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Economics and governance for sustainability

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Guest editors' introduction
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Sustainable development is a concept and a broad umbrella of goals, policies and policy tools with which to address the key challenges of our time in a coherent, holistic way. It is about balancing the environmental, social and economic dimensions of our societies: planet, people and prosperity. The United Nations 2030 Agenda with its seventeen Sustainable Development Goals (SDGs) is conceived as a “meta-policy” to guide decisions of governments, business and civil society in all 193 UN member states.

Implementation of the SDGs is all about governance. It is about how the goals are achieved, considering how countries differ in terms of political and administrative traditions, values and mind-sets. Such a meta-policy deserves meta-governance: it requires the taking of a birds’-eye perspective on the different governance styles – usually characterised as hierarchical, network and market governance – and their combinations (Meuleman, 2018).

In each of the main three dimensions of sustainable development (environment, social, economic) there are debates about the “best” approach to the achievement of sustainability. Environmentalists may prefer hierarchical tools such as laws and standards; social scientists may seek solutions in the “network society”, while economists tend to favour market mechanisms and see the degree of government intervention as a key variable.

Economic theory and practice applied to sustainable development is currently a dynamic area, with a range of – typically conflicting – beliefs, theories and practices. At the same time, a “green” or sustainable economy is becoming a political and economic reality. Frictions between theory and practice, and among different schools of thinking are becoming more visible: no longer can academic economists “hide” within their own schools.

It is therefore time to take stock: what are currently the most salient developments in theory and practice? How can we interpret the long-standing discussions on growth and how to measure it “beyond GDP”, which go back at least fifty years? In the summary of US Senator Robert F. Kennedy at the University of Kansas on March 18, 1968 “Gross National Product counts air pollution and cigarette advertising, and ambulances to clear our highways of carnage. It counts special locks for our doors and the jails for the people who break them. It counts the destruction of the redwood and the loss of our natural wonder in chaotic sprawl. (...) Yet the gross national product does not allow for the health of our children, the quality of their education or the joy of their play. (...) It measures neither our wit nor our courage, neither our wisdom nor our learning, neither our compassion nor our devotion to our country, *it measures everything in short, except that which makes life worthwhile*”.¹

¹ <https://www.theguardian.com/news/datablog/2012/may/24/robert-kennedy-gdp>

Which revisions of economic systems do we need for the 21st century considering “the growth of (planetary) limits” and the need to serve sustainability? What are the debates, opportunities and obstacles in the increasingly popular approaches to sustainable finance and sustainable budgeting? And what about access to financial services and institutions? What new thinking appears to deliver practicable guidance for public sector economics, in various contexts?

In this special issue of Public Sector Economics we present some theoretical, empirical and policy-oriented contributions analysing the state of play of economic theory and practice of sustainable development, with a view to its contributing to the governance of the SDGs. Although it does not cover all the discussions, the articles in the issue do provide very relevant contributions to the debate.

TEACHING THE SILOS TO DANCE?

When we look at the media and politics, natural sciences dominate the perspective. They provide facts and projections about climate change, depletion of natural resources, and about the impacts of economic and social life on the physical world in which we live. They can inform us about limits, tipping points and preconditions, and can provide technical solutions and opportunities. Social sciences deal with human behaviour and can provide ideas about how technical solutions might be implemented. Natural and social sciences operate in quite strict silos and lack a common understanding. The economic discipline is a basket of silos on its own, rather separated from the other social sciences. In a time where climate change is a crucial but not the only huge challenge people around the world are facing, one would hope that the academic silos would learn to communicate with each other – or as we have framed it earlier, would be taught to ‘dance’ (Niestroy and Meuleman, 2016). One step beyond that is to incorporate non-academic knowledge: moving from inter- via multi- to trans-disciplinary research (see e.g. Bunders et al., 2010). The articles in this issue are transdisciplinary in the sense that they refer to both ‘white’ (academic, peer-reviewed) and ‘grey’ literature sources (e.g. governmental or other non-academic publications) and consider them both relevant.

FROM BARRIERS TO OPPORTUNITIES

Resource efficiency, a key dimension of the transition to the circular economy, is a good example of an economic concept that is integrated in a joint green economy policy framework. *Florian Flachenecker and Jun Rentschler* provide evidence on the complex incentives, trade-offs, and challenges associated with the economics and politics of resource efficiency investments, especially in light of the SDGs and the Paris Climate Agreement, which were both adopted in 2015. They examine the role of resource efficiency in reconciling environmental and economic objectives, making particular reference to the investment barriers and transitional implications of moving economies towards more circular and resource efficient pathways. They provide a policy-oriented guide and toolbox to help overcome barriers, unlock the economic potential of resource efficiency, and highlight the challenges associated with resource transition. They also highlight

the crucial role that can play, especially in developing and emerging economies and in multilateral development, in resolving information barriers, facilitating technology transfer, mitigating financing constraints, and thus encouraging first movers. Governments are crucial actors but need financial institutions to accelerate policy implementation.

WINNERS AND LOSERS – AND HOW TO COMPENSATE FOR LOSSES

In many countries there is political willingness to engage with sustainability transitions, with dedicated governance frameworks to guide the processes of change. In the communication around these transitions we tend to showcase the winners of the transition. Most governance literature points at mutual gains negotiation methods to prevent the emergence of losers and create ‘win-win’ package deals. In his article, *David Horan* presents a different – and less researched – approach, namely (economic) compensation strategies. Drawing on the political economy literature of reform in transition economies, he proposes three compensation strategies to buy out or weaken the opposition of strategic losers to the implementation of new governance frameworks for SDG transformation: big bang, optimal sequencing and divide-and-rule governance reforms. This can help to frame discussions around the political feasibility of new governance frameworks for SDG transformations. The author suggests that careful consideration needs to be given to the design of these compensation packages, since history tells us that buying acceptance for reform can involve not just variation in economic outcomes, it can also have long-term political implications and distributional effects.

SUSTAINABILITY AND THE DISBALANCE BETWEEN EFFICIENCY AND SUFFICIENCY

Rudi Kurz criticises the current political focus on eco-efficiency because it brings about rebound effects that can annihilate the positive effects. He advocates a new balance between eco-efficiency and sufficiency. He argues that all strategies for sustainable development follow the two basic options of efficiency and sufficiency. Eco-efficiency (less environmental impact per unit of GDP) still plays the most important role and has the potential to delink economic growth and environmental impacts. Growth could continue (green growth). However, no efficiency revolution has materialized yet; one reason is rebound effects. Therefore, more emphasis on the sufficiency option is necessary, restricting the volume of output. Consumption patterns and lifestyles have to change, economic growth has to end. There are much more significant consequences for the transformation of economies and societies than those of the “conventional” efficiency option. Governments have to end growth policies and replace them by sufficiency policies. Only with policy concepts that integrate efficiency and sufficiency components is there a chance of fulfilling the environmental SDGs – which are fundamental to many other SDGs.

SDG BUDGETING

Elisabeth Hege, Laura Brimont and Félicien Pagnon explore the use and added value of integrating the SDGs and indicators in budgeting processes. Several

countries have announced in their Voluntary National Reporting (VNRs) at the UN their intention to use the SDGs in their budgetary processes, but few have specified why it would be relevant to do so, or how it could be operationalized. Based on nine case studies conducted through interviews, it was found that SDG budgeting is still in its infancy. Nevertheless, four ways could be identified in which countries are starting to integrate the SDGs into budgeting processes. Most of the studied countries either map their budgets against the SDGs or include qualitative reporting in their main budget document. Less often, countries use the SDGs to improve their budget performance evaluation system, or use them as a management tool for resource allocation. Most of the countries follow a technical approach. Only rarely are the SDGs used politically or referenced in the budgetary debate.

INNOVATION FOR FINANCIAL INCLUSION

Luigi Ferrata analyzes the relation between the UN Agenda 2030 and finance. Although none of the goals of that Agenda is dedicated to finance, can the use of financial instruments play a role in achieving some of the SDGs? Can financial instruments contribute to the reduction of hunger and poverty, to ensuring healthy lives, gender equality, decent jobs and growth of micro, small and medium-sized enterprises (MSMEs), reducing inequalities, enhancing the fight against corruption and increasing the mobilization of additional financial resources? This article highlights how financial inclusion, i.e. the access to financial services, allows the economically weakest to contribute to the achievement of the SDGs and to improve their life conditions. Evidence from the UNSGSA (2018) report on integrating SDG progress through digital financial inclusion shows that digital finance is the key, which can help in boosting financial inclusion.

Decision-makers have to implement measures to speed up digital financial inclusion like creating effective consumers' protection systems, reducing physical and technological barriers, increasing the financial knowledge of the less educated and developing reliable and secure technical infrastructures. Financial operators have to learn more about potential users like women, farmers and small entrepreneurs in order to propose products and services based on their real needs.

FISCAL AND FINANCIAL REFORM FOR SUSTAINABILITY IN THE ARAB REGION

In the last article of this issue, several governance and financial challenges of the implementation of the SDGs come together in a critical study of the political and institutional coherence, compatibility, and contextualisation of Agenda 2030 in the Arab region. *Lamia Moubayed Bissat and Carl Rihan* address the deficiencies in the contextualization of the Agenda for the Arab region and link them to the specific context. Drawing on recent research, the authors argue that the region's political and institutional context is one of peacebuilding and resilience-building and propose a corresponding SDGs implementation framework. Drawing on the Addis Ababa Action Areas, the article then explores the capacity of the region to address such priorities by studying the financing aspect of policymaking. Arguing

that domestic resources mobilization, the most potent means of policy implementation, is crippled by two underlying factors, political exclusiveness and institutional inefficiency, the authors conclude with a “roadmap” for improvements in the contextualization of Agenda 2030 by focusing on fiscal and financial reform and on the curbing of illicit financial flows on one hand, and de-escalation and institutional peacebuilding on the other.

CONCLUSIONS

From a public governance point of view, one of the most interesting insights that can be drawn from the collection of articles in this issue is that taking the perspective of economics can bring about analyses and recommendations that are traditionally neglected by those who study the processes of policy making and policy implementation (i.e. political science). This shows, again, the need for social scientists to work closer together across academic disciplines.

A second conclusion is that the findings presented in the articles in this issue support the assumption that context matters – not only in sustainability governance but also in economic governance. There are no one-size-fits-all solutions. Each country must follow its own path, building on its own governance structures, political, economic and social realities, local strengths and unique needs, while reforms that consider meta-governance, i.e., governance of different governance styles, are important as they are more likely to be contextual (CEPA, 2019). The consequence of this is that analysis of the (national, local) governance context (see e.g. Niestroy et al., 2019 for the institutional context of SDG implementation in EU countries) is a precondition for effective governance.

Ultimately, we are pleased that we have tried to connect the silos of public governance and economics in a special issue of this Journal. We hope that the six articles will increase the appetite for such cross-fertilization.

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From barriers to opportunities: Enabling investments in resource efficiency for sustainable development

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Article**

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Abstract

Increasing investments in resource efficiency is considered essential for transitioning towards a sustainable model of economic growth. This article presents evidence on the complex incentives, trade-offs, and challenges associated with the economics and politics of resource efficiency investments, especially in light of the Sustainable Development Goals and the Paris Climate Agreement. By synthesising and evaluating a wide range of empirical evidence, practitioners' insights, and policy perspectives, this article carefully examines the role of resource efficiency in reconciling environmental and economic objectives. It makes particular reference to the investment barriers and transitional implications of moving economies towards more circular and resource efficient pathways. In doing so, it provides a policy-oriented guide and toolbox to help overcome barriers, unlock the economic potential of resource efficiency, and highlight the challenges associated with the resource transition. Overall, this article brings together evidence, aiming to further develop and propose new strategies for improving the efficient use of natural resources to advance the sustainable development agenda.

Keywords: resource efficiency, sustainable development, investments, circular economy, eco-innovation

1 INTRODUCTION

The concept of resource efficiency – paraphrased as *doing more with less* – is receiving increasing attention by researchers, policy makers, the private sector, and the broader public (Bleischwitz et al., 2018). This augmented interest in efficiency increases is not least due to increasingly volatile resource prices, uncertain supply prospects, attempts to revitalise industrial production, and concerns over environmental pressures associated with the use of natural resources. Also related to strategic concerns regarding resource nationalism, scarcity and supply restrictions of critical raw materials with the potential to severely disrupt global value chains, resource efficiency is seen as a viable approach to combining economic objectives, such as competitiveness, employment and productivity growth, with environmental ones, including achieving the pledges made under the Paris Climate Agreement and the Sustainable Development Goals (SDGs).

With a view to implementing the *resource transition* in practice, i.e. the move towards greater resource efficiency and circularity (Flachenecker and Rentschler, 2018), targeted investments are considered to be a key tool for improving resource efficiency in order to address the aforementioned challenges, while delivering multiple economic and environmental benefits (Peake and Ekins, 2016). In recent years, numerous policy initiatives have highlighted the important role of resource efficiency in national and international agendas:

- The SDGs, in particular SDG 8, to achieve sustainable economic growth, and SDG 12, to ensure sustainable consumption and production patterns. For both SDGs, resource efficiency (or more precisely material productivity) is an indicator to monitor progress;

- the G7 Alliance for Resource Efficiency and the G20 Resource Efficiency Dialogue;
- the European Union (EU) Roadmap to a Resource Efficient Europe, Raw Materials Initiative, Circular Economy Action Plan, Reflection Paper Towards a Sustainable Europe by 2030, and the recently announced European Green Deal as part of the Political Guidelines for the 2019-2024 European Commission (EC, 2008; 2011; 2015; 2019; von der Leyen, 2019);
- the work of the Organisation for Economic Co-operation and Development (OECD) on resource efficiency, green growth, environmental-economic accounting, and sustainable finance (OECD, 2016; 2017a; 2017b; 2019);
- international financial institutions that provide substantial funding for resource efficiency projects include the European Investment Bank (EIB), the European Bank for Reconstruction and Development (EBRD), and the International Finance Corporation of the World Bank (IFC) (EBRD, 2015; EIB, 2015; IFC, 2011);
- the United Nations have established the International Resource Panel (IRP), a dedicated commission of experts on the issue (UNEP IRP; 2014; 2016; 2017).

All these initiatives are underpinned by national, regional, and local efforts to scale-up resource efficiency investments to divert wastage back into value chains (Bahn-Walkowiak and Steger, 2015). However, despite such high-level efforts to mainstream the resource efficiency agenda, policy measures still lack a coherent, systematic approach and large-scale implementation; even frontrunners such as the EU have yet to deliver on their ambitious goals (Flachenecker, 2015).

Over the next years, technological shifts (e.g., new energy vehicles, renewable energy, 5G infrastructure) and the implementation of the SDGs are bound to increase the demand for certain material resources (Bleischwitz and Flachenecker, 2017). Despite existing evidence for the potential benefits of resource efficiency investments, the improvements have been falling short of expectations and the benefits have been lower than expected. For instance, Flachenecker, Rentschler and de Kleuver (2018) show that globally, resource efficiency has increased by only about 1% per annum over more than three decades. One central reason for this shortcoming has been that the challenges of wide-scale implementation have been underestimated, as firms and consumers were frequently unable or unwilling to invest in resource efficiency measures (Rentschler, Bleischwitz and Flachenecker, 2018). This raises the question of what has been missing in contemporary resource efficiency efforts to streamline and scale-up investments to make economies more resource efficient and environmental sustainable.

What becomes apparent from the ongoing policy discourse on resource efficiency is that the debate has focused predominantly on goals, and on the benefits of being more resource efficient – but not on how to actually achieve higher efficiency of resource use in practice. The debate focuses on policy and tends to neglect the

governance dimension; this includes the question about the kind of investments that are chosen to achieve the objectives. Evidence and insights from the academic literature, policy making, and the private sector indicate that resource efficiency investments are associated with multiple challenges. For instance, efficiency investments *per se* may not necessarily deliver positive net benefits, particularly when negative externalities and the cost of *inaction* are not accounted for in investment appraisals (Flachenecker, Bleischwitz and Rentschler, 2017). As Flachenecker and Kornejew (2019) show, benefits from resource efficiency investments for some firms, sectors or countries might come at the expense of others, thus reducing the economy-wide effects. Moreover, market barriers, failures and structural inefficiencies often prevent firms and individuals from implementing resource efficiency investments, thereby jeopardising the potential of moving towards resource efficient economies in the first place.

Against this backdrop, this article explores the decisive factors that determine the success of the *resource transition* and focuses in particular on resource efficiency investments. By critically reviewing the existing literature and synthesising evidence at the country and firm level, it examines how the potential of resource efficiency investments can be unlocked, and what resource efficiency can deliver and what it cannot. It also discusses how resource efficiency investments relate to two crucial and interrelated issues of our time – sustainable development and climate change. Accordingly, it identifies practical measures for overcoming existing barriers and creating incentives for promoting resource efficiency investments.

The article is structured as follows. Section 2 describes the concepts and trends in resource efficiency. Section 3 synthesises and evaluates the evidence on barriers, opportunities, and trade-offs, including the transitional effects of resource efficiency investments. Section 4 describes the role of investors and policy makers in implementing the resource efficiency agenda by analysing their insights in practice. Section 5 indicates existing research gaps, and Section 6 concludes.

2 CONCEPTS AND TRENDS IN RESOURCE EFFICIENCY

While improved resource efficiency is a frequently stated objective, general policy discourse does not always reflect a thorough understanding of the specific indicators and policy implications involved. Van Ewijk (2018) introduces resource efficiency by clarifying its concepts, definitions, possibilities, and limitations. The author argues that resource efficiency, and the related concept of the circular economy, are perspectives on the relation between the economy and the natural environment. A conceptual map of resource efficiency describes its main components and clarifies its main purpose: to minimise material inputs, maximise economic outputs, and respect the limits of the environment. The contribution also discusses the linkages between resource use and the economy, and contrasts the economic view on efficiency with the engineering perspective. Finally, the environmental impacts of resources are discussed from a life-cycle perspective. Van Ewijk (2018) concludes by synthesising three major challenges for reconciling environmental

and economic goals: the lack of alignment between individual company performance and total life-cycle impacts, the environmental rebound effect, and physical limits to efficient and cyclical use of material resources.

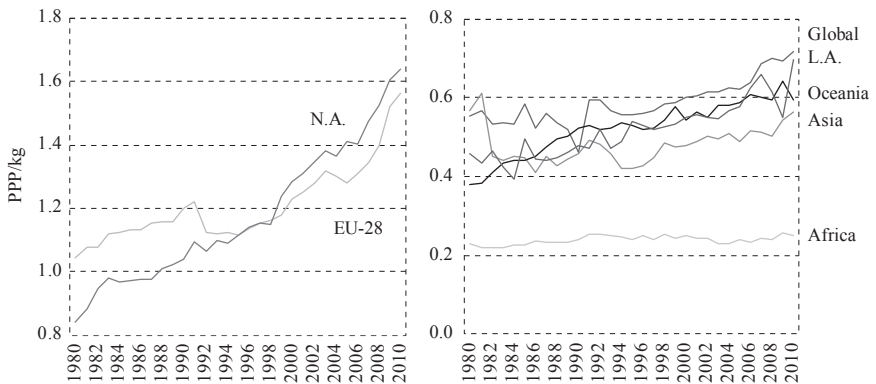
Indeed, these challenges are key to explaining the slow progress that countries have made in increasing resource efficiency – despite seemingly strong economic and environmental arguments, and ambitious policy goals. Flachenecker, Rentschler and de Kleuver (2018) demonstrate that monitoring resource efficiency developments is important for identifying efficiency shortfalls, assessing economy-wide effects of resource efficiency improvement potential, and building or maintaining political momentum. To this end, the authors offer an overview of existing indicators and data sources with which to measure resource use and resource efficiency.

Domestic material consumption (DMC) is one of the indicators most frequently used to monitor material resources and material productivity (often referred to as resource efficiency). DMC is part of the indicator set to monitor the SDGs, specifically SDGs 8.4 and 12.2. DMC comprises domestically extracted material resources, adds all imported material resources, and subtracts all exported material resources. Numerous heterogeneous materials are combined by using their weight as a common unit of account, which raises problematic issues; for instance, sand and gravel dominate the DMC indicator in most countries (Flachenecker, Rentschler and de Kleuver, 2018). Another limitation of DMC is that it does not consider the indirect material used that is embodied in, for instance, intermediate goods that are imported. DMC is ‘blind’ to *material leakage* – the process of offshoring production and importing intermediate or final goods leading to a lower *domestic material consumption* and *ceteris paribus* to higher resource efficiency (Wilts and Bleischwitz, 2012). The related yet more comprehensive indicator *raw material consumption* (RMC) partially accounts for this shortcoming, but access to data across country and industries, and over time, remains a bottleneck. This is also related to ongoing work on implementing an international consensus on the methodical underpinnings of the RMC indicator and the development of global databases (UNCEEA, 2018).

Flachenecker, Rentschler and de Kleuver (2018) offer an overview of historic trends in resource use, trade, prices, and efficiency from global and regional perspectives. The data on DMC illustrate that resource efficiency has increased over time, albeit slowly. Overall, an increasing efficiency trend is evident both globally and for all considered regional groupings mentioned below. At the global level, resource efficiency can be seen to have increased by 30% in the period from 1980 to 2010 – i.e., 30% fewer material resources are used to generate a unit of economic output. This global average means that on average, resource efficiency increases by about 0.9% per year. More recent calculations for 1970-2015 confirm the global efficiency growth level of about 1.1% per annum.

However, regional patterns are heterogeneous. Over the same period, resource efficiency has increased in Africa (8%), Oceania (56%), Europe (49%; EU-28), North America (95%; N.A.), and Latin America (52%; L.A.). The large increases in North America and Europe can be partly explained by offshoring material-intensive production and importing intermediate products, which do not reflect all embodied materials, thus artificially depicting large increases in material productivity. In Asia, resource efficiency has slightly decreased between 1980 and 2010 (-1%). This drop is mainly triggered by a significant fall in resource efficiency until the mid-1980s, which was predominantly due to a significant shift from agriculture-based economies to more resource intensive manufacturing.

FIGURE 1
Resource efficiency in different regions



Note: Computed as GDP/DMC, and measured in purchasing power parity in USD per kilogramme of material use.

Sources: (Flachenecker, Rentschler and de Kleuver, 2018; SERI, 2013).

Nevertheless, it is important to note that the observed efficiency increases do not at all offset the increase in absolute material resource use, which more than doubled between 1970 and 2017. More specifically, since the late 1990s, mineral resources have accounted for the biggest share in DMC – approximately 44% in 2010. Minerals (and to a lesser extent fossil fuels) are the key driver of the rapid growth in DMC – mineral usage nearly tripled in the considered time frame, in particular the use of sand and gravel, which is used in construction. Thus, the relatively low levels of resource efficiency increases are to a large extent due to the infrastructure boom in Asia, especially in China. In short, the observed efficiency improvements have not resulted in a decrease of resource use in absolute terms, thus indicating that the environmental pressures associated with an increase in material resource use in absolute terms are likely to have intensified as well (UNEP IRP, 2010).

3 PREREQUISITES FOR TAKING ACTION: UNDERSTANDING THE BARRIERS, OPPORTUNITIES, AND TRADE-OFFS OF RESOURCE EFFICIENCY

3.1 TO MAKE PROGRESS, FIRST IDENTIFY BARRIERS OBSTRUCTING ACTION

Resource efficiency is a policy objective with the potential of delivering a *double dividend*, yielding both economic and environmental benefits. Yet, slow progress in increasing resource efficiency highlights that economic actors face significant barriers that prevent the investments that are needed for rapid progress. Indeed, the relatively slow adoption of cost-effective technologies – such as building insulation or LED lighting – demonstrates that investments may fail to materialise even when cost-benefit analyses and appraisals of investments in resource efficiency conclude positive net benefits. To understand and categorise these barriers Rentschler, Bleischwitz and Flachenecker (2018) refer to the two Fundamental Theorems of Welfare Economics: The First Fundamental Welfare Theorem suggests perfectly competitive markets as a hypothetical benchmark for investigating the efficiency of actual market outcomes. Such perfectly competitive markets are based on several assumptions, including perfect information, no oligo- or monopolies, no barriers to market entry (or exit), perfect factor mobility, zero transaction costs, and absence of externalities (Varian, 2010).

The violation of any of these assumptions leads to market failures, including information bias, externalities, moral hazard, among others, which create inefficiencies and waste of productive inputs. Rentschler, Bleischwitz and Flachenecker (2018) show that, in practice, there are ubiquitous violations of these assumptions, and firms are faced by a range of market frictions and barriers, which prevent investments in efficiency and low-carbon technologies. For instance, information or capacity constraints can prevent firms from making informed decisions, accessing best available technologies, or operating and maintaining latest technology. Missing or inefficient markets (e.g., for credit) can constrain the implementation of efficiency-enhancing measures. Other missing markets (e.g., for carbon) can lead to severe externalities and excess waste. Large firms and protected industries face little competitive pressure to invest in efficiency gains, especially if protectionist trade policies are in place. This may also mean that the cost of inefficiency is simply passed on to consumers, while firms take no further efficiency-enhancing measures. It tends to be difficult and expensive to adjust physical production infrastructure to frequently changing market conditions, leading to long-term technology lock-in. Overall, these market frictions may mean that investments do not deliver the anticipated resource efficiency gains, or that investors are unable (or unwilling) to undertake them in the first place.

By providing evidence from a large number of countries and regions, Rentschler, Bleischwitz and Flachenecker (2018) demonstrate that resource markets are characterised by inefficiency: in many countries resource productivity remains low, and valuable resources are wasted despite the existence of cost-effective recycling

technologies. The authors show that the factors that cause and perpetuate such inefficiencies can be categorised in five main types (summarised in Table 1):

- i. information availability and access;
- ii. technical, managerial, and institutional capacity;
- iii. financial markets;
- iv. market structure and competition; and
- v. public policy and regulation of resource markets.

Each of these categories encompasses a range of complex challenges. For example, several types of information constraints can play a central role in causing inefficiencies and preventing investments: Inadequate monitoring of resource efficiency-related performance indicators at the firm level may make it difficult for firms to identify and address efficiency gaps. Lacking information disclosure on the part of firms makes it difficult for policy makers to design targeted policies and support mechanisms for improving resource efficiency at a wider scale. If firms cannot access relevant information on resource efficient technologies and processes, it is likely to impair their ability to implement effective resource efficiency projects.

Moreover, the different types of investment barriers are often interlinked and can reinforce each other. For instance, the lack of information can lead to an overly negative risk assessment of efficiency-enhancing investments, thus making access to credit even more difficult than it already is. To overcome the resulting financing constraints, public policy interventions and development financing can be crucial to showcase effective solutions and thus stimulate investments in resource efficiency. Section 4.1 provides specific case studies highlighting the aforementioned investment constraints.

