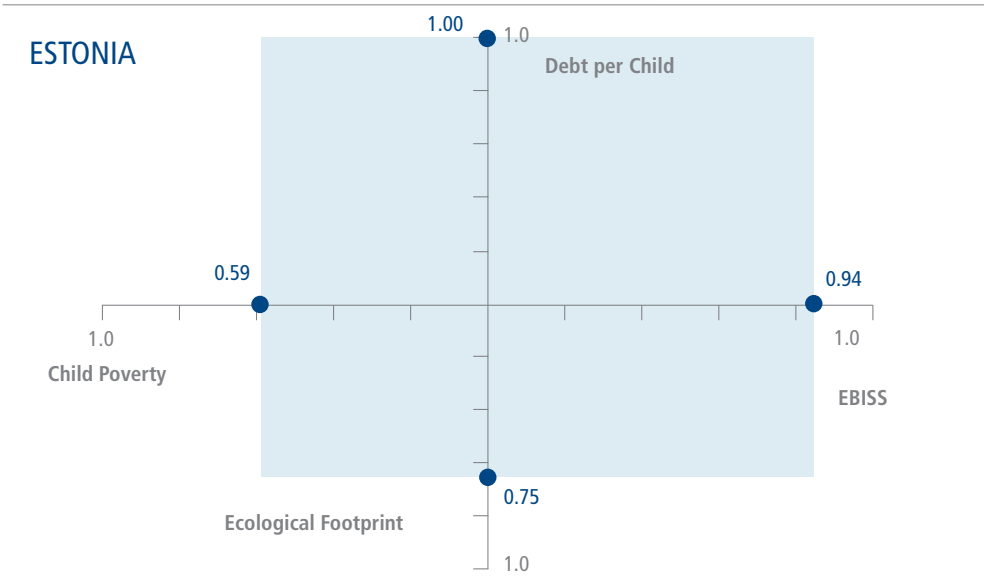
$$Xni = (Xmax - Xi) / (Xmax - Xmin)$$

In other words, the denominator is given by the difference between the maximum value and the minimum value in the OECD country set. The numerator is given by the difference between the maximum sample value and the value achieved by the country under consideration. This implies that a better relative performance is associated with a higher value, with each Xni value varying between 0 and 1. In other words, the normalized values measure the distance from the best-practice country on each dimension, relative to the empirical range in the sample (see also Atkinson et al. 2002, Atkinson 2005). For the dimension of child poverty, a further adjustment has been made to penalize the particular subset of countries in which child poverty levels (left axis of Figure 3) are higher than elderly people's poverty levels – that is, where child/elderly poverty ratios (right axis of Figure 3) are above 1. For this subset, the normalized value for child poverty has been divided by the ratio of child poverty over elderly poverty. Clearly, child poverty levels on their own are what matters most for intergenerational justice purposes. For instance, Spain and Germany had the same child/elderly poverty ratio in the late 2000s (just above .80), but child poverty levels were 8 percent in Germany and more than double in Spain, rendering the latter country much less intergenerationally just on this dimension. Yet at the same time, one ideally also wants to take into account the intuition, discussed in section 2, that a country A (such as the Netherlands in Figure 3) with the same child poverty rate as another country B (such as Belgium) but with a higher child/elderly poverty ratio, ought to be deemed as less just than B from an intergenerational justice perspective. Hence, by way of asymmetric penalization, we divide the normalized child poverty values by the ratio of child/elderly poverty where the latter exceeds the value of 1.

The resulting normalized values for all four dimensions are illustrated with six selected country examples by means of "magic rectangles" in figures 7 to 12 below, where all dimensions are scaled from 0 (worst performance in the sample) to 1 (best performance). The meaning of the magic rectangles is therefore intuitive (Melyn and Moesen 1991). The more the size of the rectangle expands in any or all directions, the more intergenerationally just is the society in question. A note of caution on interpretation is in place here. Theoretically it is of course impossible to specify a particular value or tipping point below which any one of the four dimensions of *IJI* is unambiguously intergenerationally unjust on its own. But the normalization approach adopted here does

clearly show a country's value on any one of the four *IJI* dimensions relative to the empirical range within the OECD. So a low standardized value on, say, *EBiSS* does show that the country in question performs badly relative to the best- and worst-practice cases within a natural comparison sample – the world's other rich democracies. Moreover, aggregating the normalized values on the four *IJI* dimensions (see below) provides more than the sum of its parts, in the sense that the single synthetic indicator offers a more complete indication of a country's combined performance on the four dimensions that plausibly form part of any empirical measure of intergenerational injustice.

Figure 7: The IJI rectangle – Estonia



Source: Author's computations.

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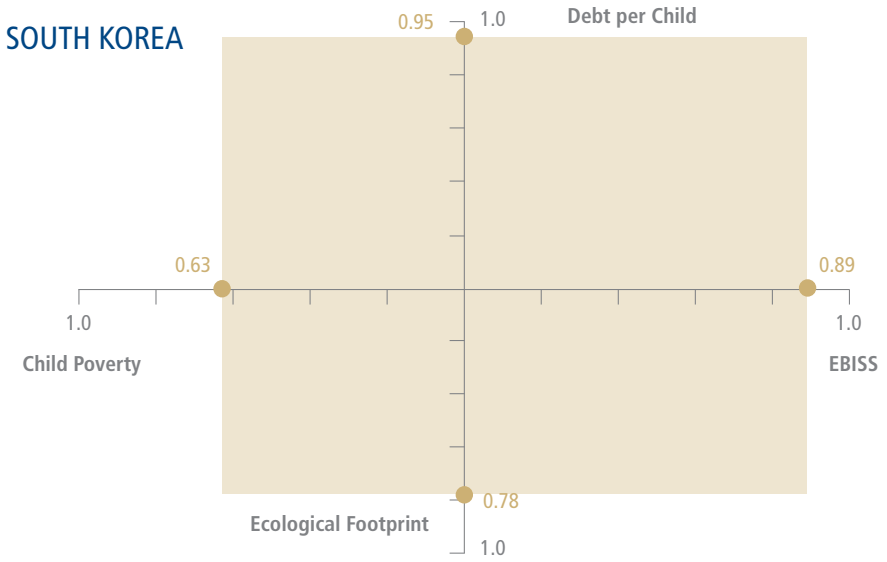
Figure 8: The IJI rectangle – South Korea



Source: Author's computations.

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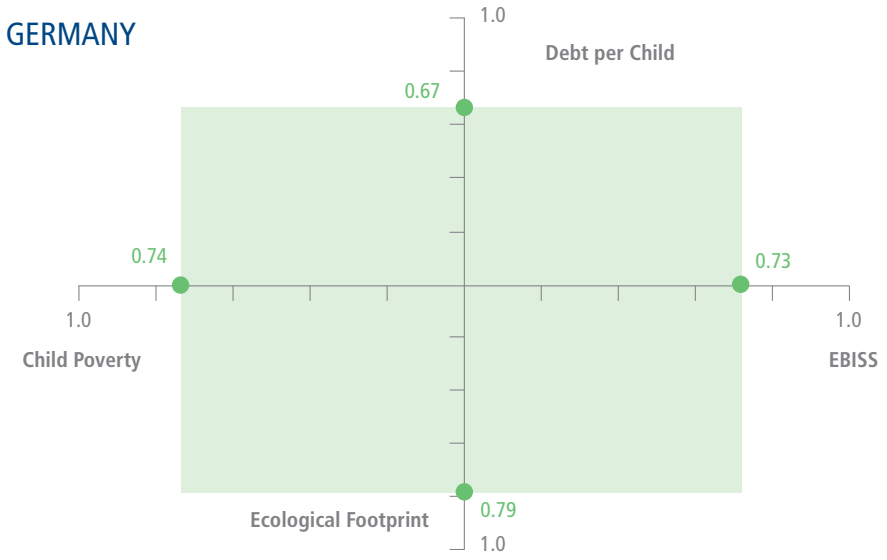
Figure 9: The IJI rectangle – Germany



Source: Author's computations.