In addition, systemic risks and uncertainty can prevent forward looking investment decisions and lead to policy myopia. While such uncertainty can materialise in different forms (e.g., commodity prices, macroeconomic fundamentals, or socio-political conditions), it commonly results in risk averseness and reduced planning horizons. For instance, increased volatility of resource prices increases the perceived uncertainty surrounding future price developments – this in turn can have a substantial impact on the payback periods of resource-related investments and thus lead to the postponement of investment decisions.

TABLE 1

Barriers to investments in resource efficiency

Investment barriers at the firm or government level	Information constraints	Capacity constraints	Financial constraints	Market structures	Fiscal mis-management
	Limited information on scale and type of inefficiencies (monitoring & disclosure)	Technical capacity Managerial capacity Institutional capacity	Uncertain payoffs hamper financing (e.g. due to lack of information)	Lack of competition Protected industries Trade protectionism	Subsidies incentivising inefficiency Lacking environmental regulation and enforcement (e.g. taxes & tariffs)
	Limited information on solutions (access & dissemination)	Lack of awareness & Individual biases	Non-monetary benefits not accounted for Inadequate credit markets Small scale of finance needed	Principal-agent problem	Other policy & regulatory barriers
Systemic risks & uncertainty	Commodity price volatility Economic, political and social stability Policy reliability	} Can exacerbate existing barriers			

Note: Underinvestment in resource efficiency can be due to various market or government failures. Barriers extend from the individual level, to firms and governments. Systemic risks and uncertainty do not necessarily cause inefficiency – but they may exacerbate the adverse effects of existing barriers.¹

Source: Rentschler, Bleischwitz and Flachenecker (2018).

In many cases the drivers of inefficiency can be traced back to market failures or inadequate public policy. Leading to distorted incentives, and perpetuating pre-existing inefficiencies, they can constitute substantial barriers to investments into resource efficiency – even if these investments are found to be cost-effective.

However, on the flipside, the Second Fundamental Welfare Theorem assigns an important role to market interventions (e.g., by governments), stating that they may improve *Pareto Efficiency* of a given economic allocation by redistributing resources. Especially, the interplay of multiple market inefficiencies and investment barriers means that policy measures need to be designed, not only to help investors cope and overcome these barriers, but also to address the systemic causes of market inefficiencies in the first place (UNEP IRP, 2017). In addition, a prerequisite for effective policy making is a thorough understanding of both the benefits and the potential costs and risks associated with investments in resource efficiency (Flachenecker, Bleischwitz and Rentschler, 2017).

¹ The analysis presented in this article builds on the framework presented in Chapter 2 of the World Development Report 2014 (The World Bank, 2013) and Hallegatte and Rentschler (2014).

3.2 TAKING EFFECTIVE ACTION REQUIRES UNDERSTANDING THE OPPORTUNITIES AND TRADE-OFFS

Even though increased resource efficiency is considered to yield multiple economic and environmental benefits once barriers do not materialise, it is only gradually increasing across regions, countries, and firms. To investigate the incentives and disincentives for firms to invest in resource efficiency, the literature often relies on cost-benefit analyses (CBAs). However, conventional CBAs predominantly consider primary financial implications of investments (i.e., the monetary costs incurred by firms), failing to account for the particular nature of resource efficiency investments.

To this end, Flachenecker, Bleischwitz and Rentschler (2018) introduces a comprehensive cost-benefit framework to assess *ex ante* the viability of investments in resource efficiency by not only taking financial costs and benefits into account, but to also by considering environmental, non-market, and secondary implications – which are often associated with externalities. The framework summarised in Table 2 is based on a synthesis of the existing academic literature and comprises several components of resource efficiency investments by

- i. comparing a business-as-usual scenario (i.e., maintaining the current rate of investments) with a scenario of scaling-up investments in resource efficiency (i.e., firms significantly increase their investments in efficiency improvements),
- ii. covering economic and environmental dimensions, due to data availability constraints often restricted to climate change mitigation aspects, and
- iii. considering primary and secondary effects (i.e., indirect or second round effects, multiplier, spill-overs, and co-benefits/co-costs).

TABLE 2

Primary and secondary costs and benefits from resource efficiency investments

Potential costs and benefits of investments in resource efficiency				
	Benefits		Costs	
	Environmental	Economic	Environmental	Economic
Business as usual		No initial (and follow-up) investments costs	Environmental pressures (negative externalities)	Firm level costs (e.g. exposure to volatility)
		Lower compliance costs of environmental regulation	Reduced human health and natural capital	Country level costs (e.g. import dependency)
				Lock-ins

Potential costs and benefits of investments in resource efficiency

	Benefits		Costs	
	Environmental	Economic	Environmental	Economic
Scaling up resource investments	Reduced environmental pressures (negative externalities) Reduced negative impacts on human health and natural capital	Hedging against material price volatility Improved firm and country level competitiveness Eco-innovation activity Reduced environmental and social liability (i.e. improved corporate image)	Positive relationship between the intensity of exploitation and environmental impacts Rebound effect	Initial investment and maintenance costs (incl. transaction costs) Opportunity costs

Note: The framework distinguishes between two scenarios (business-as-usual and scaling up resource efficiency investments) and two dimensions (environmental and economic).

Source: Flachenecker, Bleischwitz and Rentschler (2018).

As a case study, this framework is applied to a firm level investment project comprising a range of resource efficiency measures, including energy and material efficiency aspects, in particular measures that are linked to the production techniques of polyvinyl chloride (PVC) plastics. Flachenecker, Bleischwitz and Rentschler (2018) show that for this particular case study the CBA is significantly affected by internalising and monetising environmental externalities (even by applying *conservative* costs of climate-related damages (Clements et al., 2013)), taking into account the *cost of inaction* as an informative benchmark, and considering the time horizons of firms since the aforementioned resource efficiency investment project is more likely to result in positive net benefits the longer the planning horizon of the firm is.

In this context, Rentschler, Flachenecker and Kornejew (2018) show that a consistent and practical indicator can help to assess the carbon emission savings of resource efficiency investments, and translate them into monetary savings. This can help firms to identify and prioritise projects, and benchmark their greenhouse gas (GHG) emission savings vis-à-vis other projects and the national emission reduction pathways. Such consistent accounting of corporate emission savings can also help governments to monitor progress towards national efficiency targets or international commitments.

After having considered resource efficiency investments from an *ex ante* perspective, the *ex post* view of the effects of resource efficiency investments is equally important from an economic and political perspective. In this context, *ex post* analyses also provide information on the incentive structure of actors that are considering undertaking resource efficiency investments *ex ante*.

The focus here will be the effects of resource efficiency on competitiveness and GHG emissions, given that these are two key policy targets of the resource efficiency agenda (Rosenstock and Flachenecker, 2018). As previously mentioned, the majority of the academic studies investigating these linkages suggest that increasing resource efficiency improves competitiveness as well as supports climate change mitigation efforts (Bassi, Tan and Mbi, 2012; Bleischwitz et al., 2007; Bleischwitz and Steger, 2009; Distelkamp, Meyer and Meyer, 2010; Gilbert et al., 2016; Meyer, Meyer and Distelkamp, 2011; Sakamoto and Managi, 2017; Schröter, Lerch and Jäger, 2011; Walz, 2011).

Flachenecker (2018) critically reviews the existing evidence base on the effects of resource efficiency on firm and country level competitiveness as well as GHG emissions. While the understanding of the effects of resource efficiency on competitiveness and climate change mitigation is growing, there are two prevalent shortcomings in the current evidence base. First, most investigations draw strong conclusions based on case studies, thus limiting the external validity of the findings. Second, studies across firms, sectors, and countries often face methodological problems, including the problematic issue of reverse causality (i.e., it is difficult to isolate whether resource efficiency is the cause and/or the consequence of increased competitiveness). Both issues can severely limit the external and internal validity of the results, in particular since reverse causality can result in biased and inconsistent estimates (Angrist and Pischke, 2009).

The concept of competitiveness is another point of scrutiny since in the policy debates it is often merely used in the context of *price competitiveness* measured by standard cost and trade indicators, including unit labour costs, the real effective exchange rate, interest rates, and the current account (Siggel, 2006). However, Porter (1990) argues that such measures focusing on costs are insufficient to explain a competitive advantage. For instance, a fall in wages or the exchange rate does not make a country more competitive if one considers that competitiveness follows a much broader definition aiming to raise the standard of living (Snowdon and Stonehouse, 2006). Aiginger (2006) suggests that *price competitiveness* is a useful measure within the framework of perfectly competitive markets and in developing economies since they often tend to compete in a homogeneous goods market, but it is less useful in imperfect markets and developed economies, as they typically compete in innovations, qualities as well as environmentally sustainable and socially inclusive growth (Rozmahel, Grochová and Litzman, 2014).² Hence, price measures are a relevant factor in determining competitiveness that is, however, by itself insufficient and potentially misleading without being complemented by non-price indicators reflecting welfare creation and its distribution

² This has previously been discussed in the literature as the *Kaldor paradox* which originates from relative unit labour costs being positively correlated with the relative market share of manufacturing exports (Kaldor, 1978). Hence, Kaldor (1978) questioned “the relative importance of price (or cost?) competition, as against other ‘non-price’ factors, such as superiority of design or quality, length and reliability of delivery dates, after-sales service, etc.”

(Aiginger, 2006; Lehner, Bierter Charles, 1999; Reinert, 1995; Salvatore, 2010; Snowden & Stonehouse, 2006; Voinescu and Moisoiu, 2015).

Furthermore, Flachenecker (2018) provides empirical evidence on the causal link between resource efficiency and competitiveness as well as GHG emissions for EU countries. Since higher resource efficiency can be a consequence of high competitiveness – and vice versa – the author applies an instrumental variable approach to assess the direction of causality. Both macroeconomic and firm-level data are used to assess the effects of resource efficiency at the country, sector, and firm levels. An indicator set is used to approximate competitiveness on the macroeconomic level, while the market share growth rate approximates competitiveness at the firm level. The results suggest that there is no robust effect of resource efficiency at the country level for most competitiveness indicators, except for wage growth (and to a lesser extent the current account). This suggests that employees might be compensated beyond their labour productivity increase, as part of the resource productivity increase is also passed on to them. At the firm level, however, the results indicate that firms for which the availability of public finance is the main motivation for eco-innovation have a 27% higher likelihood of improving their resource efficiency. The estimations also provide evidence that increasing resource efficiency causes firm-level competitiveness (i.e., market share growth) to increase by around 12%. The results also show that the probability of reducing GHG emissions for the average firm increases by around 34% as a result of an increase in resource efficiency.

These empirical findings provide evidence that resource efficiency at the firm level not only improves the competitiveness of firms but also contributes to mitigating climate change. However, the results are heterogeneously distributed across firms, sectors and countries. A further breakdown reveals that certain countries, such as Estonia, Italy, Portugal, and Romania, benefit from resource efficiency improvements, while others do not. Regarding sectors, it becomes apparent that certain material-intensive sectors are more likely to benefit (e.g., waste management, manufacturing of basic metals, wood, and paper).

Therefore, this section draws conclusions on the opportunities and trade-offs of resource efficiency investments with a detailed view on their effects on competitiveness and climate change mitigation. In particular, it is essential to better understand potential trade-offs between firms, sectors, regions, and countries, thus identifying the *winners* and *losers* in advancing the economy to a more resource efficient path. Such trade-offs may arise even though CBAs are positive for individual firms and investment barriers do not hinder investments from taking place. Crucially, an important policy insight can be distilled from these results: investments in eco-innovations incentivised by public finance can support certain firms in capturing the benefits from resource efficiency improvements, but the *resource transition* is likely to have adverse effects on other economic actors, which need to be monitored and mitigated to ensure political support of further pursuing the resource efficiency agenda for sustainable development.

4 HOW INSTITUTIONAL INVESTORS AND GOVERNMENTS CAN OVERCOME OBSTACLES TO ENABLE RESOURCE EFFICIENCY INVESTMENTS

4.1 FINANCING EFFICIENCY: THE ROLE OF DEVELOPMENT BANKS AND INSTITUTIONAL INVESTORS

As Section 3.1 has argued, inefficient resource use is entrenched by a range of mutually reinforcing investment barriers. Together these barriers can form an inefficient equilibrium or lock-in situation in which local actors – including firms and banks – lack the information, capacity, financing, or incentives to invest in costly resource efficiency measures. For instance, without a first mover investor that adopts modern more efficient technologies, other firms will not be incentivised to follow, and banks may be unwilling to offer financing for *unknown* technologies and project proposals without a proven local track record (Rentschler, 2018). Information barriers may mean that international experience does not translate into local confidence. In this context, external actors and investors – such as multilateral development banks (MDBs) – can play a key role in breaking the lock-in by investing in first movers and thus demonstrating the commercial viability of resource efficiency investments to the wider market. Goovaerts and Verbeek (2018) and Jollands and Hirsch (2018) offer an insight into the rationale of such MDBs with recent examples from the EIB and EBRD, respectively.

Drawing on experience in practice, Goovaerts and Verbeek (2018) identify four challenges from an investor's perspective to the financing of resource efficiency and circular investment projects. First, technological and operational innovation risks often restrict the resource efficiency and circular economy business models to be financed. The issue at stake here is that such business models are often characterised by significant technological and operational risk. In the case of process-related risks, some processes are based on specific inputs and would not be guaranteed in case of a modification of the feedstock. New technologies have by definition no performance track record and hence entail ramp-up/implementation risks, to which one can add the related uncertainty about operational costs. Many circular projects based on non-technological innovation will likely be less replicable compared to their conventional innovation counterparts, because they may concern different transition styles, forms of innovation, markets, industries, types of companies involved in industrial symbioses, etc. As a result, one would have to wait until several similar projects are implemented before being able to draw conclusions and apply them with respect to other projects appraisals.

Second, collaborative value chain risks are obstacles to investments, but resource efficiency will increasingly require a shift from traditional, linear value chains towards collaborative value networks. For instance, a manufacturer of a recyclable product may not be best positioned to process the return and disassembly of goods. In order to take advantage of the identified opportunity while lacking the required in-house technical or financial capacity, the manufacturer may seek to extend the boundaries of its value chain by entering into a collaborative business relation with a third party who can deliver this activity as a service. However, such collabora-

tions come with the risk of reducing one's flexibility to make changes in firms' own operations, particularly because such a circular value network will be formed according to the long-term prospects of cooperation. Any loss of flexibility needs to be compensated through the advantages of the collaborative model, such as long and secure business relationships with the relevant partners in the value chain.

Third, resource efficiency investments entail balance sheet implications. In service-based models, the producer remains the owner of its material resources or products for a number of years, enabling easier return, refurbishment, remanufacturing, and reuse. In the circular economy context, it can start to be applied to new asset classes, like lower value consumer products with shorter life (low capital assets). These services or leasing based set-ups usually require substantial upfront investment costs. Securing financing becomes a critical issue, particularly for small companies with no or little revenue who want to rent-out or lease low capital assets. Additionally, products that otherwise would have been sold would, in principle, remain on the company's balance sheet. In most cases, such an increase in the size of the operating assets also leads to a decrease of the average liquidity of the company's overall assets, potentially leading to higher cost of capital (Ortiz-Molina and Phillips, 2010).

Fourth, cash flow considerations can also impede investors in pursuing resource efficiency investments. In a circular economy, the end-user is less likely to be the end-buyer or ultimate owner which results in completely different cash flow models. In traditional supply chains, products pass from one seller to a buyer through a succession of purchases. In a circular economy, the flow of cash may resemble more that of a lease or rental contract, which results in high upfront costs and small paybacks over longer time periods. Potential upsides consist in an increase in the client base and more stable and predictable revenues in the longer term. This of course depends on and can be influenced by the customers' contracts. Therefore, the volume and diversity of the customer portfolio and the diversity of obligations, and related client and legal risks need to be factored in when assessing the riskiness of the model.

While such factors can deter investors from financing resource efficiency, Goovaerts and Verbeek (2018) conclude that banks and other financial institutions can make an important contribution to the transition towards a circular economy, especially because the linear economy entails market risks (price volatility, depletion), operational risks (lack of resilient value chains), business risks (failure to take advantage of business opportunities), legal risks (polluter pays principle) and reputational risks (credit ratings). In Table 3, the authors provide further details on the types of instruments financial institutions can apply to finance resource efficiency. The first column refers to type of financial actor, and the second and third column provide further details on the kind of products available and the way these could support financing circular projects. In practice, a combination of these instruments is applied to tailor the financing needs to the individual investment projects.

TABLE 3

Supply and demand for financing circular business models

	Corporate debt	Traditional corporate lending to finance circular businesses with guarantees at corporate level.
	Lease	Can fit pay per use earning models. Applicable to clients that are creditworthy and products with predictable residual values in second hand markets.
Bank finance	Factoring & supply chain finance	Can solve the pre-financing issue of pay per use earning models by selling uncertain future cash flows to a financial institution.
	Structured finance	Can be a financing option for large stand-alone circular projects.
	Balance sheet reduction through off balance finance	Can solve the issue of balance sheet extension.
Capital markets	Equity finance: initial public offering	Valuable sources of finance for mostly larger and mature circular businesses that meet the scale and requirements of the capital markets.
	Debt finance: Green bonds	
Impacts investors		Most circular businesses are still at their pilot stage, are not profitable yet, or are lacking a track record. Non-commercial finance can bridge the gap from pilot stage to growth stage, as they have a longer-term view, more 'patient' investors, and have a risk/return that is less linked.
Venture capital, private equity, family offices		Finance source for the many start-up businesses in the circular economy. However, their requirement for high growth and relatively fast payback horizons might limit suitability for circular businesses.
Near banks like Google, Apple, Amazon etc.		Offer new payment facilities and possibly working capital solutions.
Crowdfunding	Peer2Peer lending	Finance source for circular businesses that involve the (local) community or those based upon ideas that appeal to the crowd.
	Equity investment	

Source: (Goovaerts and Verbeek, 2018).

Goovaerts and Verbeek (2018) conclude that to support projects with a positive economic and societal rate of return that are not privately financed (e.g., due to market failures), carefully calibrated public support can provide bridge capital, thereby reducing risks for private investors and lower the associated interest rate costs for the lenders. The aim of these interventions is to foster catalytic effects on potential co-investors and attract more funding to projects of high value added. In this context, innovative public-private risk sharing instruments, or blending of public and private sources of funding, thus going beyond traditional grants, are important to leverage on circular investments. Through the support of the public side, the

private investor could provide advantageous debt finance by accepting higher risk profiles or less collateral, or by charging lower interest rates or providing similar advantages compared to their ordinary financing activities. To limit the public exposure to risk, a contractually agreed cap on portfolio losses could be applied.

Jollands and Hirsch (2018) provide a perspective from EBRD by showcasing investment strategies and practical examples of investments that deliver improved resource efficiency, especially at the firm level. The authors provide insights into and understanding of what is required, by businesses and banks, to improve resource efficiency in firms around the world. The authors argue that a mix of financial support measures (e.g., credit line technology selector, engaging local banks) and on the ground policy improvements (e.g., minimum energy efficiency labels, training and capacity, waste tariff reform) would support the further uptake of resource efficiency investments. With a focus on financial infrastructure and project finance, the authors conclude that it is important to create an environment in which businesses are incentivised to invest in resource efficiency projects. The role of MDBs in enabling resource efficiency investments is particularly crucial since it can showcase the financial and environmental viability of resource efficiency projects, especially in developing or emerging economies.

4.2 POLICY MEASURES FOR ENHANCING RESOURCE EFFICIENCY

Overall, the insights presented in this article suggest that even when investment projects are implemented and resource efficiency is increased successfully, this does not guarantee the full realisation of economic and environmental benefits. As argued in Hughes and Ekins (2018), integrated policy and regulatory strategies are needed that go beyond a focus on investments, and align resource efficiency objectives with the wider sustainable development, climate change mitigation, and circular economy agendas. The authors show that a tailored combination of policy measures is needed, comprising the following aspects:

- i. Addressing the lack of information or imperfect information through information policies (e.g., energy efficiency labelling);
- ii. Addressing financial risk by creating more favourable conditions for long term investment (e.g., through MDBs);
- iii. Addressing the hidden costs which impede identification of cross-firm synergies, by establishing knowledge transfer networks and industrial symbiosis programmes (e.g., the industrial symbiosis component of the Japanese Eco-Town Programme);
- iv. Addressing split incentives through regulation (e.g., extended producer responsibility schemes);
- v. Addressing the incomplete pricing of externalities through fiscal measures (e.g., landfill tax);
- vi. Addressing the lack of private sector investment in innovation due to risk perception, through public investment in R&D, creation of research clusters, and forward procurement (e.g., product specifications and green public procurement).

In this context, Rentschler, Bleischwitz, and Flachenecker (2018) also argue that the variety of investment barriers to improving efficiency suggests the need for a carefully designed package of complementary policy measures. Ambitious resource efficiency targets set by governments will require tailored measures that can help a firm quickly to overcome investment barriers. At the same time the market and government failures that led to investment barriers in the first place must also be addressed, as they will create new and perpetuate existing inefficiencies (Cagno et al., 2013; Sudhakara Reddy, 2013). This is important in order to achieve a larger scale enhancement of resource and energy efficiency, as well as to sustain efficiency gains and green development over time (Bleischwitz, 2012). Sorrell (2003) argue that carbon pricing can be at the heart of such a policy mix, though trade-offs due to policy interactions may exist. Fankhauser et al. (2011) also suggest that combining multiple climate policy instruments entails risks to efficiency – though they mainly focus on combining different carbon pricing instruments, rather than complementary policies more broadly.

Essentially, this prescribes two complementary policy approaches to tackling firms' investment barriers: (i) Addressing the immediate *Symptoms* of investment barriers, i.e., help firms to deal with and overcome the adverse effects of pre-existing investment barriers (e.g., supply specific technical information needed for increasing energy efficiency in a firm/sector); and (ii) addressing the underlying *Causes* of investment barriers, i.e., resolving the pre-existing market failures and structural inefficiencies that cause the barriers in the first place (e.g., fix overall information infrastructure and technology dissemination systems). These approaches are not mutually exclusive, and both need to be part of a comprehensive strategy for resource efficiency.

Policy measures for strengthening resource efficiency can broadly be distinguished into micro and macro level interventions: i.e. firm level measures, which support firms in overcoming the above-mentioned investment barriers, and more comprehensive macro level measures, which reform the structural deficiencies and inefficiencies of the overall system (see Table 4).

Micro level measures directly support specific firms with the implementation of efficiency projects, modernisation and green innovation – especially when firms may otherwise struggle to implement necessary changes. Such support comprises both technical assistance (especially for building capacity), as well as financial assistance, which can enable concrete efficiency-enhancing measures at the firm level in the presence of financial barriers (Anderson and Newell, 2004). The European Integrated Pollution Prevention and Control Bureau of the Joint Research Centre of the European Commission is one example for developing and reviewing best available techniques (BAT) reference documents that help reducing the information constraints of firms and industries by identifying and promoting BAT for resource efficiency for the energy industry, refineries, manufacturing of metals, waste treatment and incineration, and chemical production in Europe (European Commission, 2018b). Over-

all, micro level measures can be effective in facilitating quick efficiency gains in targeted industries, and may (eventually) lead to a bottom-up improvement of sector-wide environmental performance. Firm-level measures are however less suitable for resolving the structural causes of barriers to green investment.

Macro-level interventions should implement policy and regulatory reforms, which correct mis-aligned incentive structures, and improve the investment environment within which firms operate (Sudhakara Reddy, 2013). As at the firm level, macro measures comprise non-monetary and monetary ones, both of which are necessary to address the underlying causes of investment barriers.

TABLE 4
Policy measures and interventions

	Micro (i.e. firm) level		Macro level	
	Technical assistance	Project lending	Technical assistance & policy reform	Development lending
Addressing the symptoms of market distortions	Efficiency audits Identification of specific projects	Installation of cleaner production infrastructure Modernisation of production processes Retro-fitting	Building strategies to improve material recovery from waste	
Addressing the structural causes of investment barriers	Building technical and managerial capacity Establish systems for monitoring performance & info. disclosure Awareness building Disseminate information & technology Foster R&D and innovations	Infrastructure for information sharing and training Infrastructure to link markets (e.g. transport infrastructure linking supply & demand for recycled materials)	Institution building Fiscal policy reforms (e.g. energy subsidy reforms, waste tariffs) Legal requirements for monitoring and disclosure of efficiency performance Strengthening the financial sector Dedicated lending facilities for resource efficiency projects Foster competition	Developing markets and infrastructure Strengthen macro-economy Institution building Direct support to research & innovation Green growth strategies

Note: This typology presents a toolbox for micro and macro interventions for enhancing resource efficiency. The categorisation is indicative and not definite: For instance, micro level measures may eventually lead to more structural macro improvements.

Source: Rentschler, Bleischwitz and Flachenecker (2018).

Joined-up policy is also required to consider sectors that may unavoidably lose out in a resource efficient transition. As Section 3.2 suggests, innovative firms in resource-intensive sectors are likely to benefit from the transition, while others might lag behind. Compensation and incentivising retraining to increase mobility and diversify skill sets may be able to reduce the socioeconomic impacts of potential sectoral and regional declines, and may help to reinvigorate local economies based on more resource efficient activities. Joined-up policy may also be critical for limiting the impact of the rebound effect. In conclusion, an integrated policy approach that recognises complex economic incentives and trade-offs, supports decision makers *on the ground*, promotes innovation in technologies and processes, and offers a clear long-term direction of travel, will have a greater chance of achieving resource efficiency.

5 FUTURE RESEARCH NEEDS

This article also highlights that the understanding and evidence base on resource efficiency is far from complete. To enable effective evidence-based policy making, further research is required in several areas. In this section, based on Flachenecker and Rentschler (2018), we highlight three priority areas in which further work is needed to improve the understanding of the implications of the *resource transition*.

5.1 DATA AVAILABILITY, QUALITY, AND COMPARABILITY

Having access to high-quality, relevant, and comparable data is crucial for ensuring evidence-based policy making. In short, data are the basis for essentially every analysis on the *resource transition*. Since the systematic analysis of resource flows and their role in economic systems is still a relatively recent field of research, comprehensive databases are also crucial for strengthening current methodologies for calculating resource indicators, and testing the various underlying assumptions and approaches.

Flachenecker, Rentschler and de Kleuver (2018) emphasise that reliance on accounts and indicators that use different methodologies either across time or countries is problematic for any systematic analysis. This is particularly relevant for assessing the indirect resource use embodied in trade, as dependable data across countries are often sparse (on the sector and firm level) or inconsistent with national data. While there is work underway across international agencies to improve and harmonise existing data sources and calculation methods, these efforts need to be recognised and adopted through efforts at the national level. This work is expected to usefully support the monitoring of the SDGs 8 and 12. Related research provides further insights into the sectoral distribution of GHG emissions in a consistent and internationally comparable manner with a view to inform the Paris Climate Agreement with more granular insights (Flachenecker, Guidetti and Pionnier, 2018).