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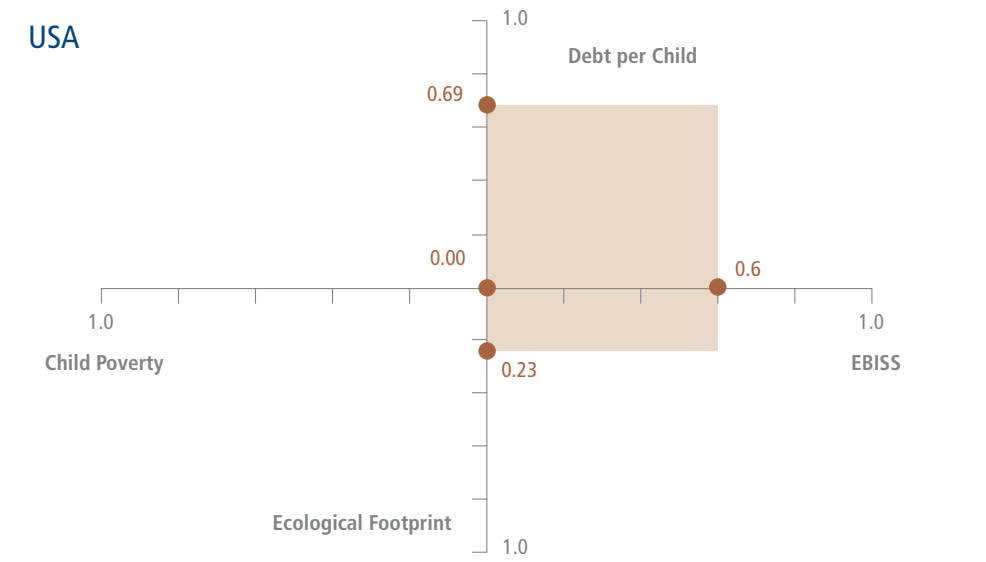
Figure 10: The IJI rectangle – USA



Source: Author's computations.

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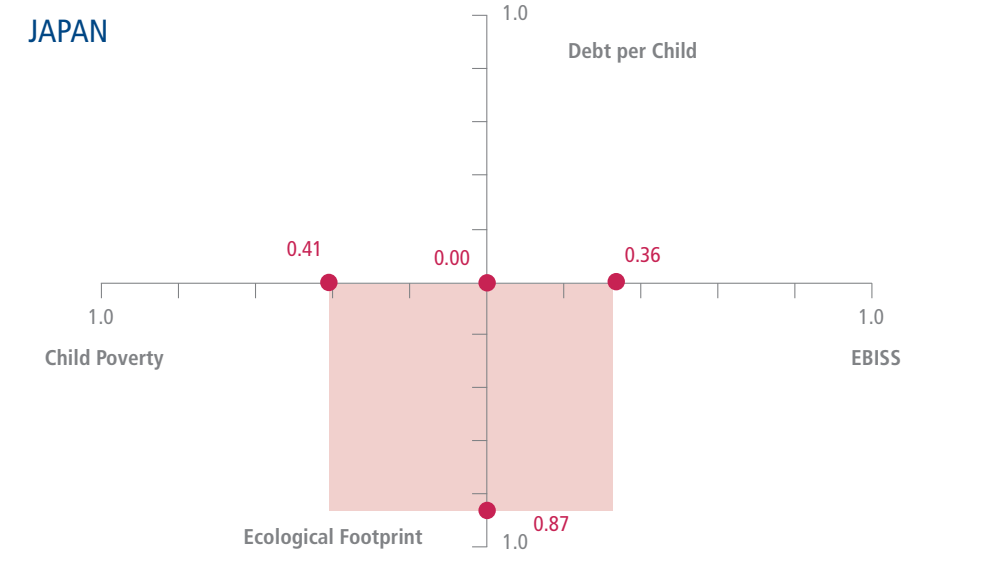
Figure 11: The IJI rectangle – Japan



Source: Author's computations.

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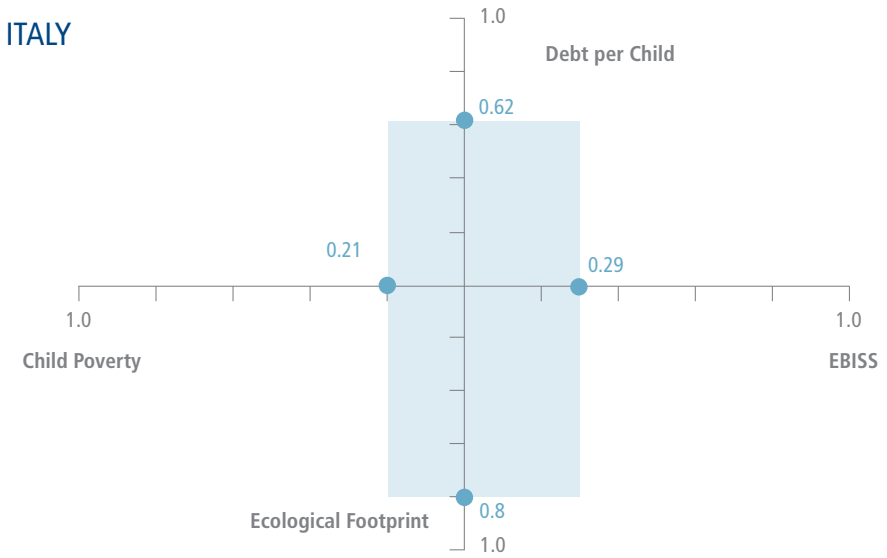
Figure 12: The IJI rectangle – Italy



Source: Author's computations.

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Figures 7 and 8 showcase two *IJI* success stories – Estonia and South Korea. Both countries perform well on all four dimensions of *IJI*. With the slight exception of the child poverty dimension, these rectangles are both relatively symmetric and large, with an overall square rather than rectangular shape. The same is true of Germany in Figure 9, although the overall square size is somewhat smaller due to the country's lower performance on three of the four dimensions, notably *EBiSS* and debt per child. The former variable is likely to be increased further as a result of a federal government decision to increase state pension levels for 20 million pensioners by 1.1 percent in 2008 and 2 percent in 2009 (a federal election year). The estimated cost of € 12 billion by the end of 2012 is to be paid for mainly by current working-age generations in Germany – employers and employees. This led to former President Herzog's declaration that the country is turning into a pensioner democracy (Deutsche Welle 2008a; 2008b; see also Sinn and Uebelmesser 2003). In addition, a new federal law introduced in May 2009 guaranteed that no nominal cuts in pensions would occur. As a result, the German pension system faces additional burdens of about € 10 billion through 2013 (SGI country reports [34]). Such pressures are likely to increase further as Germany, today already the OECD's fourth-oldest society with an old-age dependency ratio (persons aged 15 – 65 relative to persons aged 65+) of 31 percent, is set to age further in the next two decades, reaching a projected old-age dependency ratio of 46 percent by 2030 (Gasior et al. 2011).

On the other hand, debt-per-child levels may be improved in future years by a constitutional debt limit introduced in 2009, which restricts the German federal government's cyclically adjusted budget deficit to a maximum of 0.35 percent of GDP and requires balanced cyclically adjusted budgets for the individual federal states. This debt rule will become binding for the central government in 2016 and for the states in 2020 (SGI country reports). Germany also performed relatively well in terms of child poverty in 2008, though the problem still requires targeted political action. Today it is estimated that more than 3 million German children live in poverty, including 35 percent of all children in cities such as Berlin. And while pensioners are much better off in Germany today, this cannot be extrapolated into future decades. After many years of high levels of unemployment, low Hartz IV welfare payments, decreasing wage incomes and unsteady work lives, an increasing share of the population will be faced with poverty in retirement. In addition, changes to the pension formula in recent years have aimed at reducing pension benefit payments (SGI country reports; Sciubba 2012; Hering 2012).

The United States, Japan and Italy are three clear examples of comparatively intergenerationally unjust countries. In Figure 10, a comparatively mediocre U.S. performance on debt per child, poor performances in terms of *EBiSS* and ecological footprint, and a sample-worst performance on child poverty add up to a lopsided and small *IJI* rectangle. With respect to debt, the near-term future outlook is marred by challenges associated with the Obama administration's necessary fiscal and budgetary expansion policies in reaction to the 2008 crisis. Nor are the prospects for long-term fiscal consolidation promising, even after the 2012 Presidential and Congressional elections, as both mainstream parties have ruled out broad tax increases, one party is strongly committed to tax reductions, and the bulk of spending occurs in relatively sheltered programs such as health programs, pensions, defense and net interest payments (SGI country reports).

Japan and Italy also have small *IJI* rectangles. In Japan it is a comparatively small ecological footprint and a sample-worst performance on debt per child that are the main sources of the *IJI* rectangle's lopsidedness (Figure 11). By contrast, the shape of the rectangle in Italy is very different (Figure 12). An average performance on debt per child and a good ecological footprint, combined with very low values on child poverty and the *EBiSS*, add up to a long and narrow small rectangle. Italy is of course a clear example of a "familialist" welfare state, in which the state leaves large child-care, elderly-care and welfare-provision burdens to families, especially to women (e.g. Esping-Andersen 1999; 2009). As a result, working-age citizens tend to be overburdened with tasks and underprovided with state support, except for relatively generous rules on maternity leave (paid for by social insurance) and limited tax deductions for children (SGI country reports).

In sum, the United States, Italy and Japan clearly show a low degree of intergenerational justice in their current policies. Yet as democracies, they remain able to implement reforms. For instance, contradicting frequent claims that these aging democracies suffer from policy sclerosis and reform-inability, both Italy and Japan (like Germany) have in recent years managed to impose significant policy reforms that have either boosted the interests of younger generations or hurt the

interests of older voters (Sciubba 2012). And prior to the large-scale ecological disruptions caused by the Fukushima disaster, Japan implemented a significant social law in March 2010 providing for financial support for households with school-aged children (SGI country reports). In addition, then-Prime Minister Yukio Hatoyama renewed a pre-election pledge in September 2009 to achieve a 30 percent reduction in CO_2 levels by 2020 compared to 2005, on the condition that all major emitters reached a treaty setting fair and realistic reduction levels (SGI country reports).

The prospects for significant reforms favoring younger generations appear more limited in the case of the United States.[35] Yet significant attempts have been made even there. For instance, the American Recovery and Reinvestment Act, passed in the wake of the 2008 recession, contained measures such as the extension of employment benefits; increases in benefits, education and housing; larger benefits for families with children; bigger food stamp benefits; and larger tax credits for the working poor (SGI country reports). In the same vein, the Obama administration has increased support for younger generations by $2 billion through the Child Care and Development Fund, a block grant going to state governments, and proposed as a part of its 2011 budget proposal to double the child and dependent care tax credit (SGI country reports). Regarding ecology, the February 2009 stimulus package included roughly $100 billion for environmental and energy efficiency measures, such as support for insulating buildings and incentives for the development of renewable energies. In June 2009, the House of Representatives passed the American Clean Energy and Security Act, which mandated the introduction of a cap-and-trade system with a binding ceiling for greenhouse gas emissions, though it was subsequently defeated in the Senate. The cap would have reduced emissions by 17 percent below 2005 levels by 2020 and by 83 percent by 2050 (SGI country reports). More broadly, the U.S. academic and policymaking community appears to be moving gradually toward the idea of a carbon tax (Muro and Rothwell 2012; Rausch and Reilly 2012).

5.2. Aggregation: researcher-imposed weighting

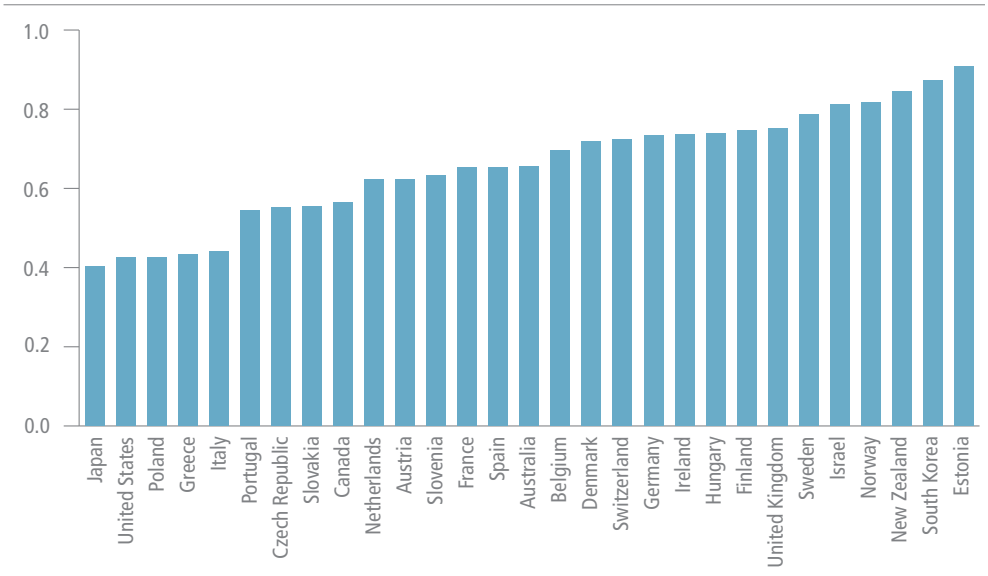
In a second step, an aggregation of the four normalized *IJI* dimension values was performed according to the following researcher-imposed weights: .2 for child poverty, .2 for net ecological surplus, and .2 for debt per child, and twice this weight (.4) for *EBiSS*. This greater weight has been assigned on the grounds that *EBiSS* is a singularly comprehensive synthetic indicator in its own right, and one which captures government efforts in the service of intergenerational justice especially well as it is a pure spending measure. Figure 13 shows these *IJI* values as conditioned by the researcher-imposed *EBiSS*-heavy weights. The most intergenerationally just countries in this regard are Estonia, South Korea and New Zealand (*IJI* values of .91, .87 and .85), followed by Norway, Israel, and Sweden (*IJI* values of .81, .81 and .79), and then by the United Kingdom, Finland, Hungary, Ireland, Germany, Switzerland, Denmark and Belgium (all with *IJI* values between .75 and .70). The five least intergenerationally just countries are Japan, the United States, Poland, Greece, and Italy (all with *IJI* values between .40 and .44). They are followed by Portugal, the Czech Republic, Slovakia and Canada (with *IJI* values between 0.55 and 0.56). These *IJI* values are at