In addition to the harmonisation of databases, their scope and coverage also require expansion. In particular, accounting for material resources and deriving conventional material resource indicators need to be complemented by consistently taking secondary material resource use (recycling as well as up- and down-cycling) into account. This would provide more comprehensive measures, not only to monitor developments towards greater resource efficiency, but also of the circularity with which resources are used throughout the economy. Eurostat's *material use rate* is a step in this direction (European Commission, 2018a), while facing several limitations. For instance, the underlying assumption that more secondary materials substitute primary raw materials, thus avoiding the extraction of primary material is generally correct, but it is important to consider the spatial dimension since empirical analysis suggests that *secondary* raw materials might substitute for imports of *secondary* raw materials but not of *primary* raw materials (Dussaux and Glachant, 2015; European Commission, 2018c).

5.2 IDENTIFY POTENTIALLY ADVERSELY AFFECTED SECTORS AND REGIONS OF THE RESOURCE TRANSITION

Future research is also required to study in much greater detail the types of firms, sectors, and regions that may be adversely affected by the *resource transition*. Crucially, a clearer understanding needs to be developed of why certain actors may fail to benefit from increased resource efficiency. This information is critical for finding adequate responses for affected sectors and regions (Flachenecker, 2018; Hughes and Ekins, 2018). Simply emphasising the positive effects while overlooking downside risks for certain firms, sectors, and regions will ultimately undermine trust in the very institutional framework that could support those affected not only in coping with but also in benefitting from this transition in the medium to long-term.

Possible responses may include the acceleration or slowing of the transition for certain sectors, and supporting the re-training and re-employment of the affected work force. Such mitigating measures will be critical for ensuring a seamless transition towards a resource-efficient and circular growth model, and help to prepare the work force for future demand related to skills in the areas of resource efficiency and circular business models. This in turn could enable local communities to be at the forefront of the *resource transition*. However, successfully moderating this transition will require first of all a detailed understanding of the expected effects certain groups in society will be confronted with.

5.3 EXPLORING THE ROLE OF RESOURCE EFFICIENCY IN ACHIEVING A CIRCULAR ECONOMY AND SUSTAINABLE DEVELOPMENT

While resource efficiency investments tend to be limited to individual production units, firms, or sectors, the transition towards a circular economy requires targeted measures to integrate supply and value chains throughout the entire economy. Further research can help to improve our understanding of how incremental firm-level improvements in resource efficiency can contribute to such a systemic transition

towards a circular economy. This can enable policy makers to reconcile resource efficiency policies with longer-term objectives for increasing the circularity of resource flows across sectors, and to design adequate policy strategies and targets.

Moreover, further case-specific research is needed to understand how resource efficiency measures can contribute to improving environmental, social, and economic sustainability. The evidence presented in this article suggests that the economic and environmental net benefit of resource efficiency measures is not always straight forward to determine, and varies significantly from case to case, sector to sector, and country to country. In addition, further research is required to understand how the wide-ranging priorities under the SDGs may increase the demand for resources and intensify existing scarcities (Bleischwitz and Flachenecker, 2017). For instance, the objective of scaling up renewable energy generation and storage is likely to significantly increase the demand for certain resources and possibly interfere with the goal of reducing resource dependencies. Thus, the design of resource efficiency strategies must be aligned with technological changes and the evolving needs and priorities of the sustainable development agenda.

6 CONCLUSIONS

High and volatile resource prices, uncertain supply, rising demand and environmental impacts – various factors are putting increasing pressure on policy makers, researchers, firms, and investors to explore pathways towards sustainable and efficient resource management. An increase in resource efficiency is considered to be an answer to these challenges.

This article outlines the numerous initiatives on the international level that have highlighted the important role of resource efficiency in policy agendas. However, while political support for resource efficiency is important, trends show that it is by no means sufficient. Indeed, the article shows that global progress in enhancing resource efficiency is outpaced by an ever-increasing demand for material resources. It has been shown that barriers and the ubiquitous prevalence of market failures and distortions prevent resource efficiency investments from taking place. Furthermore, the article provides evidence for the complexity of evaluating costs and benefits of resource efficiency investments, which need to be benchmarked to the ‘cost of inaction’ and external effects are to be internalised.

Findings are also presented on the effects of resource efficiency investments on competitiveness and GHG emissions in EU countries, at both the macroeconomic and the firm level, suggesting a heterogeneous picture. While firms in certain sectors are likely to gain from the *resource transition*, other parts of the economy may see adverse impacts, thus raising the question of how short-term distributional effects can be mitigated. Therefore, nuanced conclusions on the effect of resource efficiency on competitiveness and climate change mitigation need to be drawn. In particular, it seems essential to conduct further research on the potential trade-offs at the firm, sector, country, and regional levels, thus identifying the *winners* and *losers* in

the progress of the economy to a more resource efficient path. From a policy perspective, it is essential to develop measures to mitigate adverse effects in order to ensure the continued political support for pursuing the resource efficiency agenda.

The article further provides insights from institutional investors on the challenges and strategies to overcome investment barriers to enhance resource efficiency. Indeed, especially in developing and emerging economies, multilateral development banks can play a crucial role in resolving information barriers, facilitating technology transfer, mitigating financing constraints, and thus encouraging first movers. However, as this article outlines, governments ultimately play the crucial role in enabling resource efficiency investments by adopting integrated policy measures that address the *causes* and *symptoms* of resource inefficiency, and thus establish the necessary business environment to unlock the potential of resource efficiency investments.

Overall, this article, based on Flachenecker and Rentschler (2018), outlines the complex economic incentives and trade-offs associated with resource efficiency investments. It provides an analytical framework for assessing the prospects and viability of such investments in practice; and proposes policy strategies for overcoming investment barriers and boosting resource efficiency investments. In doing so, this article aims to guide future research, and contribute to the design and implementation of more effective resource efficiency policies – and thus facilitate the transition to more resource-efficient and sustainable development pathways. Close collaboration among researchers, practitioners, policy makers, and the broader public is likely to be of crucial importance in combining the necessary evidence base, scale, and democratic legitimacy in successfully steering the *resource transition*.

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Compensation strategies to enact new governance frameworks for SDG transformations

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Article**

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Abstract

There is an emerging consensus at international level that systemic transformations are needed to achieve the Sustainable Development Goals (SDGs). Such transformations require paradigm shifts in policies, with appropriate governance frameworks to implement them. Fundamental transformations are likely to generate winners and losers; the latter may act strategically to deter transformation. Most governance literature points at mutual gains negotiation methods to prevent the emergence of losers and create ‘win-win’ package deals. In this article a different – and less researched – approach will be discussed: (economic) compensation strategies. Drawing on the political economy literature of reform in transition economies, I propose three compensation strategies to buy out or weaken the opposition of strategic losers – big bang, optimal sequencing and divide-and-rule governance reforms – that can help to frame discussions around the political feasibility of new governance frameworks for SDG transformations. The paper suggests that careful consideration needs to be given to the design of these compensation packages, since history tells us that buying acceptance for reform can involve not just variation in economic outcomes, it can also have long-term political implications and distributional effects.

Keywords: sustainable development, governance reforms, political constraints, compensating transfers, energy decarbonisation, transition economies

1 INTRODUCTION

There is an emerging consensus among academics, researchers and policy makers concerned with how to achieve the Sustainable Development Goals (SDGs) that sustainable development requires systemic transformations (e.g., TWI2050, 2018; UNDESA, 2019; Sachs et al., 2019a). The World in 2050 (TWI2050) research initiative – a collaboration between the Sustainable Development Solutions Network (SDSN), the International Institute for Applied Systems Analysis (IIASA), the Stockholm Resilience Centre and Columbia University – proposes six exemplary transformations for achieving the SDGs and long-term sustainability: digital revolution; smart cities; energy decarbonization; sustainable consumption and production; sustainable food, biosphere and water, and human capacity and demography (TWI2050, 2018). There is less consensus in this literature, however, about how to implement these transformations, though it is widely held that crucially this requires fundamental shifts in public policy and governance, encompassing, for example, major reforms in areas such as economic and social policies, long-term integrated planning, public institutions and political processes, new stakeholder engagement mechanisms, aligned budgeting practices and procedures, among many others (SDSN and OECD, 2019; TWI2050, 2018; Schmidt-Traub, Obersteiner and Mosnier, 2019; OECD, 2019; UNDESA, 2019; Niestroy et al., 2019; Meadowcroft, 2011). These transformations need to be designed for, directed and adapted to country contexts, e.g., levels of development, political and social realities, local strengths, unique needs and governance structures (Sachs et al., 2019a). Each country must follow its own path and reforms that consider meta-governance, i.e., a pluralistic approach to governance of different

governance styles, may be important as they are a way of dealing with context (UNCEPA, 2019; Meuleman, 2018; Meuleman and Niestroy, 2015; Niestroy, 2005).

Most important perhaps, relatively little is known about the political feasibility of different transformations in different contexts. It is recognized that transformations may be deeply political (Meadowcroft, 2011; Scoones, Leach and Newell, 2015; Smith and Stirling, 2010; Newell and Mulvaney, 2013; Cherp et al., 2018), and that this poses a challenge for governance, such as dealing with vested interests, the short-termism of policy and political cycles, the resistance of the wealthy to taxation, displaced workers and communities, deficits in representation, and the lack of public awareness of and support for transformation (e.g., TWI2050, 2018; Burch et al., 2019; Sovacool et al., 2017; Hausknost and Haas, 2019). What has not yet been researched in-depth is the impact on the feasibility of sustainability transformations of those who consider themselves ‘losers’ of the change.

This is a key question, as these transformations are likely to create winners and losers and the greatest obstacle to reform is often the opposition of vested interest groups that stand to lose most from changes in the status quo. For example, the U.S. Fossil Fuel Lobby has, through a combination of lobbying, regulatory capture, and investments in disinformation, consistently blocked the enactment of climate policies that might have facilitated energy decarbonization, despite mounting evidence of human-induced climate change and its effects (Hess, 2014; Geels, 2014; Brulle, 2014; Erickson et al., 2015; Erickson and Lazarus, 2013; Seto et al., 2016). This example and others like the agricultural lobbyists’ role in blocking trade policy reforms (e.g. Baldwin, 2016) raise important questions about whether the governance reforms required for SDG transformations will generate ‘strategic’ losers, i.e. losers who try to block transformations, and if so, what, if anything, can, and should, be done to overcome this political constraint.

There are various ways to deal with opposition of ‘losers’. Governance literature tends to promote mutual gains negotiation methods to prevent the emergence of losers and create ‘win-win’ package deals (Susskind and Field, 1996; Moomaw and Papa, 2012). This is a typical tool of the network governance approach, which is consensus-oriented, values trust, favours dialogue and partnerships, as well as other informal arrangements. In this article a different – and less researched – approach will be discussed: (economic) compensation strategies for enacting reforms (e.g. Roland, 2002). This relates to the market governance style, which prefers market-based instruments like taxes and focuses on principles such as efficiency, competition, devolvement and empowerment (Meuleman, 2018). Indeed, these approaches could also be combined in some situations, e.g. when winners and ‘losers’ agree to engage in collaborative problem solving, to broaden the acceptance of SDG measures (Horan, 2019; Meuleman, 2018).

In public economics, the traditional approach to solving problems involving winners and losers requires the design of a tax and transfer system to offset the

welfare losses of the losers by redistributing the gains of the winners (Kaldor, 1939; Hicks 1939; 1940). Subsequent research shows that the optimality of this approach depends on several considerations, such as how the transfer is financed (e.g. lump-sum or distortionary taxes), the ability to identify winners and losers to target transfers (e.g. asymmetric information), the size of the transfer (e.g. short-term budget and borrowing constraints), as well as the economies' initial conditions and assumptions governing the partial and general equilibrium effects of the intervention (e.g. Kaplow, 2004; 2012; Hendren, 2014; Tsyvinski and Werquin, 2018). Increasingly, compensating transfers that account for these considerations are seen as a way to mitigate the negative effects of economic disruptions in areas such as immigration (Card, 2009), trade liberalization (Antras, de Gortari and Itskhoki, 2016), and technical change, e.g. automation, robotics, *etc.* (Katz and Murphy, 1992; Tsyvinski and Werquin, 2018).

Similar questions around the importance of political constraints in transition processes arise in older debates about pro-market reform in transition economies which focused on finding politically feasible reform paths. Here, opposing sides of the debate argued over the pace and sequencing of reforms, e.g. 'big bang' versus gradualist reform strategies, and, in particular, what reforms would buy out or weaken losers. Many reforms involved some amount of compensation to buy the acceptance of losers, typically managers and workers of state-owned companies and sectoral ministries (e.g., Shleifer and Treisman, 2000; Hoff and Stiglitz, 2005). These ranged from mass privatizations in Russia involving the giveaway of state assets to insiders, to partial privatizations in Poland and Hungary, to dual-track liberalization in China that liberalized prices at the margin while protecting the rents that various economic actors had under the planning system (Roland, 2002).

This article concentrates on compensation strategies to overcome political constraints to new governance frameworks for SDG transformations. It examines different strategies identified by the literature on the political economy of reform in transition economies and assesses their relevance to governance reforms for SDG implementation. It focuses primarily on compensation packages that governments could use to ease opposition from vested interests, such as the owners of fossil fuels, the beneficiaries of unsustainable land and ocean practices (e.g. TWI2050, 2018). Following Roland (2002), the article addresses two types of political constraints to governance reform, relevant in democratic contexts characterized by some degree of state capture by vested interests. First, there is political acceptability, such as, e.g., the willingness of the majority to accept reforms that involve compensating transfers to 'losers'. Second, there is, what I term, insider acceptability, such as the willingness of strategic losers, e.g. the fossil-fuel industry, to accept reforms given the compensation package offered to them.

Specifically, the paper identifies two key areas: strategic losers from governance reforms and the role of compensation strategies in the political economy of new governance frameworks that require greater attention and scrutiny in order to

enact SDG transformations. I argue that the idea of compensating ‘losers’, e.g. the owners of fossil fuels, should be addressed more systematically in analyses of governance reforms when political will is essential for the success of the SDG transformation. The rationale for this is purely pragmatic: without such compensatory transfers, there is a risk that strategic losers will use their economic and political power to hinder support for these reforms and thus block transformations required to achieve the SDGs (Horan, 2019). This contrasts with the rationales given in the socio-technical literature on transitions which focus on justice and equity (e.g. Sovacool, 2014; Sovacool and Dworkin, 2015; Jenkins et al., 2016; Jenkins, McCauley and Forman, 2017; Sovacool et al., 2017).

Drawing on the political economy literature of reform in transition economies, this article proposes three compensation strategies to buy out or weaken the opposition of losers to new governance frameworks for SDG transformations – big bang, optimal sequencing and divide-and-rule governance reform strategies – that can help to frame discussions around the political feasibility of new governance frameworks. The article suggests that careful consideration needs to be given to the design of these compensation packages. Lessons from the transition economy experience tell us that buying acceptance for reform can involve not just variation in economic outcomes, it can also have long-term political implications and distributional effects (e.g. Roland, 2002). On the other hand, recent bank bailouts suggest such compensation packages need to go beyond piecemeal policy measures and enact comprehensive new governance frameworks to achieve transformation (e.g. Ferguson, Jorgenson and Chen, 2017; Thakor, 2018; Kane, 2018; Swagel, 2015; De Francesco and Maggetti, 2018; Grossman and Woll, 2014; TWI2050, 2018; UN, 2019).

This is not the first article on aspects of the political economy of governance reform for the SDGs. TWI2050 (2018) identifies five obstacles to SDG transformations, including vested interests and regulatory capture. Church, Crawford and Schaller (2019) propose foreign policy as a tool for overcoming obstacles. Horan (2019) and Nerini et al. (2019) assign a key role to multi-stakeholder partnerships. Socio-technical studies of energy transition highlight displaced workers, communities and vulnerable groups and the role of training in building their support for transition (Sovacool, 2014; Sovacool and Dworkin, 2015; Jenkins et al., 2016; Jenkins, McCauley and Forman, 2017; Sovacool et al., 2017), yet largely neglect negative impacts on owners and managers of fossil fuels, which can pose a bigger politico-economic obstacle to transition.

The article aims to contribute to the emerging literature on the governance frameworks required for SDG transformations (e.g. TWI2050, 2018; OECD, 2019; SDSN and OECD, 2019). This literature recognizes vested interests as an important obstacle to SDG transformations, e.g. owners of fossil fuel companies, those benefitting from unsustainable land and ocean practices such as cattle ranchers and fishing fleets, and it adds to this literature by proposing compensatory strategies

that could be used to overcome their opposition to new governance reforms to initiate these transformations, highlighting there are different ways to deal with strategic losers, the political feasibility of which likely varies across countries.

The article also aims to add to the literature on sustainability governance (e.g. Meuleman, 2018; Meuleman and Niestroy, 2015; Meadowcroft, Farrell and Spangenberg, 2005). This literature argues that sustainable development is above all about getting the governance right (e.g. Meadowcroft, 2011: 536), and four main governance approaches are identified – hierarchical, network, market and meta-governance (e.g. Meuleman, 2008; 2018, Larasson, 2015; Jessop, 2011; Sorensen, 2006; Kooiman, 2003; Powell et al., 1991; Thompson et al., 1991; Thorelli, 1986). This article addresses vested interests as an obstacle to sustainability transformations, focusing on strategic losers and removing their hold on governance and policy (e.g. Treadway et al. 2005; Painter, 2014). It supplements the mutual gains negotiation approach (Susskind and Field, 1996; Susskind, McKearnen and Thomas-Larmer, 1999; Moomaw and Papa, 2012; Barrett, 2002), with an economic approach based on compensation strategies, highlighting some strengths and weaknesses with the approach.

2 GOVERNANCE REFORMS FOR SDG TRANSFORMATIONS

This section briefly describes the main elements of new governance frameworks advocated in the growing literature on SDG transformations. This literature recognizes the enormous and complex governance challenges posed by sustainable development, and consequently, the frameworks proposed in this policy-oriented literature set out economic, social and political reforms. Together, these reforms, if implemented in full, would represent a major paradigm shift from existing national-level governance frameworks for the SDGs. It is difficult to ascertain *ex ante* the extent to which such frameworks can succeed in achieving transformation, but they are likely to be met with considerable opposition from strategic losers and require broad public support for their implementation.

SDG transformations are a way to organize the implementation of the SDGs (SDSN and OECD, 2019). The approach draws heavily on analyses that map out interdependencies among SDG outcomes (e.g. Nilsson, Griggs and Visbeck, 2016; ICSU and ISSC, 2016). Each transformation, e.g. energy decarbonization, groups key SDG interventions, i.e. interventions that generate significant economic, social and environmental co-benefits, such as access to clean energy, zero-carbon electricity generation, energy efficiency, electrification and zero-carbon fuels, and curbing pollution, in a single area, e.g. the energy system, with the aim of synergistically achieving multiple SDGs (Sachs et al., 2019b). For example, energy decarbonization is expected to contribute directly to SDGs 3, 6, 7, 9, 11-15 and to reinforce several other goals (Sachs et al., 2019b). In a similar way, SDG transformations are proposed for other areas such as education, health systems, urban infrastructure, ecosystems and agriculture, as well as digital technologies (e.g. SDSN, 2019; UNDESA, 2019; SDSN and OECD, 2019; TWI2050, 2018). Together, the transformations offer, at the

very least, an entry point for governments to achieve the SDGs (TWI2050, 2018; UNDESA, 2019). To operationalize transformations, long-term policy pathways or plans are proposed that organize interventions around time-bound measurable targets, interim milestones, problems to be solved and potential solutions, pathways that need to be adapted to local contexts (SDSN, 2019; SDSN and OECD, 2019).

To guide the development of governance frameworks for SDG transformations, there is a large literature on transitions and transition management that spans several disciplines and domains. Most of this literature has looked into specific issues or sectors, such as economic systems and market forces (Nee, 1989; Roland, 2002; Weitzman, 1993), politics, power and democracy (Adler and Webster, 1995; De Soysa, Oneal and Park, 1997; Lemke and Reed, 1996; Linz and Stepan, 1996; Offe and Adler, 1991), energy (Kern and Smith, 2008; Meadowcroft, 2009; Meadows et al., 1972; Batinge, Musango and Brent, 2019), health (Frenk et al., 1991; Mackenbach, 1994), environment (van den Bergh, 2007). Whereas economic studies on transition tend to focus on economic instruments and consequences (e.g. privatization and its efficiency effects, climate policies and their economic costs), later studies, especially those from sociology, highlight societal change, social policies and the need to build public support for transition (e.g. displaced workers and retraining) (e.g. Sovacool, 2014; Sovacool and Dworkin, 2015; Jenkins et al., 2016; Jenkins, McCauley and Forman, 2017; Sovacool et al., 2017). More recent studies identify politics, power dynamics and political economy as a third essential ingredient in transition management (e.g. Healy and Barry, 2017; Cherp et al., 2018; Geels, 2014; Newell and Mulvaney, 2013).

In the literature on SDG transformations, The World in 2050 Report goes furthest in capturing the scale of the governance challenges facing sustainable development (TWI2050, 2018). It draws on many salient developments in theory and practice from different disciplinary perspectives on transition management. To support transformations, the report proposes, roughly, an equal number of policy reforms in each dimension of sustainable development, covering (1) *economic reforms* in fiscal frameworks, corrective pricing, direct regulation, development financing, publicly directed R&D, among others; (2) *political reforms* for integrated planning, public deliberation, partnerships, independent planning agencies, cross-border cooperation, democratic oversight of science and technology, official SDG data; and (3) *social reforms* for public awareness, social norms and cultural innovations, grassroots activism, investment activism, consumer activism, shareholder activism and moral activism (TWI2050, 2018:, 24-27). Overall, it sets out a requirement for a wide range of policy instruments to steer the economy and society towards transformations, and avoids the tendency to overemphasize economic instruments (e.g. tax-and-spend policies) and magic bullets (e.g. carbon pricing), and places an important emphasis on enabling political and social innovations.

The proposals of this research have yet to make significant inroads into national SDG policy frameworks. The Voluntary National Reviews (VNRs) make little

reference to SDG transformations. However, according to the most recent SDSN report (2019), “many governments have asked the SDSN and members of its Leadership Council how they might organize the implementation of the SDGs” and the transformation approach could become more popular in the second cycle of VNRs, particularly in view of support for this approach from international agencies such as the UN, OECD and IIASA. For most countries, this would represent major governance restructuring. The governance reforms outlined for the SDGs in the first cycle of VNRs, 2015-19, largely focus on updating national sustainable development strategies to reflect the SDGs; determining the level of political engagement, mainstreaming and mapping of SDGs responsibilities across government ministries, the introduction of mechanisms for interdepartmental coordination, *etc.* (e.g. Niestroy et al., 2019; Kindornay, 2019; OECD, 2019; Sachs et al., 2019b). While countries differ in the scale and pace of reform (Sachs et al., 2019b, 2018), there is, for most countries, an enormous *governance gap* between the reforms that have been implemented and those that have been proposed for implementing suitable frameworks for SDG transformations, e.g. such as in the TWI2050 report.

To fill the governance gap, the SDG transformation literature recognizes five obstacles or points of resistance to governance reform. These are vested interests, such as the owners of fossil fuels and beneficiaries or unsustainable land and ocean practices, regulatory capture, the resistance of powerful elites to taxation, redistribution and regulation, the lack of planning due to short-run political cycles and weak government capacities, and a lack of public awareness and understanding about transformations (TWI2050, 2018). This article focuses on strategies for buying out or easing opposition from vested interests that may try to block the enactment of transformations.

3 COMPENSATION STRATEGIES FOR ENACTING REFORM

An interesting analogy can be drawn between the structural problems facing post-Soviet economies on the eve of their transition from socialism to capitalism and the climate predicament facing today’s fossil-fuel based capitalist economies.

In central and eastern Europe, several decades of unfettered state-run communism distorted the sectoral composition of output in these economies, with, for example, over-production of heavy manufactures and under-production of light manufactures and other consumer goods. After decades of built-up inefficiencies, a rapid restructuring was required to downsize the state sector and prepare the ground for the development of non-state sector enterprises. Whereas the managers and workers of state-owned companies and sectoral ministries posed a significant “vested interest” obstacle to capitalist reform in post-Soviet economies, it is the owners of fossil fuels that, arguably, present the greatest “vested interest” obstacle to energy decarbonization. In a similar way, in today’s capitalist economies, several decades of not internalizing the environmental costs of economic activity, nor the externalities affecting clean energy technology development have over-pro-

duced carbon-intensive goods and under-produced clean energy-intensive goods. The result is an over-sized fossil-fuel sector and a relatively small low-carbon energy sector. With planetary boundaries fast approaching (e.g. IPBES, 2019; WEF, 2019; IPCC, 2018; Grooten and Almond, 2018; Rockstrom et al. 2009), there is now an urgent and compelling case for a major restructuring of today's economies to correct these accumulated distortions.

Following the collapse of communism, it was widely believed that a window of opportunity existed in post-Soviet bloc countries for the enactment of pro-market reforms. This involved a shift from planned contracts in production; the removal or phasing out of price controls; the privatization of state-owned assets; the creation of a labour market; and the development of small and medium-sized private enterprises. Scholars debated whether these reforms should be adopted as fast as possible, and made as irreversible as possible (e.g. Lipton and Sachs, 1990; Balcerowicz, 1995), or through a more gradual sequencing of reforms that aimed to build support for further reforms (e.g. Dewatripont and Roland, 1992a, 1992b, 1995; Wei, 1997; McMillan and Naughton, 1992; Litwack and Qian, 1999). The most controversial of these debates focused on the privatization of state assets.

The concern for political constraints in the transition from socialism to capitalism led to significant developments in political economy theory concerned with the enactment of reform (e.g., Dewatripont and Roland, 1995; Roland, 2000). Two types of political constraints can be identified in transition processes: feasibility constraints affecting the enactment of reforms, termed *ex-ante* political constraints, and constraints to maintain reforms, once they are put in place, referred to as *ex-post* political constraints (Roland, 2002). This paper focuses on strategies to ease *ex-ante* political constraints, i.e. those on the enactment of reform, which is the first step towards initiating transformation.

THREE COMPENSATION STRATEGIES TO ENACTING REFORM

This article considers strategies to implement full reform, whether now or in the future. I focus on the big-bang and gradualist strategies proposed in the political economy literature. Drawing heavily on the review article of Roland (2002), the article considers three main strategies for relaxing political constraints so that full reforms can be enacted. These are,

- (1) Compensating transfers to buy acceptance for full reform.
- (2) Optimal sequencing of partial reforms aimed at building constituencies for further reform.
- (3) Partial reform involving divide and rule tactics to reduce opposition to future reform.