best weakly linked to demography. If anything, demographically younger countries appear to be slightly more intergenerationally just. [36]

Using an EBiSS-heavy weighting, the most intergenerationally just OECD countries are Estonia, South Korea and New Zealand, followed by Norway, Israel, and Sweden.

Using an EBiSS-heavy weighting, the least intergenerationally just OECD countries are Japan, the United States, Poland, Greece, and Italy.

Figure 13: IJI with researcher-imposed (.2/.2/.2/.4) weighting



Source: Author's computations. | BertelsmannStiftung

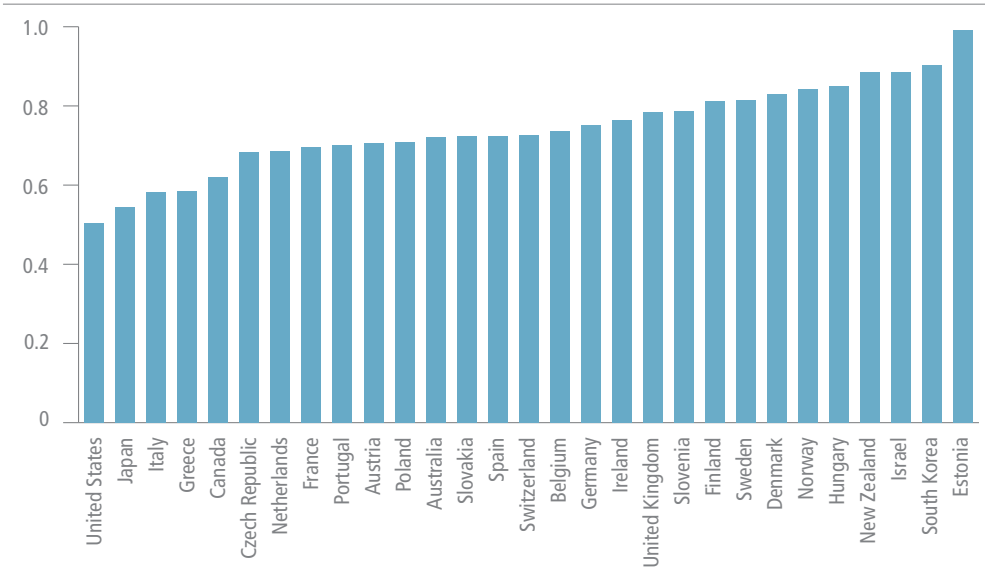
5.3. Aggregation: benefit-of-the-doubt weighting

We have argued above that there is a strong case for attributing a comparatively larger weight to the *EBiSS* dimension, as it is a singularly comprehensive measure of government activity in support of intergenerational justice. Yet it is also strongly arguable that, at least in the OECD's liberal democracies, governments may legitimately attach their own (cross-nationally different) priorities to the various dimensions of the *IJI*. As an alternative to "playing God" by imposing the same researcher-determined weights for all countries, there is an equally strong case to be made for respecting these individual national priorities as they are set by autonomous, democratically

elected governments. In order to take these democratic autonomy and legitimacy considerations into account, we have developed an alternative "benefit-of-the-doubt" weighting method for the *IJI*, based on a technique pioneered by Melyn and Moesen (1991) for the purpose of assessing macroeconomic performance.[37] This technique weights the components of the synthetic performance indicator so as to give each country the benefit of the doubt with respect to its own policy choices. That is, the highest weights are attached to the dimension on which the particular country shows its comparatively best performance, the second-highest weight to the dimension on which it performs second best, and so on.

The working assumption here is that a better performance in this sense more adequately reveals the country's true preferences. In other words, a particular dimension of the overall *IJI* is deemed to be important (and given a higher weight) for a country if the country in question performs well in that particular dimension. For example, it is assumed that the policymakers of a country that performs well with respect to net ecological surplus will probably attach a particularly high importance to ensuring intergenerational justice for younger generations by maintaining a small ecological footprint. The revealed preferences assumption made by the benefit-of-the-doubt method is that actual performance figures reflect the country's "true" policy priorities, and that these choices need to be respected on democratic autonomy grounds. Specifically, a country's best-performing dimension is given a weight of .4, its second-best-performing dimension a weight of .3, its third-best dimension a weight of .2, and its worst dimension a weight of .1. Figure 14 shows the *IJI* values obtained with this .4/.3/.2/.1 benefit-of-the-doubt method.

Figure 14: IJI with benefit-of-the-doubt (.4/.3/.2/.1) weighting



Source: Author's computations.

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With this alternative weighting method, in declining order of justice, the most intergenerationally just OECD country is Estonia, with a near-perfect *IJI* value of .99. Estonia is followed by South Korea, Israel and New Zealand (*IJI* values of .90, .89 and .89), and then by Hungary and the four Nordic countries, Norway, Denmark, Sweden and Finland (*IJI* values between .85 and .81). The left-hand side of Figure 14 shows that, in declining order of injustice, the least intergenerationally just OECD country is the United States (*IJI* values of .50), followed by Japan (.54), Italy (.58), Greece (.59) and Canada (.62). As was previously the case with the researcher-weighted *IJI* (and the *EBiSS*), these benefit-of-the-doubt *IJI* values are only weakly linked to demography.[39] Note also that compared to the *EBiSS*-heavy .2/.2/.2/.4 weighting method in Figure 13, the benefit-of-the-doubt method in Figure 14 produces a similar but not identical country ranking, with only relatively minor order reversals (the Pearson correlation coefficient between the two sets of *IJI* values is +0.91). For instance, Estonia, South Korea and New Zealand are ranked first, second and fourth using the benefit-of-the doubt method, and first, second and third using the .2/.2/.2/.4 method. The United States, Japan and Italy receive the first-, second- and third-lowest rankings using the benefit-of-the doubt weighting, and the second-, first- and fifth-lowest rankings with the .2/.2/.2/.4 weighting.