The first strategy, *compensating transfers to buy the acceptance of those who stand to lose from full reform*, has deep roots in economic theory. The traditional solution to compensating potential losers standing in the way of reform that would otherwise generate net welfare gains requires the design of a tax and transfer

system to offset the welfare losses of the losers by redistributing the gains of the winners (Kaldor, 1939; Hicks 1939; 1940). These transfers may require government to commit to a series of transfer payments to losers over time or an upfront payment of the net present value of these transfers (Roland, 2002).

It is well known that the solution is (Pareto) efficient if lump-sum transfers are an available policy instrument, the identities of the winners and losers are known ex ante, and there are no commitment constraints faced by government (Mirrlees, 1971). However, inefficiencies can arise if transfers are financed by distortionary taxes, or transfers involve leakages stemming from asymmetric information, i.e. if government cannot distinguish losers (Mirrlees, 1971; Lewis, Feenstra and Ware, 1989). Furthermore, the strategy may be infeasible given short-term budget and borrowing constraints or if government lacks a mechanism to credibly commit future government to a series of transfer payments over time (Roland, 2002).

It is important to distinguish financial and non-financial transfers. Financial transfers usually involve distortionary taxation. Roland (2002) points out that these distortions may have been especially high in transition economies, since at this time, government capacity for domestic resource mobilization was relatively low. However, compensation packages need not involve financial transfers (Martinelli and Tommasi, 1997). The mass privatization of state assets that favoured insiders in Russia and Czechoslovakia can be seen as a lump-sum transfer of real assets to buy political acceptance for pro-market reforms. Privatization usually has high policy reversal costs which can act as a credible device to buy out losers.

The second strategy, *an optimal sequencing of reforms*, starts with an initial partial reform, e.g. partial privatization. A key argument in favour of partial reform is gradualism, which argues that an appropriate sequencing of reforms can build constituencies for further reforms (e.g. Dewatripont and Roland, 1992b; 1995; Wei, 1997; McMillan and Naughton, 1992; Litwack and Qian, 1999). The main idea behind the optimal sequencing strategy is to target areas where reforms are expected to be more popular (Dewatripont and Roland, 1995). For example, in Hungary and East Germany, the most profitable firms tended to be privatized first (Gatsios, 1992; Carlin and Meyer, 1992), which can be seen as a way to build support for further privatization, leaving the least popular, and probably most expensive, e.g. large loss-making enterprises, until later (Roland, 2002).

The optimal sequencing strategy can be more attractive than compensating losers for full reform, if there is considerable heterogeneity in the distribution of losses from reform and uncertainty about the gains from reform (Dewatripont and Roland, 1992b). A positive resolution of uncertainty in areas with better prospects for “good” outcomes can then build wider support for reform in other areas (Roland, 2002). The strategy can be particularly attractive, because it lowers the cost of compensating losers, at least in the short-run, especially if there are high cost strategic losers from some reforms and high efficiency costs to raising funds

(Dewatripont and Roland, 1992b; Nielsen, 1993). On the other hand, the strategy introduces distortions in terms of forgone efficiency gains from complete reform, especially if there are complementarities among reforms (Roland, 2002).

The third strategy, *divide-and-rule tactics*, is a gradualist strategy that aims to sequence reforms in such a way as to successively weaken the opposition from strategic losers to reform (e.g. Dewatripont and Roland, 1992a; Wei, 1997). This involves designing a sequence of compensation packages that successively undermine the status quo. The strategy aims to split strategic losers into small groups, and to offer compensation packages for reforms that make each group worse off in each successive round.

SOME LESSONS FROM THE TRANSITION ECONOMY EXPERIENCE

The post-Soviet economies have since undergone the changes commonly associated with capitalist development. Arguably, the most significant of these was the privatization of state assets, which involved significant asset stripping by insiders, in many countries. The various privatization schemes have shown enormous variation in terms of both their economic consequences and their political implications, effects largely unanticipated at the outset, which are difficult to capture in standard economic analyses (Roland, 2002). Most experts did not anticipate the political use of privatization as a compensation device, or its political implications, e.g. increased rent seeking and state capture, political instability, formation of large financial groups (Roland, 2002).

There is striking similarity between the economic effects of these various privatization schemes and the predictions from macroeconomic models of the impacts of climate policies on the economy (e.g. Stern, 2007; Nordhaus, 2008; IPCC, 2014: 223-252). In most of the transition economies of central and eastern Europe, industry output declined after price liberalization, which extended for long periods particularly in countries that initiated big bang privatizations, and that were eventually compensated by growth thereafter (Dollar and Ljunggren, 1997). Countries that employed gradualist reforms generally experienced less pronounced or shorter economic contractions.

4 APPLICATION TO THE SDGS

This section outlines three compensatory strategies for dealing with strategic losers in the context of governance reforms for SDG transformations. It explores the political feasibility of these strategies for different stylized country examples, focusing on two main aspects relevant in a democratic context: the degree of public support for transformation and the extent of state capture by ‘losers’.

I define full reform as the implementation of a new governance framework along the lines proposed in the TWI2050 report. Partial reform can take a wide variety of forms. Three examples, useful for our purposes, are 1) partial reform involving full reform in a particular geographic area, e.g. an administrative sub-region such

as city, county or state, called geographic reform, 2) partial reform involving full reform in a specific sector, e.g. electricity or buildings, termed sectoral reform, and 3) partial reform involving full reform in one dimension of sustainable development, e.g. political, social or economic, called dimensional reform.

To illustrate the framework, I use suggestive examples from energy decarbonization and draw on studies of technical roadmaps for decarbonizing energy systems, covering sectors such as power, transport, buildings, and industrial processes that need to be localized to specific countries (e.g. SDSN and FEEM, 2019; IEA, 2017; SDSN and IDDRI, 2015).

The three compensation strategies for easing political constraints to governance reform are:

- (1) Big-bang governance reform.
- (2) Optimal sequencing governance reform.
- (3) Divide and rule governance reform.

Big-bang governance reform involves compensating or buying out strategic losers for the full implementation of a new governance framework. In the case of decarbonization, this would involve implementing the full set of proposed economic, social and political reforms in each of the four sectors in a particular country. Reforms may include corrective economic policy instruments, e.g. carbon tax, removal of fossil fuel subsidies, new fiscal frameworks for clean energy investments, green R&D subsidies, regulatory standards such as emissions limits for buildings and vehicles, energy efficiency requirements, independent long-term planning agencies, institutions for public deliberation, new financial partnerships, public awareness campaigns, and support for social movements, *etc.* (TWI2050, 2018).

Optimal sequencing governance reform involves enacting partial governance reform in areas, sectors or dimensions of sustainable development that are likely to generate positive outcomes that can help to build support for further reforms in other areas, sectors or dimensions. For example, this might involve implementing full reform in electricity, which is expected to be the easiest-to-decarbonize sector, in the hope of creating support for future reform in transport, which is expected to be a more difficult-to-decarbonize sector, and so on (Lazard, 2017; Davis et al., 2018). Alternatively, it could involve full reform in cities or states where the prospects for good outcomes are high in the hope of building support for reform in other cities or states with weaker prospects. Similarly, it could involve a sequence of reforms that focuses first on political reforms, then social reforms and finally economic reforms (or vice versa). In practice, the optimal sequence of compensation packages may mix aspects of geographic, sectoral and dimensional governance reform.

Divide-and-rule governance reform involves implementing a sequence of partial reforms that aims successively to undermine the opposition of ‘losers’ to further reform. The strategy involves dividing ‘losers’ into smaller groups and building

coalitions for reform in areas, sectors or dimensions that are significant sources of revenue or rent for the remaining losers. By successively implementing such reforms, the strategy seeks to iteratively weaken the opposition of ‘losers’ by lowering the required compensation packages to buy their acceptance for reform.

To assess the political feasibility of the each of the strategies in different contexts or countries, I focus on democratic countries and outline three types of stylized countries.

The first type of country is referred to as the *progressives*. These are countries characterized by strong public support for transformation and a government that is weakly captured by strategic losers, i.e. compensation packages could be designed to buy the acceptance of ‘losers’ for full reform. In the case of decarbonization, these might be countries where there is a majority of citizens who rank climate policy as a high priority policy issue, a small fossil-fuel sector and rapidly growing green economy. Leading examples of such countries might be Denmark, Finland, Iceland or Spain.

The second type of country is the *captured*. These are countries with governments that are strongly captured by potential ‘losers’ of transformations, such that feasible reform packages could only buy a small amount of governance reform. In the case of decarbonization, these countries typically have large fossil-fuel sectors. Among these countries, it is useful to distinguish first, those with weak public support for decarbonization, e.g. Russia, and those with majority support for public action to reduce GHG emissions, e.g. USA. Second, it is also useful to distinguish these countries by the importance for their fossil fuel sectors of domestic markets, e.g. USA, and those that depend primarily on foreign markets for revenue, e.g. Norway.¹ The size of the green energy sector in captured countries can differ widely, e.g. compare Russia, USA and Norway.

The third type of country I refer to as the *moderates*. These countries may have average or even strong public support for SDG transformations. However, their governments are moderately captured by strategic losers, i.e. compensation packages can only succeed in buying partial reform. In the case of decarbonization, countries with a large fossil-fuel sector that have made some notable efforts in developing green energy are likely to qualify as moderates. A leading example of such a country is Germany.

POLITICAL FEASIBILITY

I now outline four hypotheses concerning the political feasibility of compensation strategies for dealing with strategic losers in the differently stylized countries. A short motivation in support of each hypothesis is given. Table 1 summarizes the main hypotheses presented in this section:

¹ See, e.g. IRENA (2019).

TABLE 1

Hypothesized compensation strategies for enacting new governance frameworks

Stylized country	State capture	Public support	Hypothesized strategy	Level of implementation	Possible examples
<i>Progressive</i>	Weak	Majority will	Big bang	National, subnational	Spain, New York
<i>Moderate</i>	Moderate	Majority will	Optimal sequencing	National, subnational	Germany, California
<i>Captured</i>	Strong	Moderate	Divide-and-rule (internal)	Subnational	U.S.A. (NY, California)
<i>Captured</i>	Strong	Strong	Divide-and-rule (external)	Import jurisdictions	Norway (EU)

Hypothesis 1: If there is weak state capture and a majority will for reform, then a big bang governance reform strategy is likely to be politically feasible in progressive countries.

This hypothesis is motivated by recent examples such as the Green New Deals of Spain and New York, California's Renewable Portfolio Standards, Iceland's Climate Action Plan 2018-2030, among others, as well as the pioneering roles some countries played in climate and energy policies, e.g. Denmark, Sweden, Finland (CPUC, 2017; Sovacool, 2017).² These examples suggest: there are administrations willing to lead on decarbonization and fuller (political and social) reforms could be feasible with appropriately designed compensation packages to broaden acceptance for such reforms.

Hypothesis 2: If there is moderate state capture and a majority will for reform, then optimal sequencing of governance reforms is likely to be politically feasible in moderate countries.

The German experience with *Energiewende*, its Coal Exit Commission and government support for clean energy investments suggests there are countries where an optimal sequencing of governance reforms that aim to gradually phase out the fossil-fuel sector may be politically feasible, despite significant capture of the state by these interests. In such contexts, better designed compensation packages could be important for improving the effectiveness of existing reforms and broadening support for future reforms.³

² See New York's Climate Mobilization Act, April 2019. For Iceland's Climate Action Plan 2018-2030, see Ministry for the Environment and Natural Resources (2018). For a more recent announcement at the Climate Action Summit 2019 by New Zealand, Costa Rica, Fiji, Iceland and Norway to negotiate a new 'Agreement on Climate Change, Trade and Sustainability', see Steenblik and Droege (2019).

³ For a critique of German *Energiewende* that focuses on competing interests, uncoordinated government ministries and weaknesses in the hierarchical, part captured, governance model used for transition, see Dohmen (2019). See also Coggio and Gustafson (2019).

Hypothesis 3: If there is strong state capture and public support for reform, then a divide-and-rule governance reform strategy is likely to be politically feasible in captured countries with large domestic markets.

In captured countries, if there is significant heterogeneity across subnational administrative units in terms of local government capture and local majority will for reform, then subnational governments could be encouraged to adopt either full or partial reforms, particularly if these governments are progressive or moderate respectively. The idea here is to implement geographic reform in subnational areas or sectoral reform that will weaken the position of vested interests at the national level. If successful, these reforms could build constituencies for further reform in other areas or sectors and thus, successively lower the required compensation packages for buying reforms at national level.

It is recognized that subnational and non-state actors may have an important role in climate mitigation (e.g. Hsu et al., 2016; Hale, 2016; Chan et al., 2015; Hale and Roger, 2014). In the case of the United States at federal level, it is unlikely compensating transfers would have public or lobby support given the size and influence of its fossil-fuel industry. For example, in 2014, the profits of public companies engaged in fossil-fuel activities in North America were \$257 billion and \$326 million was invested in lobbying and campaign funds in the 113th Congress.⁴ Yet, a divide-and-rule strategy may be feasible because states and sectors differ in terms of public support for climate actions and regulatory capture.

For example, California has recently implemented stricter vehicle emission standards than the Federal government, standards that have been adopted in thirteen other states. California accounts for 12% of all vehicle sales in the USA and together with the thirteen other states, they collectively account for approximately one third of the US car market.⁵ Similarly, the 2008-09 auto-industry bailout involved stricter Federal vehicle emission standards. These examples suggest that subnational and sectoral reforms can potentially weaken the market shares of dominant fossil fuel interests and therefore, the compensation required to buy acceptance for governance reform at federal level.

Hypothesis 4: If there is strong state capture in an exporting country, then a divide-and-rule strategy is likely to be politically feasible if the import countries are progressive/moderate.

Whereas hypothesis three exploits fragmentation within captured countries, this hypothesis is based on fragmentation outside these countries. The main idea is that implementation of full or partial reform in markets that are key sources of revenue or rents for strategic losers of another country could ease opposition to reform in that country.

⁴ See <http://priceofoil.org/profits-oil-gas-coal-companies-operating-u-s-canada/>.

⁵ See <https://www.bbc.com/news/world-us-canada-49746701>.

For example, Norway, like many oil producing nations, exports much of its oil and gas, and despite strong domestic support for climate action, its welfare system and support for its government depend, at least in part, on these export revenues (IRENA, 2019: 33). Progressive reforms in EU countries, the principal export destination, especially in transport, could help to weaken the opposition of the Norwegian Petroleum Industry to compensatory reforms. Such compensation packages will likely require the participation of regional partners, e.g. packages similar to EU Structural Funds.

5 DISCUSSION

The article outlines a set of strategies that can be used for implementing new governance frameworks for SDG transformations. At the core of each of these strategies is the idea of compensating strategic losers to buy their acceptance for governance reforms to prevent their continued blocking of transformations necessary for achieving the SDGs.

A limitation of the article is that it does not trace out the likely effects of each of these strategies, focusing instead on their political feasibility across stylized country examples. However, I believe that the identification of these strategies can provide a useful point of reference for framing discussions about how to implement new governance frameworks for sustainable development. Such a framing is lacking in current debates on governance for SDG transformations, which tend to focus on the characteristics of good governance frameworks, rather than how to deal with strategic losers, i.e. those who stand to lose most from changes in the status quo.

More research is needed on how to optimally design compensation packages to buy the acceptance of losers from governance reforms. The paper has not built a model to identify the characteristics of optimal compensation in the context of SDG transformations. The transition economy experience highlights that different compensation packages can lead to enormous variation in their effects. Important consideration needs to be given not just to economic effects, but also to the political and social implications of such reform packages. The case of Russia highlights that poorly designed compensation packages can serve to simply increase the power of vested interests with the benefits of reform concentrated within these interests. The bank and auto-industry bailouts suggest piecemeal policy changes are unlikely to achieve transformation (e.g. Dellisanti and Wagner, 2018; McNulty and Wisner, 2014). These bailouts highlight government's willingness to spend large amounts of money on strategic losers in a crisis and the importance of getting a good deal for the public in terms of new governance frameworks. Research is also needed on the appropriate mix of financial and non-financial compensation, e.g. stock options in the green economy, and how costs ought to be distributed across generations. There is a strong case for debt-financed compensation that transfers much of the cost to future generations (e.g., Sachs, 2015).

The article proposes three compensation strategies for enacting governance reforms. However, other strategies are also possible. For example, the political economy literature refers to dual-track price liberalization, as was used in China, as a successful example of a gradualist strategy to implement capitalist reform (Roland, 2002). In a decarbonization context, a dual track strategy may be to maintain existing contracts for strategic losers, e.g. coal power plants, but to implement new governance reforms at the margin, e.g. require additional contracts use green energy. Compensation in this approach is implicit; the coal industry keeps its existing contracts (Burtraw and Palmer, 2008).

Such a strategy may be an important building block for governance reforms to emerge that later could be combined with the compensation strategies outlined in this article to buy the acceptance of losers for fuller reform. Germany appears to have a dual-track energy system and compensation packages may now be needed to improve the effectiveness of the phase-out of coal. A dual-track strategy may also be useful for progressive or moderate countries in the developing world as way of dealing with increasing demands for both energy and climate commitments.

More research is also needed to examine the political feasibility of transformations in different contexts. This paper has considered two highly stylized aspects of democratic systems, yet political feasibility is more contextual than suggested here and the relevance of other aspects needs to be assessed. For example, a limitation of the proposed strategies is the potential for retaliation. In response to California's stricter emission controls, the US Federal government stripped the state of its right to set its own vehicle emission standards, which is now likely to spark a legal battle over states' rights. Further research is also needed to understand political feasibility in developing countries and non-democratic settings, e.g. authoritarian regimes, fragile states.

Disclosure statement

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Post-growth perspectives: Sustainable development based on efficiency and on sufficiency

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Article**

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Abstract

With the United Nations Sustainable Development Goals (SDGs) and the Paris Agreement the general idea of sustainable development has been transformed into a policy concept with well-defined goals, indicators for measurement and an implementation process. To reduce environmental impact (e.g. on climate, SDG 13) two basic options are available: efficiency and sufficiency. Eco-efficiency (less environmental impact per unit of GDP) still plays the most important role and has the potential to delink economic growth and environmental impact. Growth could continue (green growth). However, rates of efficiency increase are not (yet) large enough to comply with e.g. climate goals – and efficiency increase is (partly) compensated by rebound effects. Therefore, greater emphasis on the sufficiency option (lower GDP) is necessary, i.e. consumption patterns and lifestyles will have to change; in macro-economic terms: economic growth (in rich countries) will have to end. This has significant consequences for the transformation of economies and societies and for government policies, which have been dominated by growth policy. Nevertheless, given the ambitious environmental (climate) goals and the only small effects of efficiency strategies, strengthening of the sufficiency option is inevitable. Only with policy concepts that integrate the efficiency and sufficiency components is there a chance to fulfill environmental SDGs – which are the foundation for many other SDGs.

Keywords: delinking, GDP, green growth, happiness, IPAT equation, rebound effect, secular stagnation, transformation

1 INTRODUCTION

After almost three decades of intensive global debate on sustainable development the year 2015 changed the scene fundamentally. What the Brundtland-Report (WCED, 1987) and the two Rio Summits in 1992 and in 2012 had prepared, culminated in two global agreements: the UN Agenda 2030 with the SDGs and the Paris Agreement on Climate Change. The sustainable development debate has a new quality now; it has been transformed into a political commitment with well-defined common goals, indicators for measurement and an implementation process. The core features of the “future we want” (UN conference Rio+20) are clear.

This progress was overdue. Alarming reports from the IPCC (2018) on climate change and the IPBES (2019) on biodiversity loss were complemented by “empirical evidence” that everybody can experience without complex measurement methods: weather extremes (heatwaves, droughts, floods, storms and wildfires) and the disappearance of formerly common species (bees, butterflies and so on). The global ecological crisis seems no longer far away, rather, mankind is already in the middle of it.

While climate change (SDG 13) and – to a lesser extent – biodiversity loss (SDGs 14, 15) are in the focus now, sustainable development is more complex and has to address more (conflicting) goals. Environmental goals have to be aligned with

socio-economic goals – primarily poverty reduction (and the related hunger, health and education goals). Nevertheless, coping with the environmental limitations and goals is considered fundamental to sustainable development. All socio-economic problem solving will turn out useless if the “solutions” are accompanied with the overburdening of eco-systems and resource bases. Socio-economic problems will then return even more fiercely.

While sustainable development addresses inter-generational justice and respect for future generations, the “old” problems of intra-generational justice did not disappear and are closely interwoven with the inter-generational ones. In a simplified global perspective there is a wealthy billion and there is a billion living in extreme poverty and in between there is a five-billion strong “middle class” coping with a declining hope for upward mobility. As emphasized already in the Brundtland Report (WCED, 1987: 54) the “needs of the present” are “in particular the essential needs of the world’s poor” (e.g. the bottom billion). They need more goods, i.e. economic growth (with growth rates of 7% p.a., see SDG 8).

For the affluent billion the question and the sustainability challenge are very different: “How much is enough?” (Skidelsky and Skidelsky, 2012), is it time to change consumption patterns and lifestyles and to switch from over-consumption to sufficiency? So far, not much attention has been dedicated to this question in economic literature or in government policy in the rich nations. The potential conflict between the dominating economic growth paradigm and environmental SDGs has been resolved by the idea of eco-efficiency and Green Growth (GG). When confronted with environmental and resource limitations, the traditional paradigm of economic growth can prevail as eco-efficiency increases will delink output (Gross Domestic Product GDP) and input (of natural resources).

This article starts with defining and explaining the strategic options for the reduction of environmental impacts (part 2). It will then discuss the concept of eco-efficiency and what this strategic option can contribute to environmental SDGs. This part (3) also addresses the relevance of rebound effects. The subject of part 4 is the sufficiency option, both micro-economic (consumption patterns) and macro-economic aspects (secular stagnation). In part 5 some conclusions are presented and it is argued that only a combination of the efficiency and the sufficiency option has a chance to meet ambitious environmental SDGs. The focus in this article is on rich, developed countries only (as e.g. organized in the OECD). This is not a homogeneous group, but no differentiation between countries is made here. Most examples focus on climate change (SDG 13) because this is the most urgent and most elaborated of the SDGs. The most relevant socio-economic goal is economic growth (as measured by GDP) and therefore the growth paradigm is of special interest here.

2 STRATEGIC OPTIONS FOR SUSTAINABLE DEVELOPMENT: EFFICIENCY AND SUFFICIENCY

2.1 THE NORMATIVE STARTING POINT

Economic analysis starts with political goals which are defined in political, democratic processes by parliaments. Economists then provide advice and recommendations about how to achieve these given goals effectively and efficiently. In the case of climate change (SDG13) the goal has been formulated as a consequence of the legally binding Paris Agreement to limit global temperature increase to 2°C, better 1.5°C only (compared to pre-industrial time). The question for science (economics) is how to decarbonize the economy by 2050 globally? The EU has formulated this goal (EU Commission, 2018). Rich countries like Germany lag behind: minus 80-95% by 2050 (relative to 1990), i.e. “almost” decarbonized. The expectation would be that rich countries play a pioneer role and decarbonize well before 2050. Climate science provides information on the additional quantity of CO₂-emissions that are (with high probability) compatible with the 1.5°C goal. There is a “carbon budget” of roughly 800 gigatonnes (Gt) CO₂-emissions (IPCC 2018). For a world population of 8 billion this equals 100 tons per capita – under the (normative) assumption that each person should have an equal share of the carbon budget. This means: neglecting the historical burden that early-industrialized countries like the UK and Germany had already accumulated over the previous 150 years. For Germany with about 80 million inhabitants (1% of the world’s population) under the equality assumption the national carbon budget is 8 Gt. Given the annual emissions of about 800 million tons, the German budget would cover ten years. Only radical reduction steps could extend this to 20 years. Every year 40 million tons have to be eliminated and Germany has to be carbon neutral by 2040 (Kurz, Spangenberg and Zahrnt, 2019).

2.2 TWO COMPONENTS

When the environmental goal is given, strategic options for compliance can be discussed next. The starting point is the simplest version of decomposing environmental impact I by an extension of the identity $I = I$:

$$I = I / \text{GDP} * \text{GDP}$$

Impact I is determined by two variables: GDP is a measure of the production (output) of an economy. I/GDP is the eco-efficiency of the economy and measures how much environmental impact is caused by producing one unit of GDP. The reciprocal GDP/I is productivity, i.e. how much GDP is produced with one impact unit (e.g. one tonne of CO₂-emissions). This is the standard definition in economics primarily used for labour productivity: GDP/worker . For more specific eco-efficiency indicators e.g. in a business context see UN (2009).

If GDP increases (economic growth), environmental impact I will increase too, all other things being equal. However, if I/GDP declines, I may decline – even if GDP grows. The variables I and GDP are then “delinked” (decoupled). With an

eco-efficiency increase, economic growth can continue while at the same time environmental impact is reduced.

Here are some examples which have been discussed in the literature and have some political relevance:

(a) **Factor 4:** (Weizsäcker, Lovins and Lovins, 1997): If over a period of 20-30 years eco-efficiency were to quadruple, GDP could double (grow at 2-3% p.a.) and yet I could be reduced by 50%.

$$I = I / \text{GDP} * \text{GDP}$$

$$1/2 = 1/4 * 2$$

This would require an increase of eco-efficiency of 4-5% p.a.

(b) **Factor 3:** A GDP growth rate of 2% p.a. would increase the GDP by roughly 50% in the period 2020-2040. If the environmental protection goal is to reduce impact I over that period by 50% the formula reads:

$$1/2 = I / \text{GDP} * 1.5 = 1/3 * 3/2$$

Eco-efficiency has to increase by a factor of 3, i.e. to produce one unit of GDP in 2040 only a third of the resources (emissions) of 2020 are required. This implies an annual increase of eco-efficiency of more than 5%. So far, there is no empirical evidence that such high efficiency increase rates are possible over many years. Most OECD countries show rates of 1-2% p.a. (Kurz, 2014). An “efficiency revolution” would be necessary, i.e. a doubling of efficiency growth rates.

(c) **Factor 20:** Climate policy goal in Germany is to reduce CO₂-emissions by 80-95% in the period 1990-2050, i.e. up to “factor 20”. This requires an increase of CO₂-efficiency of 3% p.a. (80% goal) or even more ambitious 5% p.a. (95% goal). Again the problem is, that the trend of efficiency increase is much lower – and hence climate policy goals are missed (as for 2020).

Such results were calculated and formulated by PwC in 2012: “The global economy now needs to cut carbon intensity by 5.1% every year from now to 2050 to achieve this carbon budget. This required rate of decarbonisation has not been seen even in a single year since the mid-20th century when these records began.”

2.3 IPAT EQUATION

A more general formula and an extension is the so called IPAT equation (introduced in the 1970s by B. Commoner, P. R. Ehrlich and J. Holdren et al.):

$$I = I / \text{GDP} * \text{GDP} / \text{person} * \text{persons}$$

There are three components now, highlighting three strategic options for the reduction of environmental impact I:

- I/GDP: reduction of the impact per unit of output (GDP), i.e. eco-efficiency.
- GDP/person: reduction of income per person, which is related to a reduction of consumption expenditure, i.e. sufficiency (in the rich countries). How much income and consumption are enough?
- Persons: Decline of (world) population could contribute to a lowering of I. This strategic option will not be addressed here as it is not a core variable for sustainable development in rich countries over the next two decades.

Applied to climate change the IPAT-formula reads:

$$\text{CO}_2 = \text{CO}_2/\text{kWh} * \text{kWh}/\text{GDP} * \text{GDP}/\text{person} * \text{persons}$$

The goal of reducing CO₂-emissions could be compatible with economic growth, if carbon intensity of the energy system (CO₂/kWh) and / or energy efficiency of the economy (kWh/GDP) declined. However, ambitious decarbonization goals (e.g. by 2040) will not be achievable in a growing economy. Growth will “consume” efficiency increases and energy demand will not decline. If energy demand doesn’t decline it will not be possible to provide enough energy from renewable (CO₂-free) sources – unless the installation of renewable capacities (including grid infrastructure and storage capacity) is accelerated dramatically – with high material and land resource consumption, i.e. shifting the (climate) problem to other goals of sustainable development. The solution is: reduction of CO₂ per unit of GDP by 50% and switching to renewable sources for the remaining 50% – without growth of GDP (Kurz, Spangenberg and Zahrt, 2019). A decline of population would allow for increases of GDP/person.

2.4 IPATH EQUATION

GDP is an output measure and a measure of annual incomes. It is not an appropriate measure beyond this narrow scope. GDP and especially GDP/person have been used as a proxy for standard of living, well-being and happiness H. This has been criticized in many publications (Stiglitz, Sen and Fitoussi, 2009). Nevertheless, the core goal of economic policy at least since WW II has been to increase of peoples’ incomes (growth policy). Based on the IPAT-equation this would have to be reversed: reduction of per capita income is identified as a potential contribution to the reduction of environmental impact. An extension of the IPAT formula provides additional insight:

$$I = I / \text{GDP} * \text{GDP} / H * H / \text{person} * \text{persons}$$

$$\text{Impact} = \text{Technology} * \text{Affluence} * \text{Happiness} * \text{Population}$$

This equation could be called the IPATH equation. It highlights a fourth component for impact reduction: GDP/H is the expenditure for market-based goods and services needed per “unit of happiness”. This form of affluence has to decline. The challenge is to explore options for happiness (well-being, prosperity) which do not rely on (so much) material goods. Happiness H per person doesn’t have to decline. With less expenditure for consumption less income is needed. This provides the opportunity of less paid work and more leisure time – which can be an additional source of happiness. IPATH illustrates the “double delinking”:

- delinking type 1 is I/GDP , the efficiency revolution
- delinking type 2 is GDP/H , the sufficiency revolution

If per capita income increases no more, this is not the end of increasing the “wealth of nations” which has been the explicit promise and job of economics since 1776. This dismal perspective would be unavoidable if income were the only determinant of happiness (well-being). However, this is not the case: end of growth is not end of the pursuit of happiness.

3 EFFICIENCY, REBOUND EFFECTS AND GREEN GROWTH

Increase of eco-efficiency is the dominating answer to almost all challenges in the context of environmental sustainability goals: energy efficiency, resource efficiency, land-use efficiency. Ambitious rates of increase in eco-efficiency (e.g. 5% p.a.) could delink economic growth and environmental impact. This section will analyse the prospects of this option.

3.1 REBOUND EFFECTS

The phenomenon is simple and omnipresent: If a product gets more efficient i.e. less resource consuming and hence less costly, this creates an incentive to buy and use more of it. The most famous historical case has been analysed by W. St. Jevons (1866), the Coal Question: “It is wholly a confusion of ideas to suppose that the economical use of fuel is equivalent to a diminished consumption. The very contrary is the truth. New modes of economy will lead to an increase of consumption.” The explanation is: “If the quantity of coal used for blast-furnace be diminished in comparison with yield, the profits will increase, price will fall, demand increase... (over-)compensate the initial reduction of coal consumption.” This has been called the Jevons Paradox: Increase in resource efficiency may result in an increase rather than a decrease of total resource consumption. The rebound effect involves all economic decision-makers, companies as well as private households (consumers): higher efficiency, lower price, higher demand. Today, there are many more examples:

- While energy efficiency of machines and consumer goods (refrigerator, heating etc.) increases, overall energy consumption does not decline.
- With more efficient light technology (LEDs) nobody is bothering about turning off the lights.
- More fuel-efficient car engines encourage higher powered cars (SUVs), driving more and longer distances.

- With better insulation of buildings, heating costs decline, higher room temperature is “affordable”, and it is not necessary to wear a sweater any more.

RE are identified by comparing two cases: what would the effect of an efficiency increase be on the quantity of (energy) demand if the price remained constant? Energy demand would then be constant and the higher efficiency would completely reduce overall energy consumption. This hypothetical case is compared with the more realistic case that price declines due to more efficient (cost reducing) technology. The delta is the RE.

If fuel consumption of cars declines from 7 litre per 100 km to 6.3 this is a 10% increase of fuel efficiency. The expectation would be that total fuel consumption (and CO₂-emissions) will also decline by 10%. If the decline is only 5% (1%) there is a rebound effect of 50% (90%). The “gap” of five percentage points is the result of higher demand for fuel (more and longer rides, faster driving etc.). Half of the efficiency increase is lost, “consumed” by users. If there is no reduction at all (0%), the rebound effect is 100% (full rebound). If there is actually an increase in demand, this is called “backfire”.

Efficiency increase has direct and indirect effects and empirical results depend on the scope of analysis. Focus of RE analysis is on the direct, sector-specific effect of a more eco-efficient technology, on lower costs and prices and higher demand (e.g. more fuel efficient cars, demand for fuels). However, price reductions also have an income effect, i.e. lower price is equal to higher (real) income. The savings from the fuel efficient car could also be used for an (additional) flight and hence would not be reflected in the demand for car fuel – an underestimation of the rebound effect. In more general macro-economic terms, eco-efficient technologies have the potential to stimulate overall GDP-growth (“green growth”) which is related to all kinds of additional natural resource consumption (macro rebound). The new technology also comes with its inherent eco-impacts, e.g. e-cars depend on critical resources for batteries; more efficient buildings “consume” (additional) insulation material. These effects throughout the (global) supply-chain would have to be included in a complete analysis of RE.

Increases in eco-efficiency are part of the economic innovation process. They are typically the result of cost-intensive R&D activities and innovators will try to charge a high price to cover these costs and to earn an (extra-ordinary) profit as a reward for their successful research efforts. It will depend on their monopoly power whether the eco-efficient technology comes with low(er) prices. Monopoly power could be a constraint on diffusion and hence on rebound effects, at least a temporary effect until barriers to market entry erode. In fact already Jevons’ coal question highlights an innovation process: a more efficient steam engine is now attractive for new uses throughout the economy (diffusion); this is the basic reason for higher (coal) demand, not so much the increased demand of incumbents.

The explanation of RE can be based on standard micro-economics and rational decision making only: lower cost (total cost of ownership) increases demand. Behavioural Economics beyond rational decision making can add some aspects:

- People tend to forget the initial (high) investment cost and make everyday decisions based on marginal cost: the additional cost of the “extra mile” with an efficient diesel car then is calculated as 5 litres = 6 € per 100 km; actually, it is roughly 0.30 €/km, i.e. 30 € per 100 km.
- People “reward” themselves for doing something eco-friendly (moral licensing). Shoppers who bring their own bags to the supermarket tend to buy more sweets, crisps and ice cream. Households that succeed in reducing their water consumption tend to increase their electricity consumption (Karmarkar and Bollinger, 2014).

3.2 MACRO-ECONOMIC EFFECT: GREEN GROWTH

Based on optimism about continuous eco-efficiency increases, the concept of “Green Growth” (OECD, 2011; Kurz, 2014; 2019a) develops a positive vision of future growth combined with SDGs compliance. This is still the dominating defence of the growth paradigm in the conflict with the goal of environmentally sustainable development. However, the emphasis of the potential of this solution is not supported by empirical evidence. Nowhere are there cases of efficiency growth rates larger than 5% p.a. over a longer period of time. To base sustainable development (e.g. climate protection) only on (unpredictable) eco-efficiency increases in the future would be irresponsible. As it is not possible to rule out the existence of a black swan, it is not possible to deny a small probability for GG. However, like black swans, it is a very rare species.

In sum, GG is not a solution as long as the size of greening (substitution effects) is over-compensated by the size of growth (income effects). On a limited planet, economic growth cannot continue forever, not even over the next decades, as there is no evidence that it could be delinked effectively and fast from environmental impacts by dramatic increases of eco-efficiency (efficiency revolution).

3.3 RELEVANCE OF ECO-EFFICIENCY FOR SUSTAINABLE DEVELOPMENT

The Jevons Paradox and the analysis of RE are adding to the warning not to over-estimate what technology can do for a reduction of environment impacts. Eco-efficiency is not the silver bullet for resolving the conflict between economic growth and environmental SDGs. So far, efficiency increases are not large enough to achieve sustainability goals in growing economies, i.e. growth and sustainable development are incompatible. Either (rich) nations give up their growth policy or they will fail to comply with their SDGs and hence shift incalculable burdens onto their (grand-)children. In other words: Either give up income (perceived as wealth) or give up moral integrity.

The important function of the efficiency option will remain: Technology can buy time, shift an environmental problem from a “hot spot” to what seem to be less

risky fields, e.g. nuclear and fossil substituted by renewable energy – presumably without any cost (the sun is sending no bills). Eventually it turns out that old risks have been traded against new ones – often no less serious (e.g. the resource problems of e-mobility related to lithium, cobalt and so on). The general efficiency or modernization promise turns out to be flawed. Technology is not a causal therapy, rather a tool for crisis management. It is popular because it is comfortable for (almost) everyone: consumers don't have to change their behaviour, politicians don't have to make unpopular proposals and decisions, companies find new markets (green growth). The more fundamental issue of sufficiency, the limits of consumerism and the limits to growth (Meadows et al. 1972), is much harder to address. As the efficiency revolution loses some of its glamour, sufficiency and de-growth gain attractiveness. The learning spreads that sustainable development is not a technology race but a fundamental reorientation of human and economic development, a cultural revolution.

4 SUFFICIENCY AND RESILIENCE

4.1 BASIC IDEA

The basic idea of sufficiency has been around for centuries in religious and philosophical contexts: How much is enough? How much is necessary for a good life? Economist from Smith to Mill and to Keynes addressed the issue and the perspectives of increasing wealth by providing more and more consumer goods. Critique of “consumerism” has a long tradition (Veblen, 1899; Galbraith, 1958). The new context today is sustainable development: What level of consumption is possible today (for living generations) without ruining the natural foundations of life for future generations? Formulated as a moral question it runs how can we enjoy our lives at the cost of our grandchildren? Sufficiency is the real core of sustainable development, i.e. development (advancement of socio-economic goals) within the carrying capacity of eco-systems, respecting the environmental limitations (*Begrenzungskrise*). The question of the limits of natural resource consumption, which started the sustainable development debate in the 1970s, leads to the question of the limits of the production and consumption of goods and services. How much more is possible – given the well-known “side effects” (e.g. on climate change)? After a period of unprecedented increase of material wealth (GDP), the costs and benefits of additional income and consumption have to be re-evaluated. Instead of postponing the sufficiency debate a more proactive attitude is necessary.

Sufficiency addresses the question of how many products and services consumers actually need. Would fewer quantities and less spending reduce consumers' happiness (overall life satisfaction, well-being, utility)? Interwoven but conceptually different from the “less” is the “different” aspect: choosing a different product (e.g. more fuel-efficient car). While most sufficiency debates cover both aspects, the challenge clearly is on the “less / fewer”, the “zero option”. More efficient (“smart”) solutions easily find acceptance – at least in market niches, from smart cars to smart homes, as long as the “less” is avoided. The core sufficiency challenge to the (about 1 billion) rich all over the world with affluent lifestyles is: less

mobility (fewer kilometres travelled), less energy demand (lower room temperature), less land consumption (smaller apartments). Sufficiency is not identical with *Verzicht* (renunciation, self-deprivation) – which includes an element of (willingly) suffering and could be beneficial e.g. in a religious context.

Sufficiency is a challenge for individual consumer behaviour and it has significant macro-economic implications. It is a challenge to the core idea of economic growth. Less consumer demand means less production, less investment and a smaller GDP. It causes new economic adaptation and transformation problems which are challenging for theory and for policy.

The sufficiency revolution is more challenging than the efficiency revolution and has the potential of a cultural revolution, a fundamental change of society and economy. It is not just about eating a little bit less meat or flying less. Sufficiency is questioning the whole concept of “pursuit of happiness” by means of increasing the production and consumption of more goods. It is about breaking up the vicious circle of more needs, more income, more (alienated) work, more (compensating) consumption. It constitutes the duty to work against hedonistic consumerism – and increasing “flight shame” might be a first success. Refocusing the materialistic system and developing cultural perspectives beyond can rely on many sources – from Fromm (1976, to have or to be) to Illich (1973, self-sufficiency, conviviality). The open question is, whether developed nations will be able to achieve the huge cultural accomplishment of voluntarily imposing limitations on the use of natural resources. This is not impossible as has been demonstrated related to the factor labour (child work, slave work) – and the Paris Agreement (2015) could be another success story.

4.2 QUANTIFYING EFFECTS

The difference between a (moderate) business-as-usual growth scenario (plus 2% p.a.) and a (moderate) de-growth scenario (minus 1% p.a.) is quite significant: 49+18, i.e. 67 percentage points. In terms of average annual income: the initial annual income of e.g. €36,000 either increases to €53,640 or it declines to €2,520, a difference of €24.120. To “digest” and to manage such a swing in perspectives and biographies is unprecedented in the last decades.

TABLE 1
Economic growth projections, 2020-2040

Year	Growth rate %					
	p.a.	3	2	1	0	-1
2020		100	100	100	100	100
2030		134	122	110	100	90
2040		181	149	122	100	82

What could the sufficiency option contribute to sustainable development? To quantify the potential effects we can focus on the global CO₂-emissions of 35 billion tons p.a. (World Bank data) and assume that

- the affluent billion is responsible for roughly half of it, i.e. has emissions of 17 t per capita p.a. (e.g. US 16.5 t/capita; Germany 9 t/capita);
- the rest of the world population (6 billion people) has 3 t per capita p.a. (e.g. India 2 t/capita);
- the affluent billion succeeds by 2050 to make a 50% reduction in their consumption (and incomes) – and as a consequence in their per capita CO₂-emissions.

Global CO₂-emission would decline by 8.5 billion tons p.a., from 35 billion tons p.a. today to 26.5 billion p.a., i.e. a 24% reduction of total global CO₂-emissions. If reductions of 80-90% are necessary for the < 2°C goal, and if we assume an efficiency factor 4 (= 75% reduction), sufficiency could close the gap. If the efficiency effect is smaller, sufficiency is even more important. In this scenario the 50% reduction of consumer spending is extremely ambitious and the question is what could make such an option attractive to the affluent?

Could “less” really be an attractive perspective for a majority of people? A little bit less seems to be attractive – at least if the success of publications on “simplify your life” is accepted as an indicator. It is doubtful whether significantly less would find any public support. Would anyone join an initiative to reduce consumption expenditures by 1% every year over a period of 20 years (i.e. roughly 20% in total)? How many would subscribe to the idea “50% less”?

So far, sufficiency still has niche status, identified in empirical studies e.g. as LOHAS (lifestyle of health and sustainability), LOVOS (Lifestyles of Voluntary Simplicity) or labelled as “downshifting” or “minimalism”. However, public attention seems to increase. Companies did spot the trend and integrate it in their advertisement (not always in their strategy). There are many projects organized by civil society organizations (like repair cafés, urban gardening). The young generation is asking for work-life-balance and is willing to give up income in order to raise kids. Mobility patterns are changing, urban citizens own no car (don’t even have a driving license) and flight shame is often mentioned. Consumption of vegetarian and vegan food is on the rise. New forms of living together are being tested. The environmental impact of such elements of new lifestyles is hard to measure. So far, it seems the overall effect is not significant: mobility is increasing (although it is smarter); the average size of an apartment increases (as the number of single households increases). In sum: there is change in niches, high creative potential, some “business cases” – and ample opportunity for more. More creative solutions will emerge, all demonstrating that sufficient lifestyles are not equal to renunciation and are not a barrier but a promising way to the pursuit of happiness.

4.3 MACRO-ECONOMIC EFFECTS: SECULAR STAGNATION

A macro consequence of a continuously declining consumer demand could be economic stagnation or even decline. This depends also on the other components of demand: investment I_n , government spending G and trade balance ($Ex-Im$):

$$GDP = C + I_n + G + (Ex-Im)$$

When consumer demand declines, investment will follow suit. With a declining GDP, tax revenues and hence government spending will decline (permanent deficit spending ruled out). Exports could compensate for all this. Together with an expected decline of imports (closely related to economic activity), this will create a large surplus in the trade balance. Other countries will have to run a deficit – and will not accept this long-term. If secular stagnation is the long-term perspective (Summers 2016), the second interesting question is related to the adaption process: How to make this a smooth adaption rather than a cumulative downward spiral? There is little knowledge concerning or research into designing such a process.

Other stagnation effects are transferred via labour markets (supply side): If individuals consume less, they need less income and hence could reduce worktime (enjoy more leisure time). If labour supply declines, various effects will compensate for this: increasing wages, automatization, global supply chains. In some segments (with specific high qualifications) labour supply could become a bottleneck and restrict growth. More leisure time could be invested in community projects and thus increase social capital.

Keynes' (1930) vision was that within a century, average people could reduce working hours to 15 hours per week. This forecast is based on

$$GDP = GDP/hour * hours/worker * workers$$

If labour productivity (GDP/hour) grows at 2% p.a. over 100 years, it would easily be possible to reduce labour time for a given number of workers producing a constant GDP to 15 hours/worker. But why is everyone still working much longer (e.g. 35 hours/week in Germany)? Obviously workers were not satisfied with their income (GDP) as of 1930. Most of the efficiency gains were thus used for higher incomes and consumption levels. And this is still the situation: productivity increase can be used for wage increases or for reduction of working hours. Only when workers are satisfied with their income levels, will Keynes' vision be able to unfold its full potential: more leisure time could make people happier.

4.4 SUFFICIENCY POLICY

Today sufficiency is primarily an individual search process, testing new consumption patterns, exploring and finding new lifestyles (social innovation). Government policy is not supportive as it is focused on fostering the innovation and growth process, the increase of GDP/capita as the only relevant indicator for economic wealth. Without a systematic and consistent government policy, sufficiency

will have little effect. Research on and implementation of sufficiency policy is the next crucial step for sustainable development.

Sufficiency is a challenge not only for individual decision making but also for political decision making on the framework conditions that are always a determinant in consumers' decision making. A government sufficiency policy could enable and incentivize consumers. However, no consistent concept has been formulated yet. It has to steer clear of paternalism and eco-dictatorship. It would be naïve to leave it to individuals alone to change their decisions without addressing the political framework conditions which influence these decisions. Well-intentioned moral behaviour will finally surrender to hostile circumstances. The legal and institutional framework has to be favourable for moral decision making. Moreover, if consumers had to include a complex, multi-dimensional goal system like the UN SDGs in their decision making, they would be hopelessly overburdened. Complexity reduction and translation is necessary.

The first step could be to stop all forms of growth policy: Abolish all growth-stimulating measures e.g. in the tax code, revise deregulation, no unspecific subsidies for R&D. Laws that define growth as goal for government policy should be abated. Government expenditure has to be restructured, e.g. infrastructure investment: no new roads, runways and terminals – bike lanes and public transportation instead. Environmental restrictions have to be “translated” in regulations and concrete caps e.g. parking lots, runway slots.

The next step is to develop a holistic concept of a sufficiency policy that includes (almost) all fields of government policy, at least check their relevance and the effectiveness of potential changes. Following the conventional list of economic policy instruments this creates the following list:

- (1) Information: Reduce complexity by creating / supporting reliable labels (fair trade, FSC etc.). Support for traditional consumer protection organization should be redirected to include sustainability issues. Results of behavioural economics on (irrational) consumer behaviour provide new approaches (nudging).
- (2) Education: Consumer behaviour and decision making have little connection with those of the autonomous textbook individual. Preferences are formed as part of the industrial production process. Education could contribute to make individuals more independent of status and consumer goods and strengthen their personal capabilities.
- (3) Voluntary agreements: Companies often claim a pioneer role in sustainability and Corporate Social Responsibility (CSR) and could voluntarily do more beyond reporting, especially in their product policy (longevity vs. obsolescence).
- (4) Government spending (purchasing behaviour, lead customer), infrastructure investment (bike lanes and public transportation instead of autobahns), social safety net (basic income).

- (5) Prices could be a simple indicator for sustainable consumption and change consumer decisions significantly – if only they told the (ecological and social) “truth”. Government can correct market prices by taxes and subsidies. Alternatives are cap-and-trade systems.
- (6) Regulation (command and control) always seems to be the *ultima ratio*. However, this instrument has significant advantages as it relieves individuals from the burden of decision making, is fair (equal for everyone) and effective. Examples: fuel-efficiency standards, phase-out of fossil car engines.

5 PERSPECTIVES AND POLICY RECOMMENDATIONS

To achieve ambitious SDGs, e.g. carbon neutrality by 2040, both strategic options – efficiency and sufficiency – have to be activated and strengthened. What would be the core elements of efficiency policy and of sufficiency policy and how can the two be integrated (transformation planning)?

5.1 INCREASE ECO-EFFICIENCY GROWTH RATE

The challenge is to stimulate and to redirect innovation activity into an eco-efficient direction. Government policy has only limited influence on innovation activity (e.g. Steger et al. 2005; https://ec.europa.eu/environment/ecoap/frontpage_en on EU eco-innovation policies). The most general tool is to change expectations of entrepreneurs and investors. Government and civil society organizations together have to stimulate a public debate on “the future we want”. This influences strategies and direction of search activities (e.g. the climate debate and new mobility solutions). In more detail, eco innovation policy could combine a set of instruments:

- Government R&D expenditures (from basic research to market entry and diffusion) for “green” technologies and market segments (e.g. wind and solar energy). Redirect science system in general (WBGU, 2011).
- Price signal (e.g. taxing negative external effects of CO₂-emissions) and financial incentives (e.g. favourable depreciation rules) to make (eco-) investments more attractive i.e. profitable (e.g. in renewable energies).
- Technology forcing by regulations, e.g. ambitious fuel-efficiency fleet standards. Forced phase-out of hazardous and/or polluting technologies (e.g. coal-fired power plants).

5.2 REDUCE REBOUND EFFECTS: CONTROL OF PRICE REDUCTIONS AND/OR DEMAND

RE can be directly addressed and reduced if either the cost and price reductions are eliminated or the potential expansion of demand (quantity) is restricted. To eliminated the decline of prices, a (eco-)tax could be introduced – with tax rates increasing with the rate of eco-efficiency growth (and tax revenue spend for eco or social goals). This could be e.g. a CO₂-tax with eco-bonus. The same function could be fulfilled if real incomes could be reduced when people work less and enjoy more leisure time (reduction of working hours). Most effective would be quantitative restrictions (caps). More efficient (cheaper) fishing technology can cause a decline of fish population. Fishing quotas could avoid this. The EU-ETS

defines reductions of CO₂-emissions – no matter what eco-efficiency does; efficiency increases are crucial for the price of certificates, i.e. the cost for companies and society. Other regulations include e.g. in the mobility sector limitation of car “horsepower” and/or speed limits (so that it makes less sense to buy high-powered cars). Parking restrictions for SUVs instead of additional (larger) SUV parking lots and/or general reduction of parking space. In sum, there are policies capable of reducing the RE but these are neither popular nor easy to enforce.

5.3 SUFFICIENCY POLICY

The stability of capitalist systems is based on the old recipe developed by Adam Smith (1776): increase the supply of goods and keep people busy. To keep people satisfied, a permanently increasing quantity and quality (innovation) of goods is necessary and people need to have jobs – to finance consumption and to structure their life time. Under these conditions the system works well and is stable. Only recently has there been more attention to the question of whether this logic will prevail. Being trapped in the work-consumption-circle is no longer a generally shared vision and this type of “social contract” is losing its attraction the wealthier nations and individuals get. Mill (1848) and Keynes (1930) recognized this and they emphasized the positive aspects. Today there is ample empirical evidence that beyond a certain level of income, further increase of income and consumption will not increase well-being and happiness (Easterlin 1996; Frey, 2008).

To make it acceptable for a majority of voters, sufficiency has to be attractive, i.e. it has to fulfil a (basic) need. In rich societies the basic material needs are fulfilled (on average). However, there are more sophisticated needs which play a more vital role. People are interested in non-materialistic “products” like social responsibility, making sense of their life, personal integrity. Of course, there are mechanisms to compensate for deficiencies in these dimensions. An increasing entertainment industry is supportive in distracting attention from such (potential) needs. And human beings have learned to live with “cognitive dissonance”, i.e. knowledge is not necessarily transformed into action. However, with increasing knowledge and awareness about environmental degradation and the burdening of future generations, these expulsion mechanisms become fragile. More often people tend to act – at least with alibi consumption (some fair-trade products, bio-food, sometime vegetarian meals, e-bike). This need is also served by joining demonstrations (e.g. against climate change, F4F). It is in this context that a consistent and effective sufficiency policy could find (many) supporters. It offers a way out of individual moral dilemmas.

Even if sufficiency is attractive to individuals it will not easily be transformed into sufficiency policy. Resistance comes from companies which invest heavily in advertisements to stabilize demand for their products, turning “insatiable needs” from a textbook assumption into a reality. In fact, there is a (global) homogenization of (western) lifestyles and popular culture (Ritzer, 1993) driven by communication technology and the urbanization trends. Children grow up more in virtual

realities than in nature. The competition-driven innovation system throws out “new” products every day, often just minor (incremental) changes and “fashions”. Innovation is celebrated without realizing the dark side of “creative destruction” (Schumpeter 1911), the premature obsolescence of perfectly functioning products (Kurz, 2015). Consumers are locked-in with the old products (stranded assets).