One notable difference is that with the exception of the Czech Republic (which gains one rank), the ranking of every one of the Central European countries studied here drops, often significantly, when using the *EBiSS*-heavy weighting as compared to the benefit-of-the-doubt model. For instance, Hungary drops from the fifth-highest *IJI* rank under benefit-of-the-doubt weighting to the 9th-highest *IJI* rank with the *EBiSS*-heavy weighting, while Slovenia drops from the 10th- to the 18th-highest *IJI* rank. Poland drops even more significantly, from the 19th-highest (or 11th-lowest) to the 26th-highest (or third-lowest) *IJI* rank. In these Central European countries, with welfare states that already show a very high pro-elderly bias today, the future outlook for intergenerational justice appears to be especially worrying. Legacies associated with early postcommunist policies such as inadequate health-care practices, internationally very low labor market participation rates among women and older workers and historically unprecedented early and disability pensioner booms have prepared these countries badly for the coming three decades, when their societies will enter a period of particularly fast demographic aging (Vanhuysse 2004; 2006; 2009b).[40]

6. Conclusions and implications: policy reforms for boosting intergenerational justice in practice

This report has proposed the *IJI* – a synthetic, four-dimensional index that enables a comparison of intergenerational justice in practice across advanced market democracies. The *IJI* is a "snapshot of the present moment" measure capturing (a) policy outcomes with respect to child poverty, public debt levels per child and ecological footprints that leave legacies for future generations or appear to constitute discrimination between younger and older living generations, and (b) the degree to which current social spending is biased toward older living generations. Using a benefit-of-the-doubt weighting method that is respectful of the (revealed) preferences of democratically

elected governments, we have seen that around the late 2000s and the early years of the present decade, the most intergenerationally just countries among a set of 29 OECD member states were Estonia, followed by South Korea, Israel and New Zealand, and then by Hungary and all four Nordic countries studied here. Interestingly, the intergenerational justice index values of the 29 OECD societies were essentially unrelated to these societies' demographic age structures.

Using a benefit-of-the-doubt weighting, the most intergenerationally just country is Estonia, followed by South Korea, Israel and New Zealand, and then by Hungary and all four Nordic countries.

The least intergenerationally just countries were found to be the United States, Japan, Italy, Greece, and Canada. In this latter set of countries, not reforming current policy patterns would simply mean that a high degree of injustice would continue to be inflicted upon younger and future generations. In such cases, sticking to the status quo would actually be equivalent to perpetuating a bad deal for young generations.

Using a benefit-of-the-doubt weighting, the least intergenerationally just countries are the United States, Japan, Italy, Greece, and Canada.

Clearly, before drawing strong conclusions about intergenerational justice in particular countries, the snapshot picture provided by the *IJI* in the present report would need to be complemented by further snapshots encompassing past and future points in time, especially in view of the recent and ongoing economic crisis in many OECD countries. Such longitudinal monitoring might be the task of an Intergenerational Justice Observatory, to be set up in one country or across many. The highly synthetic analysis presented here ideally ought to be complemented by in-depth country case studies and policy domain studies as well. Nevertheless, to the extent that improving intergenerational justice is a matter of moral urgency, particularly in democracies such as Greece, Japan, the United States, and Italy that feature at the low-scoring left side of both figures 13 and 14, a number of important policy prescriptions do follow. I will briefly address these, albeit with varying degrees of political utopianism, as regards the supply side, the institutional side and the demand side of public policymaking.

On the supply side, seemingly "obvious" measures long debated in the various policy literatures arguably merit a closer look in light of the *IJI* perspective. To name just a few, these include fiscal and social security benefits or credits to reward parents and/or carers for raising children or caring for elderly family members, practices that often entail substantial private (opportunity) cost while producing societal benefit. Other obviously sensible policy reforms might include the adjustment of official pension ages and subsequent pension benefit streams to adapt to continuously rising life expectancies, or ecologically motivated regulations or (better) tax frameworks, such as

carbon taxes. Carbon taxes, for instance, are already in place today in countries such as Sweden and Australia, and increasingly command support from policy analysts and academic economists across the political spectrum even in traditionally more resistant countries (e.g., Muro and Rothwell 2012; Rausch and Reilly 2012). There is a particularly strong case for spending relatively more on younger generations – in particular, for spending in smarter ways through social investment policies aimed at nurturing, renewing and increasing human capital and skills, a strategy that also promises to boost aging welfare states' fiscal bases in the process. Nordic Europe leads the way in this regard as well, as it does, remarkably, on most other intergenerationally just and sound policies mentioned here.

A promising policy innovation is what could be labeled intergenerational earmarking. Here, some portion of (perhaps newly raised) fiscal revenues would be earmarked for expenditure specifically on the improvement of one of the dimensions of intergenerational justice (such as smart human capital investment in younger generations). Alternatively, revenue raised from boosting one dimension of intergenerational justice (such as environmental taxation) could be used for funding the welfare state in aging societies.[41] The intergenerational earmarking element in such approaches might actually make higher taxation more palatable to voters. By the same token, double whammy intergenerational earmarking could be more effective still. Here, extra revenues raised to boost one dimension of intergenerational justice (such as those from environmental taxes) could be earmarked specifically for spending on another dimension of intergenerational justice (such as human capital investment).

Intergenerational justice can be boosted by "double whammy intergenerational earmarking," whereby extra revenues raised to improve one IJI dimension are used specifically to make progress in another IJI dimension.

Child tax credits, generous family allowances and parental leave policies can clearly help parents, especially mothers, to shoulder the burden of raising children and building their careers. Promising, if more exotic, policy reforms also include "child trust funds" established by governments and topped up by parents, which could be accessed by adolescents upon reaching maturity (Finlayson 2008), and context-sensitive "child bounties" given to parents who raise a child's expected value to society above what could be reasonably expected (Coleman 1993).[42] But among human capital policies, investment in high-quality early childhood education and care programs, long advocated by economists such as James Heckman and sociologists such as Gøsta Esping-Andersen, is a particularly promising avenue for policy reforms aiming to marry economic efficiency and intergenerational justice. [43]

The best available knowledge shows that even when viewed from a purely economic point of view, such early childhood programs constitute an efficient use of public resources. Compared to randomly assigned controls, participants in these programs score systematically better on a wide

range of variables measuring educational achievements and high-school graduation rates, as well as in later-in-life measures such as employment rates, monthly earnings, welfare receipt status and crime rates. One reason is that younger children have longer time horizons over which to recoup the benefits of human capital increases. This horizon argument also more generally indicates why young citizens' interests deserve special protection by governments: both the positive and the negative impacts of public policies on young citizens are likely to last longer. Moreover, early childhood investment has long-lasting benefits for the same reason that child poverty and youth unemployment carry long-lasting costs or scarring effects. Skill formation is a dynamic and strongly cumulative process: early learning makes later learning easier and more effective.[44] Within countries, this is of course the case especially for those children who had the misfortune to have been born in socially disadvantaged environments that cannot or will not offer them the private resources and the social and cultural capital needed to compensate for a lack of adequate public policies. Thus, this policy with its proven potential to boost intergenerational justice is likely to have the beneficial side effect of simultaneously promoting intragenerational justice.[45]

On the policy supply side, human capital investment in high-quality early childhood education is a particularly promising avenue for marrying economic efficiency and intergenerational justice.

Of course, where "obviously" sound supply-side policies are not already sufficiently implemented, they are hardly likely to be realized simply through wishful thinking. If policymakers are to be pressured into devoting more resources to improving the intergenerational justice content of public policies, the demand side and the institutions involved in the policymaking process need to be reformed as well. With respect to institutions, the establishment of fiscal, child welfare and ecological golden rules, guardians or watchdogs – or, as mentioned, an Intergenerational Justice Observatory – could well serve as means of nudging, naming and shaming policymakers toward boosting intergenerational justice.

On the demand side, a powerful means of boosting intergenerational justice in aging societies would be to give each parent one-half extra proxy vote, to be used on behalf of each underage child until that child reaches legal voting age.

Yet in democracies with aging electorates, hard-power considerations are still likely to overrule the soft nudges of institutional rules and watchdogs. One intergenerationally progressive reform with political bite is the idea of giving parents proxy votes to be exercised in pursuit of their children's interests. Long discussed by political theorists such as Philippe Van Parijs and Karl Hinrichs and, separately, by demographers such as Paul Demeny, the time may have come for the idea of giving each parent one-half extra vote (or alternatively each mother one full extra vote), to be used on behalf of each underage child until that child reaches legal voting age.[46] These proxy

votes for children, to be exercised by their parents as trustees, could be made conditional on parents meeting minimum child welfare and child educational standards. They could be further regulated according to other public interest or civic participation requirements, such as having a longstanding history of residence or of tax or social-security contributions. Proxy votes ought to go hand in hand with the most extensive possible provision of public resources to assist those adults who wish but struggle to become parents.

Proxy votes for children can be defended on deontological grounds: They apply the democratic one-person, one-vote principle consistently, and they reward parents for the significant contributions to society made by raising children.

The introduction of proxy votes for children would add a degree of hard power to the intergenerational politics game because, once enacted, it would change governments' electoral incentives in favor of younger generations. What is more, the award of these new rights would be less vulnerable to subsequent discretionary reversals by future governments than would be functionally equivalent monetary policies, such as human capital spending, child tax credits or child trust funds. If these new rights were constitutionally enshrined, reversals of proxy vote rights would even be near-impossible.[47] Proxy votes would also constitute a highly significant symbolic shift in favor of intergenerational justice in aging societies with low fertility rates and increasing life expectancies. On deontological grounds they can be defended as an intrinsically good idea. First, proxy votes reward children, albeit indirectly, by consistently and symmetrically applying the quintessentially democratic one-person, one-vote principle. They treat the very young as full political citizens within their polity, just as the very old are already treated today. At the same time, awarding proxy votes to parents circumvents the obvious problem of children's democratic competence, which also plagues some of the very old (who are nevertheless not disenfranchised by law).[48] But equally importantly, proxy votes reward parents directly for the significant contribution to society, above and beyond their private welfare, that parents typically make by raising children. As many analysts have noted, raising children endowed with high levels of human capital also amounts to contributing to a public good with positive externalities (Folbre 1994; 2008; Coleman 1993).

Giving extra political rights to parents via proxy votes constitutes a nonpunitive (and nonmonetary) reward to parents for contributing to society's next generation by raising a child, and it is arguably a more liberal alternative to taxing or otherwise penalizing non-parents for not raising children. Through pay-as-you-go pensions and similar social benefits, as well as through deficit spending and public debt, non-parents will make significant future claims upon the earnings of future working-age adults, despite having a smaller role in the care of these future generations. In Folbre's (1994: 89) words: "Public policy literally transfers resources from parents to non-parents by providing social insurance based on participation in paid employment without explicitly valuing time, effort, or money devoted to children. ... In fiscal terms, children represent a positive externality."[49] Proxy votes for children are a forceful way to redress this inherent intergenerational

justice with rights, not benefits or services. Social justice intertwines with demography here. Normatively, such a redress is most pertinent wherever the numerical balance between younger and older population groups is tilting rapidly in favor of the latter. A subset of aging OECD societies today may already be locked into low fertility traps. In German-speaking Europe, for instance, newly emerging, self-reinforcing social norms may be in the process of permanently lowering the desire of younger cohorts to have children, as ever more young adults perceive small families as the natural ideal and perceive procreation as a mere matter of individual preference.[50]

Proxy votes can be defended on consequentialist grounds. They certainly redress the numerical underrepresentation of parents as eligible voters, they probably increase the electoral participation of parents as actual voters, and they potentially reduce younger citizens' political disengagement by giving them a stake in democracy.

On consequentialist grounds, however, proxy votes for children would not necessarily amount to a watershed change in the voting power balance of advanced democracies. As Sanderson and Scherbov (2007: 546, 549) estimate for Germany, Japan and the United States, compared to the policy status quo today, this seemingly radical reform would reduce the expected share of pensioners within the voting population by very little – indeed, by just five, six and five percentage points respectively by 2050.[51] Seemingly more feasible reforms, such as reducing the legal voting age to 16 or 15, would consequently have still more negligible electoral-numerical effects.[52] But proxy votes are likely to affect the dynamics of intergenerational politics beyond these definite, if perhaps marginal, changes in the numerical balance between younger and older eligible voters (electors). They also promise to induce additional behavioral changes in the intergenerational politics game, with some of these changes more predictable than others.

For instance, proxy votes are likely to increase the de facto electoral participation rates of parents as actual voters (not electors), thus counterbalancing older citizens' notoriously higher participation rates.[53] Higher turnout rates among parents could arise as the combined result of two effects. First, proxy votes lead to a very significant improvement in the instrumental cost/benefit calculus to parents of going to the voting booth. Second, they may induce "trickle-up" effects whereby more politically aware and democratically involved children influence their parents to cast their vote for them. This alone would undoubtedly reduce younger generations' oft-mentioned disappointment in and disengagement from politics. It would increase their sense of having a stake in the democratic game of distributional conflict among classes, generations and other interest coalitions. In sum, proxy votes for children are a policy reform with political bite that can be defended on strong deontological grounds and on plausible, if more uncertain, consequentialist grounds. They offer a "Rawlsian-Machiavellian" road toward furthering the important goal of intergenerational justice, by modifying the future course of electoral calculation and democratic engagement in aging OECD societies.

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Endnotes

[1] For recent contributions, see especially Laslett and Fishkin (1992), Gosseries and Meyer (2009) and Fishkin and Goodin (2010); for a review of the latter see Vanhuysse (2013). See also Arrhenius (2009), Gosseries (2010), Intergenerational Justice Review (2005; 2008), Kohli (2006), Roemer and Veneziani (2004), Tremmel (2010; 2012). On the concept of 'generation' in public policy, see Kohli (2006), Goerres (2009), Goerres and Vanhuysse (2012), May (2013). On social justice and pension policy, see Schokkaert and Van Parijs (2003).

[2] See especially Schraad-Tischler (2011). For UK-focused approaches to intergenerational fairness indexing and intergenerational equity in redistribution, see respectively Leach and Hanton (2012) and Bradshaw and Holmes (2013).

[3] These 29 OECD countries are: Australia, Austria, Belgium, Canada, Switzerland, the Czech Republic, Denmark, Spain, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Israel, Italy, Japan, South Korea, the Netherlands, New Zealand, Norway, Poland, Portugal, Sweden, Slovakia, Slovenia, the United Kingdom and the United States.

[4] For more on methodological choices and value judgements in measuring progress with social indicators and on the "problematic relationship" of such indicators with public policy, see for instance Atkinson (2005), Atkinson et al. (2002).