In sum, the basic challenge (in rich countries) is to correct expectations and to establish a “new normal”, i.e. to foster cultural change, the mental infrastructure for soft landing after the growth age.

5.4 TRANSFORMATION DESIGN AND POLICY

The SDGs are an expression of a changing value system and they change the goal system and the priorities in society and economy. Environmental and social goals define new limitations for economic expansion. In macro-economic terms, the challenge is to manage the transformation process at the end of an almost hundred year period of economic growth (Gordon 2016). How is a soft landing to be designed (Victor 2008)? This challenge has a long-term component, replacing the growth-focus by a more open development concept. And it has a more medium-term component, the formulation of a transformation strategy for the next two decades.

The main challenge for de-growth policy is to avoid “overshooting” reaction of the system, i.e. a self-feeding crisis (economic tipping point) with huge losses for all (like the financial crisis of 2008). Traditional crisis intervention mechanisms (monetary and fiscal) could do the job.

Intra-generational justice under de-growth conditions means more redistribution of incomes and wealth. As vulnerable groups (low-income households) have to be protected from decline of income, higher income groups will have to pay more taxes. How will the privileged react? Do the lucky ones in the lottery of life understand their responsibility and are they willing to share (more) with the less privileged? As conflict potential increases, investment in social capital (inclusion, participation, dialogue and conflict resolution mechanisms) is vital and required today. The better prepared it is, the less painful will the birth of a post-growth society be.

During the transition to sustainable development, economy and society will face a fast and comprehensive structural change including the decline of old (still successful) industries (like the automobile) and regions as well as (global) supply chains and patterns of specialization. The dramatic structural change needs reliable definition of goals, e.g. a deadline for nuclear power, for coal-fired power plants, for fossil-fuel cars. Transition planning also has to include stimuli and compensation measures to make structural change more acceptable for people affected.

Pressure increases for all groups. Different qualifications and skills are needed, often with lower payment and status, sometimes at different locations (dislocation). Overall uncertainty is increasing with only a vague hope for a better future.

Starting from a quite comfortable status quo, defence of this status and aversion to change are plausible. During the transformation process all forms of resistance will occur (in companies, in the political arena). Transition design and management will be crucial and have to be based on resilient and reliable institutions (schools, education, science, media, courts, police).

Companies are used to a growth world and have no idea how to thrive in a no-growth environment – where average entrepreneurial talent might not be enough: Exemptions are e.g. Patagonia with their “don’t buy!” campaign, referring to the sufficiency idea (<https://www.patagonia.com/blog/2011/11/dont-buy-this-jacket-black-friday-and-the-new-york-times/>). What could government do the better to prepare companies and managers for a no-growth world? More competition or more cooperation? Higher profits to kindle entrepreneurial spirits? More venture capital for start-ups?

To avoid disaster, design of the transformation process is necessary. Although detailed planning is not possible, at least some key features could be the subjects of government planning and supporting policies. Core elements of transformation design are:

- Strategic planning with implementation process (plan-do-check-act, PDCA).
- Principles and financial resources for burden sharing (compensation).
- Institutions for discourse and conflict resolution.

One example for discourse based transformation planning in the context of climate protection is the coal phase-out in Germany (*Kohleausstieg*): phase-out of all coal-fired power plants by 2038 – with government compensation payments and regional adaptation programs (in total 40 billion €). However, this example covers a small industrial segment (some 20,000 jobs). Much more complex (and expensive) will be the transformation of the German automobile industry (with more than 800,000 jobs). No accompanying transformation policy for this industry has been formulated. Other sectors of the economy will also come under heavy adaptation pressure as a consequence of a reinforced efficiency and sufficiency policy: the chemical industry, agriculture, housing and construction.

5.5 PERSPECTIVE: POST-GROWTH SOCIETY

Based on the global consensus on the UN SGDs, especially on climate change (Paris Agreement), and commitments formulated in national sustainable development strategies, the growth paradigm is under pressure. As the SDGs address over-consumption of natural resources and over-burdening of future generations, reductions are an unavoidable consequence. “Delinking” would be a (comfortable) way out: more output (GDP) with less input (resources), i.e. an eco-efficiency revolution. But this is just a hypothetical case and is not backed by empirical evidence. If an eco-efficiency revolution does not do the job, growth is not compatible with sustainable development. To reduce environmental impact, production and consumption have to be reduced, i.e. GDP growth is no longer possible. It is necessary

to study (and to implement) de-growth. This is not just a little technical change of a few percentage points, e.g. instead of plus 2% p.a. in the past, minus 1% in the future. This is the end of the growth paradigm, which has dominated economics and all fields of policy on a global scale after WW II. In fact, the challenge is to formulate a new paradigm for the post-growth era. Research on de-growth and on the post-growth paradigm is therefore of increasing importance. But it is difficult and time-consuming to replace an established paradigm (Kuhn, 1962).

The growth paradigm no longer provides convincing answers to the core problems of today. The new paradigm for the post-growth-era could start by replacing “growth” by the more open concept of (economic) “development” – as outlined by Schumpeter (1911). The core idea is economic development as an open decentralized search process without an orientation to growth but emphasizing permanent, sometimes disruptive change and transition processes, which could be cumulative and destructive or rather smooth (by design).

Under the conditions of the Anthropocene, future development has to respect (planetary) boundaries (Rockström et al. 2017), i.e. it has to be “sustainable development”. To comply with environmental goals like climate-neutrality by 2040 most rich countries will have to reduce the scale of their economic activity and consumption patterns (de-growth). The process of transition to sustainable long-term level and structure could be painful with increasing conflict potentials and not very attractive to consumers, companies and voters. It is a farewell to the wealth promise as we knew it: more, bigger, faster. As incomes will decline rather than increase, additional wealth and well-being has to come from different sources, pursuit of happiness redirected: labour conditions, leisure time, fairness, inclusion and participation. This is no less than a cultural revolution, one that is already emerging, although in niche projects only (repair cafés, urban gardening etc.).

The micro foundation of de-growth is sufficiency, i.e. lifestyles and consumption patterns which emphasize “less” in all fields of consumption (from mobility to housing and food). If consumer demand declines, investment will follow and the emerging development pattern then could be characterized as “secular stagnation” or “stationary state”. In fact, sufficiency is the core of the sustainability debate as it addresses limits and limitations (*Begrenzungskrise*). Sustainable development is not possible without limitations of production and consumption, i.e. fundamental changes in lifestyles (of the rich). This is not the end of the pursuit of happiness and increasing well-being (Jackson 2009). However, fundamental learning and a process of change (social innovation) are necessary, and they are much less comfortable and welcome than fascinating new technologies. Individuals tend to defend their comfort zone and resist a painful learning process.

Could a Post-Growth-Society be attractive, win voters’ support? This depends first of all on problem awareness. Do (many) people understand that their lifestyle is damaging the planet and burdening future generations? Sufficiency and

de-growth are then welcome as a “pain relief” and there is willingness to pay a price. After all, this price is not exorbitantly high for two reasons: For wealthy people additional income is not highly attractive (marginal utility almost zero); future costs of inactivity would be even higher (for climate change Stern, 2006). As illustrated already by Mill (1848) and Keynes (1930) a stationary state could be a positive vision. However, the visions and images created by the powerful, needs-stimulating advertising-industrial complex drive societies permanently in the opposite direction. The end of the growth age finds rich societies and citizens unprepared. Most people are still in the delirium of the growth party – as the band continues to play on the *Titanic*.

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Sustainable development goals and indicators: can they be tools to make national budgets more sustainable?

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Abstract

This article explores the use and added value of the Sustainable Development Goals (SDGs) and indicators in the budgeting process. Several countries have announced in their voluntary national reviews (VNRs) their intention to use the SDGs in their budgetary processes, but few have specified why it would be relevant to do so, or how it could be implemented. Based on nine case studies conducted through interviews, we found that SDG budgeting is still in its infancy. We nevertheless identified four ways in which countries are starting to integrate the SDGs into budgeting processes. Most of the countries we studied either map their budgets against the SDGs or include qualitative reporting in their main budget document. Less often, countries use the SDGs to improve their budget performance evaluation system or as a management tool for resource allocation. Most of the countries follow a technical approach. Only rarely are the SDGs used politically or referenced in the budgetary debate.

Keywords: budget, sustainable development, new wealth indicators

1 INTRODUCTION

The seventeen Sustainable Development Goals (SDGs) of the UN's 2030 Agenda for Sustainable Development were adopted by all member states in September 2015. They set an ambitious agenda, aiming to end all forms of poverty, to fight against inequalities, to build peace and tackle urgent environmental issues while also ensuring that no one is left behind. The Agenda's 169 targets and the over 200 indicators that were adopted later on transform an abstract sustainable development concept into concrete measures of progress (United Nations, 2015). While businesses and non-governmental organizations (NGOs) are called to take an active role in the implementation of the SDGs, it is national governments that are primarily responsible for realizing this transformation.

Hence, embedding the SDGs into policy planning at the state level is key towards their achievement. Herein, the budgeting process constitutes a strategic entry point for the integration of the SDGs into national policy planning. In a budgeting process all policies come together and it is therefore as transversal in nature as the Agenda. The way a state decides what to tax and levy charges on (revenue raising) and where to allocate those resources (expenditure) directly affects the achievement of the SDGs. Therefore, it is of strategic importance to study the way countries use the SDGs in their budgeting processes.

Of the 64 countries that submitted a national voluntary report (VNR) during the 2016 and 2017 sessions of the High-level Political Forum (HLPF), 24 mentioned ongoing measures to link the SDGs to the national budget, or said that they had considered such action¹. However, these reports are not particularly clear on how

¹ Based on the authors' analysis of voluntary national reports from 2016 and 2017, these countries are: Afghanistan, Belize, Maldives, Finland, Norway, Italy, Denmark, Costa Rica, Indonesia, Kenya, Uganda, Mexico, Colombia, Montenegro, Philippines, Thailand, Egypt, Ethiopia, Honduras, Sierra Leone, Nepal, Nigeria, Madagascar, Argentina.

countries plan to use the SDGs in their budgetary processes and why they aim to do this (Niestroy et al., 2018). The objective of this article is to give insights into the different uses of the SDGs in budgeting processes and into the potential added value of the methods and tools developed by countries (Hege and Brimont, 2018)².

2 METHODOLOGY

2.1 THEORETICAL FRAMEWORK

While the SDGs are a new agenda, the role and use of indicators to steer public action has been widely explored by the literature in social sciences. First, indicators are used as tools of governance. Since the 1990s, indicators have been widely developed to guide public policies in global governance (Davis et al., 2012), be this to generate standards, to help decision-making, to contest established norms and policies (Davis, Kingsbury and Engle Merry, 2012), or to distribute attention or allocate scarce resources (Rottenburg, et al., 2015). In this article we investigate different ways in which countries use the SDGs, both as political objectives and indicator-based instruments.

On the role of objectives, Young (2017) writes that governing through goals is a strategy that seeks to guide collective action through the definition of priorities; the mobilization of actors capable of responding to these priorities; the formulation of targets and measures of progress. It also seeks to provide a medium- to long-term vision. The challenge is that these priorities then impact the allocation of resources, including national budgets. For goals to have this effect, campaigning activities are needed to communicate the goals and convince the relevant actors to allocate resources for their achievement (Young, 2017).

SDGs could function as public action instruments. Such instruments may consist of legal rules, technical norms and accounting instruments, which tend to be used as a way to freeze administrative practices and to avoid political debate by routinizing practices of public agents (Lascoumes and Le Galès, 2004; 2007; Chiapello and Gilbert, 2013). They encapsulate an “implicit political theorization” in technical devices. Budgetary performance evaluation instruments are a specific form of such devices and deserve attention (Perret, 2008; Ogien, 2013). Since the 1990s, more and more countries have adopted performance-based budgeting. This trend is linked to the emergence in the 1980s of the New Public Management approach, an ideology that claims to steer public action according to performance but that has been criticized for generating competition and new costs (Bezès and Demazière, 2011; Muller, 2011). Performance-based budgeting derives from performance indicators, the use of which has become increasingly significant in state governance (Bezès and Siné, 2011). This means that budget lines are organized according to political objectives, each one monitored with goals and indicators.

Following the above literature review, we have several assumptions about the reasons for incorporating SDGs into the budget process. The first is that this can

² The results of this study were first presented in the format of a working paper (Hege and Brimont, 2018).

improve policy coherence, which is one of the objectives of the SDGs (SDG 17.14) (Vaillé and Brimont, 2016). Coherence can have two meanings in a budgetary context: firstly, a coherent budget avoids conflicts between different resource allocations, i.e. one budget decision does not have a negative effect on another. For example, budget proposals for transport and agriculture must go hand in hand with climate objectives. Second, a coherent budget should be in line with a state's international commitments, among which is the 2030 Agenda. Even though such commitments are rarely binding³, they encourage successive governments to keep these medium-term objectives in mind and incorporate them into their political actions and thus their budgets⁴. So, a budget aligned with the SDGs means that it should reflect the goals and targets of the SDGs and avoid conflict among them. This poses the question as to whether administrations are able to identify the budgetary requirements that specific goals or targets deserve. For example, where does professional education fit in the SDG classification? How do you determine budget expenditure for road infrastructure knowing that it could benefit Goal 9 (Infrastructure) and Goal 11 (Sustainable Cities) but also damage Goal 13 (Climate Action) and Goal 15 (Life on land)? We have to be aware that budget structures do not correspond to that of the SDGs and that assessing budget coherence can be challenging.

The second assumption is that SDGs can increase accountability. Historically, indicators and evaluation play an important role in the democratic debate (Porter, 1995, Rosanvallon, 2015). Numbers reflect the general demand for objectivity in public affairs. Quantified evaluation might encourage governments and officials to make their action accountable and transparent. To this end, forging links between budgets and SDGs, especially the indicator framework, can reveal the progress of a country towards the SDGs and help assess the government's performance. While most countries use performance-based budgeting that relies on results indicators, the SDGs could add an additional, holistic layer of criteria to evaluate the sustainability of a budget (Niestroy et al., *op. cit.*). The SDGs could serve as an evaluation framework to provide a more comprehensive assessment of budget proposals and therefore increase transparency for non-governmental actors, notably parliament and civil society. Indicators are tools, which can be appropriated either by institutions to justify public policies or by challengers to criticize them (Bruno, Didier and Prévieux, 2014). However, the publication of indicators does not necessarily mean they will have an impact on the public debate, especially if the indicator is fairly technical and/or becomes lost among several hundred other indicators for assessing budget performance and if no one is campaigning around them.

³ The recent decision of the Trump government to withdraw from the Paris agreement highlights the fragility of international commitments.

⁴ "Closely aligning budgets with the medium-term strategic priorities of government" is the second out of ten principles of good budgetary governance, established by the OECD Council on budgetary governance (OECD, 2015).

A third assumption is that SDGs could help make national budgets more comparable and standardized and thus contribute to the global ranking of sustainable development policies. One consequence of indicator multiplication is the comparison and ranking of country performances, which has a wide variety of impacts on governance (Bruno and Didier, 2013; Desrosières, 2014), both positive and negative. We could for instance imagine that each state could include an analysis of their budget according to the SDGs in the progress reports that are annually submitted to the HLPF. This could play a positive role in the transition towards sustainable development if it promotes exchanges between policymakers and experts from different countries and feeds the international debate with collective intelligence. It could also serve as a tool for civil society to hold states accountable for their commitments.

This study will analyze the different ways in which countries use the SDGs in the budgeting process and whether they do so for any of the purposes mentioned above.

2.2 METHODS

This article is largely based on 19 semi-structured interviews, conducted between February and June 2018, with administration representatives from case-study countries⁵ and experts. Countries were identified for case studies on the basis of the voluntary national reviews submitted at the 2016 and 2017 HLPF sessions and on an interview with the representative of the French administration on the European Sustainable Development Network (ESDN)⁶. Three other organizations which have published on the topic, were also interviewed: the International Budget Partnership (IBP), an international NGO working with civil society to make public finance systems more transparent and accountable; the Organization for Economic Cooperation and Development (OECD); and the United Nations Development Program (UNDP) Asia and the Pacific. Interviews with representatives from these organizations helped us to identify further potential case-study countries.

During this pre-sampling phase, we identified about 30 countries of interest for our article. As we did not have the relevant contacts for each one, we contacted 18 of these countries (one in fact being a subnational entity). Then, representatives from nine countries accepted an interview. The sample covers a wide geographic range and represents various stages of progress towards the SDGs: Colombia, Mexico, France, Finland, Norway, Sweden, Slovenia, Afghanistan and the North-east Indian State of Assam. The latter illustrates that similar initiatives are undertaken at the subnational level. The interviews mostly focused on the state of SDG implementation in each country (political support, institutional arrangements, definition of a strategy, etc.) and the objectives and ways in which the SDGs are

⁵ In addition to our case-study countries for which we conducted in-depth analyses, we also obtained relevant information from other countries.

⁶ This is an informal network of public administrators and other experts dealing with sustainable development strategies in Europe. The representative of the French administration is Stéphane Bernaudon from the Ministry of Ecological and Solidary Transition.

used in the budgeting processes. In part 2.1 we have presented our initial assumptions regarding the added value of integrating the SDGs into budgeting processes, which we put to the test during our interviews. Given the size of the sample these results need to be read with caution.

3 RESULTS

3.1 IMPROVING THE BUDGET PROPOSAL NARRATIVE

The first method by which governments integrate SDGs in their budgets that we identified is that they include qualitative – and more rarely quantitative – elements on SDG implementation in the budget documents they propose to parliament. These reports can take different forms. In Finland, during the preparation of the 2018 budget, the Ministry of Finance asked each ministry to include a short paragraph under each of the main titles in the budget proposal (Niestroy et al., 2019). In these paragraphs, ministries provided information on how sustainable development would be reflected in their sectoral policies during the 2018 financial year. In Norway, each ministry is responsible for one SDG or several. As in Finland, each ministry writes a paragraph about their activities in relation to the goal(s) they are responsible for, both from the domestic and international points of view to demonstrate the link between their budget proposal and its contribution to achieving the SDGs. These draft paragraphs are sent to other ministries for review, before the Ministry of Finance compiles the texts and includes them in a chapter on SDG implementation, which is added to the main document of the budget proposal (De Temmerman, 2019). In Sweden, ministries are encouraged to show the link between their area and the SDGs in budget documents in a descriptive way. The SDGs are handled differently by different ministries, while some reference them more often than others. There was little connection made in the social sectors. To use the SDGs in these sectors, a discussion process is required to define what the SDGs on poverty eradication and universal health care, for example, could mean for Sweden, and how they could be used to discuss the main challenges in a country like Sweden.

Several lessons can be learned from these experiences. Firstly, the political will to incorporate sustainable development elements into budget proposal documents had in some countries existed before the arrival of the SDGs. In Norway, a chapter on climate change has been included in the report to parliament for eleven years, while the country developed its own sustainable development indicators in 2005⁷. Secondly, budget documents have an official size limit and do not allow space for a comprehensive report on all SDGs and targets. Thus, the SDGs need to be organized and a focus needs to be found that reflects the national context. Finland has carried out an independent gap analysis and chosen two overarching themes for national SDG implementation (carbon neutral and resource-wise Finland); these

⁷ Remember that Norway has a long history with sustainable development since it is a former Norwegian Prime Minister, Gro Harlem Brundtland who chaired the World Commission of Environment and Development in charge with the report *Our Common Future* (1987), the framing of which is considered the birth of the concept of sustainable development.

two themes can then be reflected in the budget document. The Finns plan to include a concrete analysis on the link between budgetary appropriation and SDGs in the General Strategy Outlook section of the budget that will concentrate on one of the focus areas in the Government's implementation plan. Hence, integrating the SDGs in the budget document requires the previous identification of the most challenging goals or targets. The SDG framework is inherently broad in that it concerns all countries in the world, and reporting on the targets that have already been reached would make no sense. The Norwegian Forum for Environment and Development, a network of 50 NGOs from different sectors⁸, which monitors SDG implementation, explained that its accountability work could be more targeted if the government had an action plan for SDG implementation that identifies clear national objectives and indicators based on the specific challenges faced by that particular country. The need for a national translation of the SDGs and their targets and indicators into a strategy or action plan, was underlined several times during the interviews. Such a need corresponds to the necessity of a national appropriation of transnational agendas, to produce coherent public policies at the state scale (Hassenteufel, 1995). Whether this kind of report serves the political debate, depends on its use by non-governmental actors, notably parliament and civil society. Although it is too early to say for sure, Finland appears to be well on its way to strengthen accountability within the budget process due to the SDGs. This has occurred because from the very beginning civil society has been allowed to participate in the deliberation process on how to link the SDGs to the national budget, through the organization of a multi-stakeholder workshop. To enhance the process, the Ministry of Finance organized a multi-stakeholder workshop in November 2017. The aim of the workshop was to discuss and gather ideas on how sustainable development could be identified and made more visible in the budget, and how the link could be developed between the budgetary process and the sustainable development agenda (Niestroy et al., 2019). The findings of the workshop are being used in the preparation of the 2019 budget and beyond.

In Norway where the SDGs have been integrated into the main budget document since 2016, the accountability feedback loop functions quite well. The Norwegian NGO Forum for Environment and Development often refers to the SDG chapter in the budget report (Forum, 2017). In their 2017 report on SDG implementation in Norway, they discuss the relevance of the information provided by the government, highlight neglected issues and provide recommendations. This means that SDGs can indeed be used as tools of advocacy and contestation (Bruno, Didier and Prévieux, 2014; Davis, Kingsbury and Engle Merry, 2012). For example, the NGO stated with regret that "In the 2017 National Budget, Goal 3 is hardly mentioned, stating only that public health in Norway is good, that healthcare is good, and that health is a priority in Norwegian development assistance" and that "The government has also avoided mentioning that Norway's budget for renewable

⁸ Mainly development, environment, peace, human rights and humanitarian aid, covering many of the goals of the SDGs.

energy development assistance was almost halved between 2014-2015 and 2016-2017” and that “the measures presented as examples do not show any plans to stimulate a generally lower consumption pattern among Norwegian consumers, despite the fact that it is clear that most Norwegians use far more resources per capita than the capacity of the planet can tolerate.” In conclusion, the government’s report on the SDGs in the budget process facilitates the accountability role of the NGOs, which is key to pushing forward SDG implementation at the national level (Hege and Demailly, 2018). We must add that Norwegian civil society is accustomed to commenting on the budget proposal and that there is a culture of debate around budget proposals with civil society organizations (CSOs) being invited to participate in parliament during the debate. This practice can, of course, facilitate the accountability role of independent actors in the budget process, including the control of the government’s commitment to SDG implementation.

Finally, our observations led us to conclude that countries tend to limit reporting to SDGs directly related to the activities of the respective ministries. While this might increase accountability, it does not automatically improve policy coherence.

3.2 MAPPING AND TRACKING THE BUDGETARY CONTRIBUTION TO THE SDGs

The second way to account for the SDGs in the budget process is to monitor the budget according to the SDGs. The Mexican government links its budgetary programs⁹ to SDG goals so they can determine the percentage of a goal linked to any budgetary program and conversely the number of budgetary programs linked to each goal (Ministry of Finances and Public Credit and UNDP, 2017). The Colombian government is currently doing similar work, having developed an automatic text analysis tool to identify links between budgetary programs and each SDG goal¹⁰.

Nepal and the Indian State of Assam have gone a step further, coding their budget according to the SDGs to keep track of the allocation of resources to each SDG goal (UNDP, 2010a; 2017b)). These two entities have tracked SDG relevant resources at the budget line level. Figure 1 shows the results of this mapping.

Mapping the contribution of budget programs to the SDGs or the tracking of SDG-relevant budget lines is not easy as they often apply to several SDGs. Generally, the assumptions underlying the mapping and tracking system used were made by each ministry or department, which means that there can be variation between countries. Often, these exercises were only partially accomplished. In Nepal, SDG coding was only done for development programs and did not take into account defense or general administration that was not directly related to any of the SDGs. In this way, SDG coding was applied to roughly two thirds of the

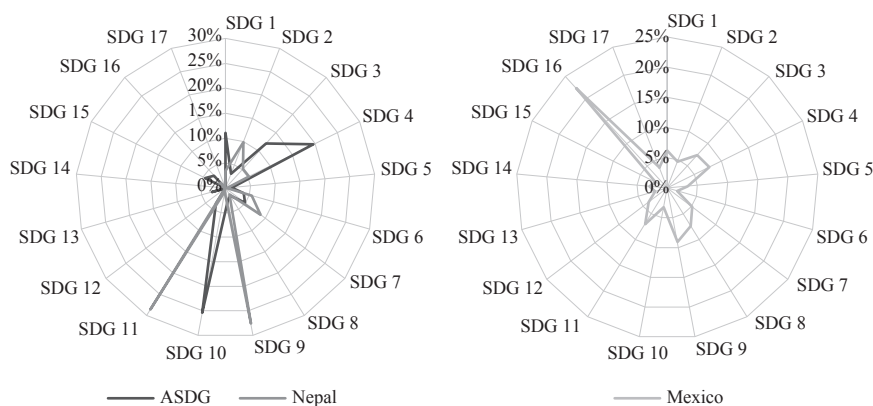
⁹ Expenditure category with a common objective.

¹⁰ At the time of the writing of our article, they were still at the pilot project stage.

total budget. Moreover, SDG coding only concerns the state budget, which, is only one component of public spending. Moreover, it does not include the budget for local authorities. However, Colombia plans to make its text analysis tool available to the local authorities so that they can implement the same organizing principle as the central State.

FIGURE 1

Budget mapping for Assam and Nepal (expenditure) and Mexico (number of budgetary programs)



Source: IDDRI, with data from UNDP (2017a, 20a7b) and the Ministry of Finance and Public Credit and UNDP (2017)

The evidence gathered via mapping and tracking exercises could be used for management purposes to orient budget choices and identify priority areas for funding in the context of budget constraints. This seems to be at least partly the case in Assam.

Categorizing spending around the SDGs does not enable us to know how the spending actually impacts SDG achievement. While it improves spending transparency, accountability could be increased by the addition of performance indicators, as is the case in Mexico (see 5.4). This would enable clear connections between spending and outcomes to be established.