[5] Clearly, this implies that the intergenerational justice implications of many important but more recent events, such as those related to the global economic crisis that started in late 2007 and the related euro zone crisis that dominated 2011 – 2012, are not yet fully visible in the present IJI. It is therefore important to exercise caution in extrapolating information about intergenerational justice in the OECD after the period considered here, especially in those countries most heavily hit by these crises from an economic and macro-fiscal viewpoint, such as Greece, Ireland, Spain and Italy.

[6] See Deutsche Welle (2008a). Discussing Germany in the same vein, Sinn and Uebelmesser (2002) note that the beginning of 2010s is "the country's last chance for a partial transition to a funded pension system. Thereafter, the country will effectively be a gerontocracy." Discussing Europe, Sinn (2005) claims that the continent "is gradually being transformed into a gerontocracy in which the old rule the roost. .... This trend will be consolidated in the future." More measured approaches are Lindh et al. (2010), and Davidson's (2012) critique of Berry (2012b). For empirical refutations of alarmist political economy claims about rising gerontocracy, see Tepe and Vanhuysse (2009, 2010).

[7] See Sabbagh and Vanhuysse (2010). For a two-country study of perceived pension injustice, see Sabbagh and Vanhuysse (2012). On the effects of population aging on social policy attitudes and intergenerational solidarity, see, for instance, Boeri et al. (2001), Emery (2012), Lynch and Myrskylä (2009), Busemeyer et al. (2009), Saraceno (2008); Goerres and Tepe (2012). On the electoral and party system consequences of population aging, see respectively Goerres (2009) and Hanley (2012).

[8] As it happens, at the macro level such prospective measures of population aging based on remaining life expectancy generally tend to produce less dramatic trends in current and projected levels of population aging for most OECD countries (Sanderson and Scherbov 2010; 2008).

[9] See, for instance, Steiner and Valentyne (2009), Wolf (2009); see also Roemer (2005).

[10] See Wackernagel et al. (2005). A global hectare (gha) is defined as "productivity weighted area used to report both the biocapacity of the earth, and the demand on biocapacity (the Ecological Footprint). The global hectare is normalized to the area-weighted average productivity of biologically productive land and water in a given year. Because different land types have different productivity, a global hectare of, for example, cropland, would occupy a smaller physical area than the much less biologically productive pasture land, as more pasture would be needed to provide the same biocapacity as one hectare of cropland. Because world bioproductivity varies slightly from year to year, the value of a gha may change slightly from year to year." See www.footprintnetwork.org/

[11] The average ecological footprint in the sample shown in Figure 1 is 5.24 gha per capita, with a standard deviation of 1.12.

[12] See Ponthiere (2009). Specifically, biocapacity is defined by Footprint Network as: "the capacity of ecosystems to produce useful biological materials and to absorb waste materials generated by humans, using current management schemes and extraction technologies. 'Useful biological materials' are defined as those demanded by the human economy. Hence what is considered 'useful' can change from year to year (e.g., use of corn (maize) stover for cellulosic ethanol production would result in corn stover becoming a useful material, and thus increase the biocapacity of maize cropland). The biocapacity of an area is calculated by multiplying the actual physical area by the yield factor and the appropriate equivalence factor." See www.footprintnetwork.org/

[13] If there is an ecological deficit, it means that the country is importing biocapacity through trade or liquidating regional ecological assets, or emitting wastes into a global commons such as the atmosphere. See www.footprintnetwork.org/

[14] In addition, the ecological footprint measure is subject to a number of deeper philosophical critiques, but it mostly shares those alleged weaknesses with rival sustainability indicators. Ponthiere (2009), for instance, notes that ecological footprint studies suffer also from the fact that the number of future people depends on current generations' actions, from the possible non-existence of future generations, and from the sensitivity of future people's tastes to current generations' decisions. Note, however, that even this largely critical assessment of ecological footprint uses for intergenerational justice assessment purposes concludes that despite its imperfections, ecological footprint indicators do have "the virtue to open the possibility, for humans, to become the own judges of their actions, and, hence, to be able to act, on the basis of their judgments, in a more fair way with respect to future generations. All

this might well be only a promise, but a promise of justice may be the first step toward justice itself" (Ponthiere 2009: 692).

[15] The need for government intervention derives from the fact that environmental damage is an externality, as individual actors typically have little or no incentive to take the damage they cause to the environment into account in their private behavior: most of the damage is spread across society at large rather than the individual polluter.

[16] See: www.footprintnetwork.org/en/index.php/GFN/page/trends/spain/

[17] See: www.footprintnetwork.org/en/index.php/GFN/page/trends/sweden/

[18] For instance, between 1996 and 2008, long-term trends of employment protection legislation for regular contracts (which largely correspond with insider jobs that tend to be disproportionately held by older workers) and temporary contracts (outsider jobs held more often by younger workers) show a scissor-shaped pattern. Regular contracts have on average enjoyed a remarkable status quo in protection levels across the OECD. But temporary job contracts have suffered from often severe reductions in protection levels (Tepe and Vanhuysse 2013). This means that younger workers are often first to be fired, particularly during recession periods (O'Higgins 2012). In the same vein, education spending and active labor market training can have significant effects on youth unemployment. These two policies are covered in the EBiSS dimension, below.

[19] See, for instance, Bowles et al. (2005), Duncan and Murnane (2011), Esping-Andersen (2002, 2008, 2009), Esping-Andersen and Sarasa (2002), Gregg and Machin (2001), Haveman and Wolfe (1995). On before-birth effects (i.e., effects of being born to poor or disadvantaged mothers), see especially Currie (2011).

[20] See Isaacs (2012: 5-6), who notes that in the United States, the gap in school readiness between poor and middle-to-high income children is 27 percentage points. This raw poverty gap is reduced to a still significant 10 points after controlling for demographic factors such as parental education level, marital status, mother's age at birth, race, immigrant status, gender and age in months.

[21] See Duncan and Murnane (2011), Gornick and Meyers (2003), Pong (1997). For instance Duncan and Murnane (2011) point out that students from high-poverty schools have lower subsequent labor market earning levels even after controlling for academic performance. They argue that this can be explained by the fact that students in high-poverty schools are cut off from valuable professional contacts that can help out in getting started in the labor market.

[22] Average child poverty in the sample shown in Figure 3 is 11.1 percent, with a standard deviation of 4.32. Note also that the relative definition of child poverty employed means that this measure inherently reflects societies' larger income distribution structure, specifically at the bottom part of the distribution.

[23] See, for instance, Bowen et al. (1964), Buchanan (1964), Tullock (1964), and other contributions to Ferguson (1964).

[24] Moreover, this correlation becomes particularly strong when public debt approaches 100% of GDP (Reinhart and Rogoff 2010a, 2010b; but see Pannizza and Presbitero 2012). It might also be objected that high debt per child levels are a misleading indicator of intergenerational justice, as debt might be incurred in order to favor younger generations by, say, combating child poverty (dimension 2) or spending more on social programs for younger generations (EBiSS, dimension 4 below). This appears to have little plausibility in theory. Empirically, the Pearson correlation coefficient between debt per child levels (Figure 4) and the EBiSS (Figure 6 below) is -0.26; that between debt per child levels and child poverty levels (Figure 3) is essentially zero (+0.06).