It is interesting to note that in our relatively small sample, there is a wide difference in the use of the SDGs in the budget process depending on the country type. High-income countries use the SDGs more as a framework for making qualitative reports on the budget proposal (see 3.1), while low and middle-income countries mainly map the budget according to SDGs to enable the tracking of expenditure on the different goals and/or targets. This could be linked to the desire to meet the expectations of international donors. Hence, a pilot project developed in Colombia aims to signal investment needs to international private and public donors. Thus, SDG coding could be seen as an extension of the existing practices of international aid, like gender budgeting, pro-poor budgeting or “climate-friendly” budgeting (Davis et al., 2012). Another reason for this difference is that these

countries were already involved with the Millennium Development Goals (MDGs), the UN's development framework that ran from 2000 to 2015, which were replaced by the SGs. There has been criticism that at the time of the MDGs there was no adequate monitoring of the flow of public financial resources invested into the implementation of the goals (Schouten, 2015). The lack of national ownership and transparency sometimes made it difficult to hold governments to account for their contribution to the global agenda. Nevertheless, a number of initiatives did exist to monitor MDG-related spending such as the Government Spending Watch, a joint initiative by Development Finance International and Oxfam (Budlender, 2017).

3.3 USING THE SDGs AS A MANAGEMENT TOOL FOR NEGOTIATIONS

Budgets are about prioritization, negotiation and arbitration among different ministries and line agencies. However, there is generally very limited leeway for these decisions due to budget inertia. Some countries mentioned that ministries use the SDGs and the targets to justify their budget proposals and negotiate for more money. In Norway for example, this does happen but it remains an exception and the SDGs are used as one of many arguments. In Assam, the SDGs are now a tool for line departments to obtain priority funding (UNDP, 2017a). In Finland, although the picture is not yet totally clear, the administration hopes that the SDGs will be a beneficial tool that might be able to better direct resource allocation decisions towards sustainable development. As the SDGs are very much in line with general political objectives in Finland, there is a chance that this notion could become reality.

In Afghanistan, the SDGs will be used as a framework to select which grant applications from the provinces will obtain central government funding. So, they will become the main selection criteria for grant applications proposed by the provinces. The idea is that each grant application describes how it will contribute to the SDGs, enabling the Ministry of Economy to prioritize the development projects that are the most interesting. It is also planned to use this framework the better to follow up on projects that are implemented on the territory by public or private actors. This example must be understood in the context of a very limited State budget and a high dependency on international donors.

So there are signs that SDGs are being used as a management and negotiation tool during the drafting of the budget. However, given the relatively little space for new options from one budget to another, the actual consequences in monetary terms remain limited. Moreover, they are rarely the only tool and using the SDGs in this context requires high-level political support for the goals. Without the SDGs reflecting political priorities, it seems difficult to use them as a negotiation tool. In this regard the French case is interesting because it is currently at the beginning of this process and of the design of its roadmap.

Finally, countries that plan to use the SDGs as a negotiation tool in the budgetary process should keep in mind two facts. First, many targets cannot be achieved

simply by the addition of more money. They also need policies, public norms and regulations. Second, one could imagine that SDGs could be used not only to address the question: “how much should we spend and where?”; but also “how can we spend it better?”.

3.4 IMPROVING BUDGET PERFORMANCE EVALUATION

The SDGs and their targets and indicators can be used to improve a budget performance evaluation system. Mexico, for example, is revising its budget performance indicators in light of the SDGs. Here it was actually the department responsible for performance budgeting that initiated the integration of the SDGs into the budget system. Mexico has had a budget performance monitoring system for around twenty years and continuously tries to link it to international commitments. The office in charge of budget performance monitoring initiated the integration of the SDGs into the budgetary performance evaluation system. They looked at the SDG indicators and asked ministries what factors they were already measuring. Most issues were covered, but this exercise enabled the identification of indicators that have to be adapted, especially when it comes to environmental issues.

According to the department in charge of this exercise, the advantage of replacing national performance indicators with international ones is to allow international comparability – provided that other countries do the same – which thus increases accountability. Secondly, the 2030 Agenda provides a long-term framework, and its indicators give some stability and credibility to the evaluation system compared to national indicators that can be changed according to politicians.

In an interministerial document (CICID, 2018), France announced in February 2018 that it would align its budget performance indicators with the SDGs “where relevant and possible”. France is currently in a process of designing a roadmap for SDG implementation that should be ready by 2019. Integrating the SDGs into the national budget will be one of the topics discussed in the series of multi-stakeholder workshops that will feed into the roadmap.

Slovenia had clearly linked the SDGs to national objectives and adapted them to their national context and challenges prior to adopting 30 Key Performance Indicators (KPIs) to evaluate national development including budget performance. These KPIs indirectly reflect the SDGs but have been nationally translated. This national translation is important to make the SDGs suitable for budget performance evaluation (Niestroy et al., 2019). Therefore, SDG targets need to be translated into clear national objectives. Many SDG targets are formulated as trends with only relative targets. Therefore, Slovenia has carried out a gap analysis and adopted the Slovenian Development Strategy 2030, which has 12 goals and a national development policy program. The country has also developed 30 result-oriented KPIs to influence future budgets, underlining their stance that it makes no sense to have SDG-aligned KPIs for a budget that was not originally planned with the SDGs in mind. Hence the need to translate the SDGs into long-term national

political targets. Slovenia also plans to integrate strategic development plans from 2020 onwards.

So as the Slovenian example demonstrates, using the SDGs for budget performance evaluation requires some effort to adapt the targets and indicators. In addition, it makes more sense to integrate the SDG indicators in a performance budget evaluation system if they have also been integrated into national political targets. What can maybe be done at a lower cost, is to disaggregate existing budget performance indicators. This could deliver important information that could be used to take into account the “leave no one behind” principle in policy design. Using the SDGs for performance evaluation increases accountability. When it comes to coherence, this depends on the design of the evaluation system and whether or not the indicators reflect interlinkages.

4 DISCUSSION

4.1 WHAT IS THE PURPOSE OF SDGs BUDGETING?

It is very difficult to say whether the approaches and tools developed by different countries are actually useful for making real progress on reducing inequalities, for concrete policy objectives such as protecting biodiversity and achieving the national challenges required by the SDGs by 2030. What does emerge, at least to some extent, is whether the tools developed actually contribute to the broader objectives discussed in section 2.1, where in our assumptions we list potential benefits of integrating the SDGs into budgetary processes. Do they, as expected, improve coherence, accountability, and international comparability?

The involvement and leading roles given to finance ministries was often cited by the countries concerned as an advance in terms of coherence. It strengthens coherence in the sense that it forms a link between the SDGs as medium-term strategic goals and the budget. But does it also strengthen coherence in the sense that it reduces conflicting expenditure? To date we have not been able to observe this in the countries interviewed, but this may be due to the use of these tools being still in its infancy. However, we did not get the impression that the tools were specifically developed for this purpose. An exception might be Finland, which, in addition to a summary of budgetary appropriation relevant to the focus areas in the government’s implementation plan aligned for the SDGs, has also committed itself to analyze harmful subsidies. As far as accountability is concerned, the qualitative indicator that we used in our questionnaires is to what extent parliamentarians, NGOs or supreme audit institutions use the approach to hold the government to account for their commitment to achievement of the SDGs. In most of the countries, SDG integration into the budgetary process is not yet very advanced. It is therefore too early to say whether the tools are being taken up by different actors to hold the government to account.

In Norway where the SDGs have been integrated into the main budget document since 2016, the accountability feedback loop functions quite well. In some

countries, SDGs have been used as a tool to improve budget transparency. Whether this information increases accountability is not a trivial matter. It depends on what additional information is made transparent. Presenting budget allocations does not show how much money is actually spent and invested in different targets. Nor does it say whether the way the money is spent actually produces an outcome. This calls for performance indicators and evaluation.

Making SDGs visible, either through mapping or qualitative reporting, does not necessarily mean there would be more effort and/or money for the SDGs. Research on the new indicators of wealth shows that indicators can be used as tools for steering public action if they are used at all stages of public policymaking, both upstream to legitimize and institutionalize a phenomenon and to monitor its evolution and downstream to evaluate the results of a policy strategy (Demailly et al., 2015). In other words, they have to be used in the political debate, both by the government itself but also by external actors like parliament and civil society. Surprisingly, in some of the countries the SDGs are actually used as a negotiation tool. Given the transversal and broad nature of the SDGs this seems counterintuitive at first glance. In Afghanistan for example, the SDGs have been translated into a tool to guide and prioritize funding of different development projects. In other cases, ministries use them as an argument to obtain priority funding, although the argument is only one amongst several and is not the strongest one. In general, to be used as a management tool for guiding allocation choices, a significant effort needs to be made to translate the SDGs to the national context and development challenges. A budget is about priorities and making choices. Accordingly, the SDG framework is too broad to be used directly for this purpose. The SDGs can, however, be used as an opportunity to discuss and identify the medium-term sustainable development challenges in a country. Once this has been done, these priorities should guide budget choices and could be formulated as objectives, measured by indicators, including budget performance indicators (as is the case in Slovenia).

As far as international comparability is concerned, none of the countries studied have gone as far as to revise their budget classification system. Mostly for good reasons, because revising budget classification systems is costly and although the SDGs are there to stay until 2030, it is not clear what will happen afterwards, as some interviewees pointed out. Nevertheless, the international character of the SDGs is actually of value, which is why Colombia revises its performance indicators to align them with the SDGs. This, they hope, will increase transparency with respect to the international community, including donors. Although international comparability can increase accountability *vis-à-vis* peers and donors, there are limits to their use in international budget comparability. The SDGs need some translation to the national context before they become sufficiently operational to be integrated into a state budget. This works well, so long as these choices do not contradict SDG principles, because it strengthens national ownership. However, there is a trade-off between national translation of the SDGs and international comparability.

4.2 IN WHAT OTHER WAYS IS IT POSSIBLE TO USE THE SDGs IN THE NATIONAL BUDGETARY PROCESSES?

During our desk research and interviews, we came across additional ideas about how countries could integrate the SDGs into their budgetary processes. Although we have not so far observed any instances of countries taking up these ideas, it is nevertheless worth sharing them and briefly discussing their value.

An International Monetary Fund blogpost suggests that an international organization should design a universal SDG budget classification system (Poghosyan, 2016). The advantages would be increased international comparability and a clearer overview than would otherwise result from the sporadic introduction of budget tagging systems applied to cross-cutting SDGs such as gender¹¹ or climate change¹². The risk is ending up with budget databases that are overcrowded with information that will not necessarily be used and might even diffuse the focus on the most pressing issues.

Another risk of a universal SDG budget classification system is decreased national ownership and the domination of the policy agenda by donors (Poghosyan, 2016). Given the high level of civil society participation in the making of the SDGs, one of our interviewees described the SDGs as the “perspective of citizens on their societal problems”. The SDGs are formulated as problems to resolve by 2030; organizing and reporting on the budget around these goals might be more attractive for citizens than organizing it around thematic areas like education, and so on. One could think of the SDGs as a basis for developing a budget-reporting dashboard for citizens. Although the information necessary to create such a dashboard is available in some countries, we have not observed any instances of this information being used for any such highly visual dashboard for citizens.

Other approaches aim more at launching a political debate and less at a technical approach. France has started experimenting with the use of 10 “wealth indicators” that are complementary to GDP (such as carbon footprint or healthy life expectancy). In 2015 a law, promoted by Member of Parliament Eva Sas, was adopted, that requires the government to publish an annual report upstream of budget discussions, providing details on France’s progress (Loi n°2015-411 visant à la prise en compte des nouveaux indicateurs de richesse dans la définition des politiques publiques, 2015). This report then was initially expected to feed into the budgetary debate. However, these indicators have not become firmly established in the French political debate so far. The report having been published with significant delay, it is not yet used by political actors (Pagnon, 2019). There are proposals in France that see the SDGs as an opportunity to give a new lease of life to the 2015 “Sas Act”.

¹¹ Gender-responsive budgeting already exists in more than thirty countries.

¹² Examples of countries that have integrated a climate focus into their budgets include Bangladesh, Indonesia, Nepal and the Philippines.

Italy is a similar case. Already in 2011, it launched a set of indicators for equitable and sustainable well-being (BES) to measure progress beyond GDP. In 2016, a law was adopted related to the integration of BES indicators into economic and financial reporting. Following up on this law, four BES indicators were included in the budget (‘Economic and Finance document’ – annual document that reports the quality and trends of public expenditures) in 2017. In 2018, this number went up to twelve. With the arrival of the SDGs, synergies have been created with this existing initiative (Niestroy et al, 2019). When the National Institute of Statistics published 100 SDGs indicators, in 2017, 38 among them were part of the set of BES indicators.

A network of German NGOs has organized a series of debates on the relevance of SDGs for the German budget. In one study, an NGO called the Global Policy Forum recommends linking the SDGs to spending reviews that are there to assess the actual impact and efficiency of programs and measures in specific policy areas. Assessing the impact of a budget on all SDGs at once would not be manageable, but the NGO recommends that the SDGs should be linked to spending reviews in a continuous cycle (Martens, 2017).

Another step forward would be to link them to public policy evaluation. Courts of audit could play a key role in such evaluations. In fact, Supreme Audit Institutions (SAIs) are increasingly active as accountability actors in national SDG implementation processes (Guillan-Montero, Le Blanc, 2019). The IDI, Development Initiative of the International Organization of SAIs has launched a capacity building program on ‘Auditing Sustainable Development Goals’ and has been a driving force in this dynamic. In their SDG audits, not all but some SAIs make reference to national budgets and financing frameworks. As an example, the National Audit Chamber of the Republic of Sudan regrets that “there are no arrangements at the level of the federal finance ministry to fund implementation of the Sustainable Development Goals” (NAC, 2018); the German *Bundesrechnungshof* recommends the quality of sustainability assessments of subsidies be improved and the government’s SDG communication strategy (Bundesrechnungshof, 2019) be properly financed; Burkina Faso’s *Court des Comptes* recommends that performance-based budgeting be promoted at the local level as well and that an integrated financing framework for the SDGs be set up (Cour des Comptes, 2019).

Finally, although the focus of this report is on governments, it is worth mentioning that several tools are available for CSOs to use the SDGs in their budget advocacy. Examples include the analysis of the state budget from an ecological, social and human rights perspective, or designing an alternative state budget that better reflects the commitment to these goals, and that can be used as an advocacy and awareness-raising tool (Martens, 2017).

4.3 CONDITIONS FOR A SUCCESSFUL INTEGRATION OF THE SDGs INTO BUDGETARY PROCESSES

There are different ways to integrate the SDGs into national budgetary processes. Some are quite complicated and time-consuming. The ultimate goal of all of these different tools should be to make progress tackling the challenges and the worrying long-term trends that are highlighted by the Agenda 2030 and its SDGs. Whether these tools help to make SDG implementation a higher priority in countries and encourage the appropriate budgetary decisions depends on a number of factors that are linked to a country's broader SDG implementation strategy and the mobilization of actors around these global goals. Based on our interviews we identified a number of factors that make tools more likely to have a real impact on the budgetary orientations of a country for the good of the SDGs. Three characteristics seem especially important to ensure that SDG integration into budgetary processes is a useful exercise.

Table 1 gives a summary of the potential conditions for success according to the country interviewed. Countries intending to integrate the SDGs into their national budgets may find it useful to consider these conditions before starting the process¹³.

The first relates to the broader SDG implementation strategy of a country. To what extent does a government translate the broad SDG framework to suit its national context and sustainable development challenge? As mentioned above, the SDGs require some translation to adapt to the national context before becoming sufficiently operational for their integration into a state budget. It is easier to link the SDGs to the budget if there is a national implementation plan or strategy that formulates national priorities. These priorities can be cross-sectoral¹⁴. This process can be supported by an independent gap analysis but, ultimately, it also involves political decisions. Thus, high-level political support is an important condition for success. The second is the degree of involvement of finance ministries. Is such a ministry piloting or supporting the exercise? Did it even initiate the exercise? Or does it reluctantly only follow or even block its progress? The latter was reported in some interviews, and it was found to severely compromise the success of SDG integration into the budgetary process in terms of increasing coherence and accountability. Another issue is whether a ministry of finance uses the SDGs as a management tool to negotiate on allocations and to avoid conflicts within the overall state budget. One signal that the SDGs have an impact, at least marginally, as an argument in budget negotiations, is that ministries actually voice their concerns on some SDGs and use them to defend their proposals and fight for their budget share.

Thirdly and finally, to impact the political debate and increase accountability, it is essential that the tools developed are taken up by actors such as NGOs, parliamen-

¹³ We have not included France and Sweden in the table because although these countries are considering integrating the SDGs into their budgetary processes, this process is not yet very advanced.

¹⁴ Some countries avoid using the term "priorities" because of the indivisible nature of the SDGs. Instead they use terms such as "accelerators" or "cross-cutting themes".

tarians and supreme audit institutions, as these actors are crucial in holding governments to account regarding their commitments to the Agenda 2030.

TABLE 1

Checklist of the necessary conditions according to the case studies for successful SDGs integration into the budgetary process

	Assam (Indian province)	Afghani- stan	Colom- bia	Fin- land	Mex- ico	Nor- way	Slo- venia
Year in which SDGs were (or are planned to be) integrated into the budgetary process	2016	2019	2018	2018	2018	2016	2020
Extent to which the SDGs have been translated into the national context							
National implementation plan or strategy	X	X	X	X	X		X
Nationally translated targets or priorities ^a		X	X	X	X		X
Gap analysis to identify national challenges			X	X			X
High level political support for the SDGs	X	X	X	X	X	X	
Degree of involvement of Ministry of Finance							
Exercise initiated by Ministry of Finance	X			X	X		
Ministry of Finance piloting the approach	X	Ministry of the Economy	National Planning Department	X	X	X	X
Ministries use the SDGs as an argument for their budget proposal	X				X	X	
Extent to which the tool is used by different actors		too early to say		too early to say			too early to say
Parliamentarians use the SDGs in the budget debate	X					X	
NGOs use the SDGs for budget advocacy						X	X
Supreme audit institutions use the SDGs in the budget oversight process					X		X

^a Some countries avoid using the term “priorities” because of the indivisible nature of the SDGs, highlighting the importance to work towards the Agenda 2030 as a whole. Instead they focus on a selection of “accelerators” or “cross-cutting themes”.

Source: table created by the authors based on semi-structured interviews.

5 CONCLUSION

To date, 24 countries have announced that they will link the SDGs to their national budgetary processes. Most countries are still at an early stage of working out a relevant way to make this link, while others are starting to experiment with the tools and methods they have developed.

We have identified four ways in which countries use the SDGs in their budgetary processes. Most countries we studied either map their budgets against the SDGs or conduct a qualitative report on the budgetary contribution to the SDGs, which they include in their main budget document. Less often, countries use the SDGs to improve their budget performance evaluation system or as a management tool for resource allocation and negotiation. The different tools identified are not mutually exclusive and could actually support each other. We have also highlighted other potential ways in which the SDGs can be used in budgetary processes.

As yet, the tools developed for SDG integration into budgetary processes mostly serve to make the government's commitment to the SDGs more transparent. This improved transparency gives a picture of the current budgetary priorities in relation to the SDGs, but it does not automatically lead to more coherent management or to a discussion about the reorientation of resources to better target the most challenging sustainability issues. Neither does it automatically lead to actors using this improved transparency to hold governments to account for their commitments (De Temmerman, 2019). This requires parliamentarians, civil society and ministries to actually use the SDGs, for example to improve the budget debate. In some countries, supreme audit institutions or non-state actors like NGOs actually use this information to hold governments to account.

Integrating the SDGs requires a process of translation that links the SDG framework with national objectives. This is most easily accomplished where there is high-level political support for the SDGs. The use of SDGs as a tool in the budgeting process can actually be seen as a sign of political commitment, as high-level political support was relatively strong in the majority of countries we studied.

The objective of this article was to give insights into the different uses of the SDGs in budgeting processes and into the potential added value. This should be put into perspective. First, the implementation of sustainable development is not just a matter of financial means, and SDG spending reflects only part of the political effort towards the achievement of the SDGs. To be successfully attained, some SDGs need regulatory and legal measures as much as they do financial support; examples are Goal 10 (reduced inequalities) and Goal 12 (responsible consumption and production). Secondly, making SDGs visible in the budgeting process does not necessarily mean that more effort and/or money will be made available for sustainable development. Research on the new wealth indicators shows that indicators can be used as tools for steering public action if they are used at all stages of public policy making, both upstream to legitimize and institutionalize a

phenomenon and to monitor its evolution, and also downstream to evaluate the results of a policy strategy (Demailly et al., 2015). In other words, to be a useful tool, SDGs have to be used in the broad political debate, and not only at the budgetary debate stage.

Disclosure statement

No potential conflict of interest was reported by the authors.

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Digital financial inclusion – an engine for “leaving no one behind”

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Abstract

Although none of the goals of the United Nations Agenda 2030 is dedicated to finance, can the use of financial instruments play a role in achieving some of the Sustainable Development Goals? Can financial instruments contribute to the reduction of hunger and poverty, to ensuring healthy lives, gender equality, decent jobs and the growth of micro, small and medium-sized enterprises (MSMEs), reducing inequalities, enhancing an effective fight against corruption and increasing the mobilization of additional financial resources? This article highlights how financial inclusion, meaning the access to financial services, allows the weakest to contribute to the achievement of the SDGs and to improve their life conditions. From the evidence of the UNSGSA (2018) report on integrating SDG progress through digital financial inclusion, it becomes clear that digital finance is a key that can help in boosting financial inclusion.

Keywords: Agenda 2030, Sustainable Development Goals, financial inclusion, poverty, gender parity, fintech

1 INTRODUCTION

On September 27th 2015, the United Nations (UN) unanimously approved the 2030 Agenda which includes the 17 Sustainable Development Goals (SDGs), with 169 targets, which constitute a sort of road map and an action plan for implementing the Agenda and over 240 indicators to measure performance and progress.

The decision of the UN Assembly starts from the awareness of the unsustainability of the current development model and from the need for a change of pace that integrates environmental, economic and social dimensions. The SDGs cover every aspect of human life and are linked to two implicit corollaries: none should be left behind, neither country nor individual, and no SDG should be pursued at the expense of any of the others, to emphasize once again the existing integration within the Agenda.

None of the SDGs is explicitly dedicated to the role of finance and financial inclusion, meaning the access to and usage of financial services. However, when entering into the details of the single targets, it becomes evident that finance and financial inclusion play a strong role in achieving all SDGs. Indeed, it could be said that that finance and financial instruments and services, including such items as borrowings, loans, deposits; receivables and payables; subsidies and pensions; and the payment systems themselves are among the key enablers for implementing the Agenda.

The thesis of this article is that digital technologies could considerably reduce the financial exclusion that prevents many people from making contributions to the SDGs. In particular, through fintech, it would be easier to pursue financial inclusion, helping millions of people to emerge from poverty while respecting one of the two corollaries of the Agenda: no one is to be left behind.

After this introduction, the second section of the article analyzes how Agenda 2030 considers finance and financial services and whether they are functional and have an impact on the achievement of certain SDGs. The third provides a list of guidelines adopted by the Financial Inclusion Experts Group (FIEG) and by the Global Partnership for Financial Inclusion (GPII) for tackling financial exclusion, meaning the impossibility of accessing financial services that today affects about 30% of the world population (World Bank, 2017a). The fourth section presents the benefits and positive impacts associated with the access to and usage of fintech, the digital technologies applied to finance in terms of accelerating financial inclusion; it also highlights some actions that would have to be put in place in order to capture the beneficial effects of digital finance inclusion. The last section provides a list of positive examples in pursuing some SDGs by exploiting the potential of digital finance.

2 FINANCE AND THE AGENDA 2030

It is important to analyze which SDGs are most linked to finance and those on which financial instruments have the greatest impact. The following table highlights the links among SDGs, their targets and finance. In addition, the table includes SDG 17, based on the partnership of governments, civil society, the private sector, UN and non-governmental organizations (NGOs) for the implementation of the other sixteen SDGs also thanks to the mobilization of financial resources.

SDG	Target	Focus
1. No poverty	1.4	The importance for everyone to have access to financial services, including to microfinance.
2. Zero hunger	2.3	It links the doubling of agricultural productivity and income of small-scale food producers, among many other factors, to access to financial services.
3. Good health and well-being	3.8	Medical insurance can mitigate the risks related to health.
5. Gender equality	5.A	It focuses on the urgent need to launch reforms to grant women equal rights including to access to financial services.
	8.3	It ties the access to financial services to the promotion of development-oriented policies, the creation of decent work and the growth of MSMEs.
8. Decent work and economic growth	8.10	Strengthening the capacity of financial institutions to promote access to banking, insurance and financial services for all. In this regard, there are three reference indicators: the number of branches of commercial banks per 100,000 adults, the number of ATMs per 100,000 adults and the percentage of adults with a current account or a mobile payment system.
9. Industry, innovation and infrastructure	9.3	The access of small industries and other enterprises, particularly in developing countries, to financial services, including credit at affordable prices should be improved as a matter of urgency. It considers the share of small businesses that have access to loans or lines of credit.

SDG	Target	Focus
10. Reduced inequalities	10.5	Reaffirming the need of improving the regulation and control over global financial markets and institutions. Financial soundness is the indicator used (United Nations, DESA).
	16.4	Reducing illicit financial flows by 2030.
16. Peace, justice and strong institutions	16.5	Reducing corruption and bribery.
	17.1	Domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection.
17. Partnerships for the goals	17.3	Mobilizing additional financial resources for developing countries from multiple sources.

It is clear that finance plays a fundamental role in achieving at least nine out of seventeen SDGs. In particular, it has a greater impact on those linked to living conditions (poverty, hunger and health), economic development and the correct functioning of society (transparency and international aid).

3 TACKLING FINANCIAL EXCLUSION

This section will provide a definition of financial exclusion and present activities carried out by FIEG and the GPFI to accelerate financial inclusion. It will in particular describe the FIAP 2017, which links financial inclusion to the Agenda 2030 and underscores the potential offered by digital financial innovation.

The discussion around the role of financial inclusion began in the late 1990s, well before the adoption of the Agenda 2030, when some organizations, including the UN Capital Development Fund (UNCDF), realized that microfinance was no more sufficient to effectively tackle poverty and it was necessary to provide a wider range of financial services including savings and insurance. The European Commission (2008) has defined financial exclusion as a situation in which a person encounters difficulties in accessing or using services and financial products in common use, functional to the satisfaction of its own needs and that allow it to lead a life that is normal in the social environment of reference.

In this sense, it is quite evident that the issue is not exclusively linked to financial aspects. It is also frequently added to and combined with other forms of lack of access to essential components of life, such as work, health, education and a comfortable home. They are all extremely relevant factors when it comes to dealing with issues related to sustainable development.