[25] The average debt per child value in the sample shown in Figure 4 is $184,490, with a standard deviation of $142,859.

[26] See, for instance, Castles (2008), Esping-Andersen and Sarasa (2002); Gamliel-Yehoshua and Vanhuysse (2010).

[27] See Isaacs (2009) for a similar approach on the United States, and Aaron (2009) for a critique. For a review of Lynch's seminal book, see Vanhuysse (2009a).

[28] For an alternative approach based on national transfer accounts, see for instance Lee and Mason (2011).

[29] Data on the first nine of these spending programs were taken from the OECD Social Expenditure Database SOCX (http://stats.oecd.org/Index.aspx?datasetcode=SOCX_AGG) and refer to 2007; data on education spending were taken from the OECD Factbook 2011: Economic, Environmental and Social Statistics and refer to 2008 or the latest available year. For methodological and empirical background analysis behind the SOCX database, see Adema and Ladaique (2009).

[30] The average EBiSS value in the sample shown in Figure 6 is 4.51, with a standard deviation of 1.60.

[31] Note that Greece is distinct within the OECD sample as no data were available on the following three component programs of the EBiSS: on the elderly spending side, occupational injury and disease related pensions (incapacity-related cash spending) and early retirement for labor market reasons (unemployment-related cash spending); and on the nonelderly spending side, income maintenance cash programs. Moreover, education spending data used for Greece were older than for other countries, as the last available data were for 2005.

[32] It is telling in this respect to note that this EBiSS ranking, covering the period 2007 – 2008, only partially overlaps with Lynch's (2006) ENSR ranking for the 1985 – 2000 period, discussed in section 4.1. On the high pro-elderly-bias side, the EBiSS ranking now features

four post-communist countries which were not included in Lynch's sample. On the low pro-elderly-bias side, the EBiSS and ENSR rankings have only two cases in common within the bottom eight ranks (Belgium and Denmark).

[33] The Pearson correlation coefficient between these EBiSS values and the 2007 old-age support ratios is -0.18.

[34] All SGI references below are to the Bertelsmann Stiftung's Sustainable Governance Indicators country reports, which are accessible in full at: www.sgi-network.org

[35] See for instance Preston (1984), Fuchs and Reklis (1992), Aaron (2011), Isaacs (2009; 2011).

[36] The Pearson correlation coefficient between these researcher-imposed IJI values and the 2007 old-age support ratio values is +0.21.

[37] See also Moesen and Cherchye (1998), Cherchye et al. (2007), and more generally Atkinson (2005).

[38] One caveat applies to the case of Israel, where a comparatively very small footprint (Figure 1) is reflected in this dimension's heavy benefit-of-the-doubt weight (.4) and thus in a higher benefit-of-the-doubt IJI value (.89) and ranking (third) as compared to its researcher-imposed IJI value (.81) and ranking (fifth). Yet, as we have seen in section 1, it is important to bear in mind that despite this small footprint Israel is also the OECD's fifth-highest ecological debtor nation (Figure 2). By contrast, Portugal and Japan, which also combine small footprints with ecological debtor status, have low overall IJI rankings.

[39] The Pearson correlation coefficient with the 2007 old-age support ratio values is +0.26.

[40] Cultural aspects such as unhealthy lifestyles are a further problem in Central and Eastern Europe. As mentioned in footnote 8, using an alternative forward-looking measure for societies' old-age dependency rates produces less dramatic trends in current and projected levels of population aging for most OECD countries. But there is a notable exception to this rule: the Central and Eastern European societies, where prospective old-age dependency rates are also comparatively high today, and are set to increase very fast in the coming three decades (Sanderson and Scherbov 2010).

[41] In Luxemburg, for instance, revenue from environmental taxation is currently set aside for the financing of long-term care insurance (Davor Dominkus, personal communication).

[42] I am grateful to Claus Offe and Helmut Anheier for pointing me to these two ideas.

[43] See, for instance, Esping-Andersen (2002; 2008; 2009), Heckman (2000; 2004), Carneiro and Heckman (2003), Doyle et al. (2009). Within the public policy literature, see also Morel et al. (2012), Vandenbroucke et al. (2011), and Vanhuysse (2008).

[44] See Carneiro and Heckman (2003: 90), who argue that human capital deficits do not arise primarily from parental credit constraints at the time of children's adolescence, but rather

from inadequate learning environments in the family during early childhood (see also Esping-Andersen 2008, 2009).

45 In an interesting parallel, Meirick and Wackman (2004) show that children exposed to political information campaigns at school subsequently demonstrate better political knowledge, and that the relative knowledge gap between richer and poorer children was reduced as a result. That is, those children who were furthest removed from political participation actually gained most.

46 In demography, an early proposal is Demeny (1986); see also Sanderson and Scherbov (2007) and Demeny (2012). In social and political theory, see especially Van Parijs (1998; 2011) and Hinrichs (2002). On political attempts to implement this idea in Germany, see Deutsche Welle (2008c); for an insightful analysis of its electoral consequences see Goerres and Tiemann (2009).

47 This discussion admittedly begs the deeper political economy question of why and how proxy votes would be granted in the first place. On the political processes behind historical suffrage extensions and the latter's consequences for subsequent political dynamics, see Przeworski (2009a).

48 For a discussion of a different idea that is much harder to defend in our view – children as voters directly – see Rehfeld (2011), Lau (2012). On children's democratic competence, see footnote 45.

49 Folbre (1994: 86) furthermore argues that "individuals who devote relatively little time or energy to child-rearing are free-riding on parental labor." See also Fuchs and Reklis (1992), Folbre (2008). In this context, it is interesting to note that in Germany today, childless people are required to pay an additional 0.25% of gross wages as an obligatory contribution to long-term care insurance (Davor Dominkus, personal communication).

50 See Goldstein et al. (2004) and Lutz et al. (2006), who suggest a number of social mechanisms explaining why societies experiencing an initial low-fertility shock may over time stay trapped in a low-fertility course. Young cohorts growing up in social environments with small core and extended families are likely to adjust their own norms of ideal family size downward, thereby perpetuating low fertility in society. For sociological treatments of changing family norms, see Esping-Andersen (2009), Kotkin et al. (2012), Coleman (1993).

51 Sanderson and Scherbov (2007: 548) redefine the voting age population after introduction of proxy votes for children as "the population at or above the legal minimum age for voting weighted by the factor one plus the number of children in each person's custody. For simplicity, we can think of women voting for all their underage female children and men for their underage male children."

52 Note, however, that combining two sensible if difficult reforms – proxy votes and a 50-50 split of life expectancy gains among between longer working lives and longer pension lives –

would reduce the expected population share of pensioners significantly more: respectively by 10, 11.5, and 13 percentage points (Sanderson and Scherbov 2007: 546, 549).

[53] Historically, secular increases in overall electoral participation rates have been largely due to suffrage extensions (new electors) rather than to increased actual turnout among already eligible voters (Przeworski 2009b). Proxy votes for children constitute an interesting mixture: they essentially extend suffrage, but they do so by allocating extra votes to already eligible voters, on behalf of future electors. On young-old participation gaps, see Goerres (2009); on proxy votes' consequences for electoral choices, see Goerres and Tiemann (2009).

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