The Financial Inclusion Experts Group (FIEG), the group of finance ministers and governors of central banks of the G20 countries presented a document entitled “Principles for Innovative Financial Inclusion” in 2010 (at the G20 summit in Toronto in May), which includes a series of guidelines to promote financial inclusion and reduce poverty. The document is based on nine principles. The first is

linked to the presence of a strong “Leadership” capable of directing its policies towards a greater inclusion that comprises finance as one of the key aspects, but which also aims at financial education and implementation of various policies on financial regulation, payment security, and consumer protection. “Diversity” plays an important role because it is based on the idea that greater financial inclusion is linked to the use of different tools and channels that allow and stimulate entry into the financial system. It refers to microfinance, the role played by companies in the information communication technology (ICT) sector and traditional banks: the task for the governments is to create favorable regulatory frameworks. The idea of “Innovation” is linked to technological, institutional and infrastructure development, advantageous in that it eliminates physical obstacles related to distances and reduces the associated costs. It is necessary to invest in “Protection” to protect consumers against frauds and abuses and in particular, human and technical protection. “Protection” also implies the implementation of an adequate infrastructure, the adoption of some regulations that increase prices and services transparency and the appointment of an institutional figure capable of enforcing consumer protection. Through an “Empowerment” mechanism, potential customers should be guaranteed a knowledge bases and an understanding of financial goods and services so that they can fully exploit the potential of these instruments according to their needs. The “Cooperation” principle includes the ideas of deals to be struck among the various government bodies (e.g. ministries, central bank) and the creation of partnerships between the private sector and other stakeholders. There should be a government agency on the remit of which is to address financial inclusion and that is available to initiate a dialogue leading to decision-making processes involving all the relevant stakeholders. The “Knowledge” principle refers to the need to find and evaluate the data resulting from inclusion policies in order to be able to assess the correctness of the policies adopted and possibly to propose the necessary adjustments to maximize effectiveness. The “Proportionality” principle implies the search for balance in the creation of a new regulatory framework able to protect the existing financial system from risks; the goal is to be not so rigid as to prevent new operators from entering the market. The “Framework” is a synthesis of all the previous principles and aims at the realization of a regulatory framework capable of complying with international regulations on money laundering and transactions traceability.

The principles adopted in Toronto paved the way for establishing, at the G20 summit in Seoul (December 2010), the Global Partnership for Financial Inclusion (GPFI)¹ with the aim of implementing the financial inclusion action plan and of recognizing financial inclusion as one of the main pillars of the global development agenda. The GPFI drafted three Financial Inclusion Action Plans (FIAP), in

¹ The GPFI includes G20 countries, interested non-G20 countries and other stakeholders, like the Alliance for Financial Inclusion (AFI), the Consultative Group to Assist the Poor (CGAP), the International Finance Corporation (IFC), the World Bank Group, the SME Finance Forum, the Organization for Economic Co-operation and Development (OECD), the Better Than Cash Alliance and the International Fund for Agricultural Development (IFAD).

2010, 2014 and 2017. The last FIAP, of 2017, was the first to be drafted after the adoption of the Agenda in 2015. It recognizes the role of financial inclusion in reaching numerous SDGs and it strongly links financial inclusion to sustainable development. It also underscores the importance of digital innovation in the financial industry and considers the growth of fintech as a great opportunity to accelerate financial inclusion.

In order to assess the state of financial inclusion, the GPFi has developed a set of indicators, approved for the first time by the G20 in 2012 and then revised in 2013 and 2016. The indicators are divided into various macro-areas based on usage (of financial services), for adults and enterprises, on access in terms of physical points of service, on quality in terms of financial literacy and capabilities, market conduct and consumer protection and barriers to use. In particular, the 2016 version considers the growing role of digital payments including the share of digital and mobile payments among adults (age 15+) and the amount of cashless transactions. The indicators delivered positive results considering that in 2017, 52% of adults worldwide made or received a digital payment, an increase of 10% from 2014 (World Bank, 2017a).

In order to provide some guidelines to implement national action plans directed at exploiting the potential of digital technologies, the GPFi released also the “G20 High-Level Principles for Digital Financial Inclusion”. They are directed at promoting a digital approach to financial inclusion; at balancing innovation and the associated new risks; at providing a legal and regulatory framework for digital financial inclusion; at expanding the infrastructure; at creating effective practices to protect consumers; at strengthening digital and financial literacy; at facilitating customer identification for digital financial services and at tracking the progress.

Aware of the importance of fintech, the UN Secretary-General presented the Strategy for Financing the 2030 Agenda for Sustainable Development (2018 – 2021). The document underscores the importance of “Exploiting the potential of financial innovations, new technologies and digitalization to provide equitable access to finance”, as access to finance would be one of the pre-requisites of sustainable development. In addition, the UN Secretary-General created a task force on Digital Financing of the SDG² focused on proposing a set of recommendations directed at exploiting the potential of the digital revolution in finance to advance the SDGs. The interim report (Task Force on Digital Financing of the SDGs, 2019) highlights the important role that fintech could play in the attainment of the SDGs in three ways. It increases the quality and user-friendliness of relevant financial information, it reduces financial intermediation that does not add consumer value and finally it provides citizens with platforms for collective action (e.g. crowdfunding and through consumer, employee, or shareholder actions).

² It is a multi-sector, public/private consortium of global leaders convened by the United Nations Secretary-General in November 2018.

4 SOME ACTIONS TO CAPTURE THE BENEFICIAL EFFECTS OF DIGITAL FINANCIAL INCLUSION

This section will provide some data on the impact of financial exclusion worldwide, highlighting the benefits associated with digital finance. It will focus on the actions that decision-makers and service providers have to implement in order to increase financial inclusion.

The Global Findex Database 2017 (World Bank, 2017a) provides data on financial exclusion and helps its impacts worldwide to be understood. Around 69% of adults worldwide have an account opened with a credit institution or a mobile service provider (94% in high-income and 63% in low-income economies), a figure that has definitely increased if compared to the 62% in 2014 and the 51% in 2011. This means that between 2014 and 2017 about 515 mn adults worldwide opened an account. There is still a strong inequality between men and women, the gender gap seeming to remain constant over the years: while 72% of men have an account, only 65% of women do.

To date, approximately 1.7 bn adults remain outside the banking system, mainly in seven developing countries: Bangladesh, China, India, Indonesia, Mexico, Nigeria and Pakistan. Globally, 56% of all the unbanked are women and moreover the figure is particularly relevant in countries like China and India where only few adults do not hold an account. It is interesting to note how adults excluded from the financial system justify their status: the first reason is their belief they have too little money to open an account. Among the other reasons, they mention the costs of holding an account, as well as the distance to a physical bank, the fact that a member of their own family already has one and their lack of trust in the banks (World Bank, 2017a).

Financial inclusion seems to be an essential condition of development because it would have some beneficial effects related to the use of digital financial services like mobile money services, payment cards and other financial technology applications. In particular, financial inclusion, linked to the use of mobile money services systems, seems to be able to reduce extreme poverty, especially in low-income countries, to improve gender equality and to help families in having a more effective management of financial risks. It might also reduce the costs related to the reception of cash, allow the accumulation of savings and a more efficient management of the family budget. It might finally allow even a reduction of corruption and an increase in transparency, thanks to the implementation of traceable systems, especially when it comes to payments from the government (World Bank, 2017a). Hence, it is evident that all the beneficial effects of digital financial services have a positive impact on the SDGs and their targets.

Digital payments seem to be a key factor in ensuring greater financial inclusion, as they can increase efficiency by improving the speed of payments, reducing the costs associated with making and receiving a payment. They might also enhance

security, allowing the reduction of criminal activities and corruption, through the transparency guaranteed by digital transactions. Furthermore, evidence shows that they make the opening of a bank account “mandatory”, as 13% of the previously unbanked opened their first account to receive a digital payment from the government or from the private sector for their agricultural products or to receive remittances from abroad (World Bank, 2017a).

Mobile devices and the Internet, are currently prerequisites for financial inclusion, having a fundamental role to play, even if they do not yet seem to be fully exploited, since about 1.1 bn people or two thirds of adults excluded from the financial system do have a mobile phone (World Bank, 2017a).

First, it is fundamental to develop an *infrastructural network* able to guarantee the necessary technological support and, among others, an adequate financial infrastructure that secures the provision of financial services where they are needed and where a bank does not consider it economic to open a branch. Second, to have the necessary change of pace it is important to implement an effective *consumers’ protection* system, a set of regulations especially conceived for the weakest, accompanied by investment in financial education programs. In addition, it is necessary to build a relationship of greater trust in the banking and financial industry, which has been undermined by policies that have in the past allowed hyperinflation, bank failures, frauds and nationalizations.

Third, as noted by the United Nations Secretary-General’s Special Advocate for Inclusive Financial Development (UNSGSA, 2018b), the greatest effort should focus on the categories that are most difficult to reach, such as women, farmers and small businesses. Women have traditionally found it more difficult to be included in the financial system, but, leaving aside motivations of a religious, social, legal or cultural nature, on which it is more complex to intervene, there is room for improvement in order to facilitate financial inclusion. In particular, financial service regulators and suppliers should put in place products and services more closely tailored to the needs of a potential female clientele. To do that they should acquire a deeper knowledge of women as customers, taking advantage of the potential offered from data analysis for having a better understanding of the behavior of their target. Farmers are a special category of customers because they operate in a sector where it is very difficult to make forecasts about the generation of income, as it is strongly subject to climatic conditions. However, at the same time they need financial support in order to be able to operate with confidence. One of the most promising approaches is related to the use of the value chain that allows support at every stage of production and low-cost financing to be obtained. Finally, small businesses, despite being one of the main drivers of the economy of developing countries, find it very difficult to obtain the credit necessary for growth. The analysis of customer data can provide a solution as it permits the verification of financial soundness and therefore facilitates and speeds up access to finance.

Nevertheless, it is necessary to avoid certain risks that can compromise the positive results linked to the use of fintech, like increasing the digital divide between the rich and the poor, between men and women, between those who live in urban and those in rural areas. The poorest, being often the weakest, are more at risk in terms of access, usage and fraud. A great commitment is required above all from the regulators, political decision-makers and financial service providers because they put in place all the actions capable of reducing these risks, for example by exploiting the potential offered by the sandboxes that allow the testing of new products in cooperation with the regulators.

In sum, the decision makers should focus on building a technical infrastructure to guarantee the technological support and a set of rules to protect consumers, while service providers should try to acquire a deeper knowledge of their potential customers in order to involve them in the financial systems. It emerges that is fundamental to deliver the benefits of financial inclusion to the most excluded – e.g. the poorest, women and the less educated – and thus to helping them reach the SDGs.

5 THE ROLE OF DIGITAL FINANCIAL INCLUSION IN MEETING THE SDGs: SOME POSITIVE EXAMPLES

The purpose of this section is to give an overview of the positive results worldwide in reaching the SDGs thanks to a growth in the use of digital financial instruments.

The aim of the UNSGSA (2018a) was to present some positive results achieved with respect to single SDGs, thanks to the impact of digital finance. It is evident that digital finance is a key factor in accelerating financial inclusion and boosting the achievement of the SDGs especially when it comes to the SDGs highlighted in the following part of this section.

SDG 1 – No poverty – the use of digital financial systems by low-income families has allowed a considerable increase in their quality of life, while providing better economic opportunities. In Kenya about one million people (2% of the population) came out of the extreme poverty of 1.90 dollars a day between 2008 and 2014 thanks to a system of mobile money, a service that allows users to store monetary value on a mobile phone and send money to other users via text messages. This system has presented a threefold advantage because it has increased the capacity and propensity to save money, has involved greater financial resilience of individuals and has had a positive impact on occupational choices, especially for women, who have in part abandoned work in agriculture to devote themselves to the commercial sector (Suri and William, 2016). In Tanzania, thanks to a project of the Agriculture and Climate Risk Enterprise (ACRE), farmers with access to digital financial services have accessed micro-insurance contracts, which have allowed them to sustain bigger investments earning 16% more than their uninsured peers (World Bank, 2017c).

SDG 2 – Zero hunger – starting from the assumption that it is estimated that there are 800 mn undernourished people in the world (FAO, IFAD, UNICEF, WFP and WHO, 2017), digital finance could allow farmers an easier access to the funds needed for their activities. In addition, the poorest can receive the social benefits they need to survive, in a safer, more reliable, less expensive and faster way than the delivery of in-kind food. In Uganda, the use of digital payment systems by an important coffee company has cut the costs by 27% mainly abolishing physical transfers of money, considering that digital transfers are 45% cheaper than cash transfers, freeing up more resources for investments (CGAP, 2017).

SDG 3 – Good health and well-being – focuses on the fact that health costs force 100 mn people into extreme poverty every year (WHO and World Bank, 2017). Digital finance thanks to digital savings and insurance products can help in dealing with unexpected expenses. The launch of a mobile health wallet in Kenya made easier health payments, savings and access to credit, facilitating 150,000 patient visits to medical facilities (Ilako, 2018).

SDG 5 – Gender equality – digital finance could give women full control over their finances, enabling them to start their own business. Meanwhile the providers of financial services could have a better understanding of women’s needs and a better creditworthiness assessment when it comes to starting a business. In the Dominican Republic, in order to assess the ability to repay a loan, the applicants were differentiated on the basis of sex and by verification of bill payment history. The result of the analysis of the data by gender made it possible to increase by one third the share of creditworthy women (DCO, 2017). Furthermore, a South African study has shown that the financial inclusion obtained through digital transfers by the government has increased the decision-making power of women in the household and consequently increased by 92% the probability that they will enter in the labor market (Van Biljon, Von Fintel and Pasha, 2018).

SDG 6 – Clean water and sanitation – 2.1 bn people do not have regular access to drinking water and digital finance systems have had positive effects to support the needs of low-income families, meanwhile supporting the sustainable development of utilities. In Ghana, the introduction of smart meters and digital payments by Safe Water Network, an international NGO, has helped to double its revenues per liter, making the population more responsible with regard to waste management and has enhanced the possibility of expanding the supply of drinking water in other areas (Waldron, Hwang and Yeboah, 2018). In Bangladesh, the World Bank has cooperated with the Government in the National Sanitation Campaign with the aim of guaranteeing sanitation to the population. Thanks to the use of microfinance systems, made possible by the use of mobile money, to repay loans, more than 16,000 toilets were installed, with the aim of reaching the threshold of 170,000 (World Bank, 2017b).

SDG 8 – Decent work and economic growth – According to United Nations (2016), it is necessary to create 470 mn jobs by 2030 for new entrants in the labor market (United Nations, 2016). The GDP of all emerging economies could increase by 6% by 2025 thanks to benefits offered by digital finance, which might also allow the creation of 95 million jobs (Manyika et al., 2016). Much could be done by digitizing salaries in order to improve workers’ savings, by making payments for MSMEs exclusively digital in order to get data that can help assess their creditworthiness, to reduce the cost of handling cash and finally to support its growth. For example, in Bangladesh, digitizing the wages of workers at a company in the garment sector has saved 85% of the cost of transactions within two years (Breza, Kanz and Klapper, 2017).

SDG 9 – Industry, innovation and infrastructure – digital finance can be helpful because of the financing of the MSMEs and of digitizing of payments of the supply-chain affecting the efficiency and the revenues (Chaintreau et al., 2018). Furthermore, digitizing salary payments ensures traceability, prevents fraud and secures compliance with labor legislation (Vodafone, 2015). In India, Gap Inc. digitized salaries of its workers, securing that they were paid in due time, leading to a reduction in worker attrition by 15–20% (Manyika et al., 2016).

SDG 10 – Reduced inequalities – through digital finance aims at providing low-income households with new opportunities, increasing their salaries and improving their financial resilience. One of the central issues concerns foreign remittances. The use of digital tools for remittances can cut the costs of remittances up to 3.5% and so release more than 30 million from poverty (Kunze, 2017). According to some data of the World Economic Forum, if the costs of remittances were reduced by 5%, the emerging economies could benefit by 20 bn dollars each year (Ratha, 2015) and digital finance could play an important role in terms of transparency and traceability. Governments of the most developed countries should considerably reduce the taxes on foreign remittances in order to maximize the benefits for developing countries and encourage the use of legal and transparent channels.

SDG 16 – Peace, justice and strong institutions – this has an important relation with digital finance. It is about transparency and the fight against fraud and corruption but it involves also the high costs incurred by governments in handling cash. Digital transactions will substantially reduce the impact of fraud, corruption and leakage (Wald, 2018) and are a reliable way to reduce the government transfers’ costs and secure that they are delivered to the intended recipients in the proper time. Mexico’s choice of digitizing the payment of salaries, pensions and social transfers helped to save 1.3bn dollars (Babatz, 2015).

SDG 17 – Partnership for the Goals – has a strong relation with digital finance, as it might increase tax collection (Maherali, 2017), with positive effects on the budgets and it might also help the mobilization of both public and private resources and investments using new channels like crowdfunding.

6 CONCLUSION

Ensuring access to financial services, their control and the mobilization of financial resources are key enablers of the Agenda 2030. They might contribute to the achievement of some of the SDGs such as hunger and poverty reduction, good health, gender equality, getting decent work and developing MSMEs, reduction of inequalities, enhancing the effectiveness of the fight against corruption and increasing the mobilization of additional financial resources.

This article emphasizes how financial exclusion, often combined with other forms of deprivation of other fundamental elements of human life such as work, education, health, prevents the full contribution of those excluded, who represent a large part of the world population, to the achievement of the SDGs. A digital approach to financial inclusion based on digital finance has delivered good results in recent years. In particular, the activity of the FIEG and the GPFI have produced proposals, action plans and indicators that can accelerate financial inclusion. In addition, the UNSGSA (2018a) delivers a message of hope for the future giving evidence that the situation has greatly improved in recent years.

Nevertheless, decision-makers have to implement measures to speed up digital financial inclusion like creating effective consumers' protection systems, reducing physical and technological barriers, increasing the financial knowledge of the less educated and have to develop reliable and secure technical infrastructures. Operators have to learn more about potential users like women, farmers and small entrepreneurs in order to propose products and services based on their real needs.

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Implementing Agenda 2030 in the Arab world: Contextualization, action areas and policy planning

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Article**

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Abstract

This article is a critical assessment of the implementation frameworks of Agenda 2030 in the Arab region through a study of the deficiencies pertaining to the contextualization of the Agenda in the region. Seeking to identify the scope of implementation that would allow for the eventual streamlining of action towards the achievement of all of the Sustainable Development Goals (SDGs), the authors argue that the region's political and institutional context is one of peacebuilding and resilience-building, imposing several overarching considerations pertaining to the priority intervention areas. Drawing on the findings of Ianovichina (2018), the article identifies the key levers of peacebuilding as being the reduction of real inequalities, the resumption of public and social services, and the promotion of equity and the rule of law. It then explores the policy deficiencies underlying the mobilization of these key levers. While domestic resources mobilization remains crippled by political exclusiveness and institutional inefficiency, the implementation of foreign financing frameworks intrinsically depends on that said mobilization. The authors conclude with a "roadmap" for improvements in the contextualization of Agenda 2030 by focusing on fiscal and financial reform and on the curbing of illicit financial flows on one hand, and de-escalation and institutional peacebuilding on the other.

Keywords: Agenda 2030, Arab world, Sustainable Development Goals (SDGs), peacebuilding, financing development, sustainable development

1 INTRODUCTION

Agenda 2030 and its Sustainable Development Goals (SDGs) has become the leading framework for development and development financing. Consequently, they will come to define the aid aspect of foreign policy across the OECD Development Assistance Committee (DAC) countries but also within the global South. With a global economy estimated at USD 79.98 trillion and steady expansion and upturn recorded since mid-2016 (Niculescu, 2017) most types of development financing flows have also increased in 2017, hence realizing progress across all of the action areas outlined in the Addis Ababa Action Agenda (United Nations, 2018). Yet despite the global momentum for the achievement of the SDGs, the contextualization of Agenda 2030 remains challenging conceptually and in practice, particularly in what relates to its compatibility with the current background of countries and regions.

Firstly, the framework is itself facing criticism (Ehmsen and Scharenberg, 2015) concerning the extent to which it embodies any actual "departure" from the older politically driven foreign aid and modernization frameworks. Ehmsen and Scharenberg (2015) have also underlined that a severe lag in contextualization would greatly impact its achievability. Secondly, several regions and countries are witnessing unprecedented conflicts that are often at odds with attempts at implementing Agenda 2030. Such is the case in the Arab countries, which are experiencing more frequent and severe conflicts than any other part of the world. The

political risks incurred by domestic economies in the region are also more likely to increase with both environmental hazards and the scarcity of natural resources, thereby rendering it a breeding ground for further poverty and social unrest (Hussein, 2008). In view of such considerations, the Arab region is left with the imperative to exit fragility, and all of its countries have adopted Agenda 2030 as the corresponding development framework (United Nations, 2019).

Nevertheless, how this international development agenda can be translated into an action plan corresponding to the region's priorities and urgent action areas has been poorly studied. The Agenda needs to address the region's pressing needs particularly since it will shape development aid patterns for the decade to come, consequently mobilizing billions from both domestic and foreign resources. This article argues that Agenda 2030 and its SDGs, as action areas and means of implementation, will need to be contextualized to the Arab world through the identification of key "entry points". Such "entry points" have been recently identified by Ianchovichina (2018), and overlap with the latest literature on international development and the implementation of Agenda 2030 (United Nations Committee for Development Policy, 2019), as will be evidenced in parts 3 and 4, thereby rendering the elaboration of a corresponding implementation framework based on such entry points possible.

The "peacebuilding framework" proposed in this article addresses three interrelated goal areas that can serve as starting points ("key levers") for policy action for the achievement of all other SDGs: (1) real inequalities (SDG 10), (2) the degradation of public and social services (SDGs 3, 4, 6), and (3) lack of equity and rule of law (SDG 16). In line with this argumentation, the article explores, in part 5, the policy mechanisms, particularly in terms of financing, that have so far hindered the addressing of these deficiencies. It is concluded that two underlying and interconnected deficiencies will need to be addressed in order to achieve progress towards this framework: political inclusiveness and domestic resources mobilization. This interconnected framework from which a greater streamlining of policy action towards the achieving of the SDGs is possible is presented as an Annex.

2 AGENDA 2030 AND THE ARAB WORLD

2.1 CONCEPTUAL CONSIDERATIONS

The centerpiece of development programs for the decade to come, Agenda 2030 is expected to "require around USD 6 trillion per annum or USD 90 trillion [in total] over 15 years" and is most likely to mobilize public, private, civil society, and international organizations (Thomson, 2018). In 2015, implementation directives for the Agenda were published and entitled the Addis Ababa Action Plan (United Nations, 2015). Nevertheless, the promotion of Agenda 2030 has not been free from criticism. Detractors have focused principally on the fact that it outlined too many impractical, conflicting, and irreconcilable goals, and that it constitutes a "repackaging" of older modernization frameworks (Ehmsen and Scharenberg, 2015), mainly bent on implementing the neo-liberal agenda throughout the developing

world. Despite the universal nature of the Agenda, poor contextualization by countries engaged in its achievement could corroborate such claims, as the disengagement of local, national and regional actors would inevitably imply relegating the elaboration of implementation frameworks to donors and actors from the “Global North”. This critique is particularly relevant in the Arab world, where the adoption of the SDGs is occurring in a context of interventions and geopolitical tensions.

For the Arab region, the current trends pertaining to the adoption and implementation of the Agenda are characterized by their broadness and poor contextualization: while the outcome document of the Arab Forum for Sustainable Development of 2018 held at the Economic and Social Commission for Western Asia (ESCWA) in Beirut stressed the “necessity of adapting the SDGs to national contexts”, the report provided a large set of recommendations and commitments that seem to overlook the centrality of conflicts, wars and popular unrest as the largest threat to the achievement of the SDGs (ESCWA, 2018b). If one framed such deficiencies within the global criticism presented by Ehmsen and Scharenberg (2015), Agenda 2030 could eventually (1) remain donor-led, (2) reinforce existing uneven dynamics between core and periphery, (3) become irrelevant due to the inherent contradiction between its spoken intentions and the foreign policies implemented by its leading state and non-state actors.

2.2 PRACTICAL CONSIDERATIONS

Despite the conflict-ridden context, most of Arab countries have shown commitment towards achieving the SDGs. Moreover, and since the launch of the High-Level Political Forum (HLPF) in 2016, 10 out of 22 Arab states have submitted their voluntary national reviews (VNRs) in order to document progress achieved (United Nations, 2019). Consequently, by 2019, more than half, i.e. 16 Arab countries would have become fully committed and engaged in the realization of Agenda 2030.

TABLE 1

Voluntary national reviews from the Arab world

2016	2017	2018	2019
Egypt	Jordan	Bahrain	Algeria
Morocco	Qatar	Egypt	Iraq
		Lebanon	Kuwait
		Qatar	Mauritania
		Saudi Arabia	Oman
		State of Palestine	Tunisia
		Sudan	
		UAE	

Source: United Nations (2019).

Nevertheless, the “progress” documented remains, in many cases, inconclusive. Several civil societies “shadow VNRs” have underlined several shortfalls in relation to progress achieved towards realizing the Agenda (Transparency International, 2019). Moreover, it is clear that many Arab countries are struggling with

intervention or occupation, which makes several principles of effective governance that are a cornerstone for the achievement of the SDGs, such as efficiency in the case of the State of Palestine, non-applicable (State of Palestine, 2018). Recommendations from several VNRs concerning SDG-16, such as that of the Kingdom of Bahrain, underline the extent to which foreign interference is a concern, thereby demonstrating a growing disconnect between the Agenda's liberal outlook and the overall *realpolitik* climate of the region (Kingdom of Bahrain, 2018).

Finally, the key messages of the Arab Forum for Sustainable Development (AFSD) of 2016, 2017, 2018, have focused on engagement and participation, climate change and environmental sustainability, work and employment, and gender equality, tending thereby to overlook the overarching threat to progress on any of these core areas: popular unrest, fragility, and conflicts (Youssef, 2018). The regional priorities for 2018 were identified as being economic diversification, particularly with respect to natural resources, resilient and sustainable cities, civil society and women's empowerment, as well as the empowerment of youth and local communities (ESCWA, 2018b:10-15). In 2019, the AFSD, also held at the ESCWA, focused on inclusiveness and the reduction of inequalities (ESCWA, 2019a). While all of these action areas are central to the achievement of the SDGs, it will be argued that given the political context of the Arab world, the starting point for "breaking up the silos" and streamlining action towards the achievement of the SDGs are to be found in the recommendations of the AFSD of 2019 concerning inclusiveness and the reduction of inequalities, and that such recommendations require further contextualization, development, and overarching considerations.

3 PROBLEM ANALYSIS

Despite the importance of the recommendations of the AFSD in the 2016-2018 period, the region's conflicts and instability continue to cloud the prospects of economic and social well-being and tighten the noose on Arab countries. Actions for engagement, work and employment, climate action and gender empowerment remain elusive when the region of the Arab world remains the world's least peaceful (IEP, 2018:6). Moreover, it has been estimated that institutions may take between 15 to 30 years to recover fully from conflicts, thereby rendering action on such areas extremely difficult to achieve (UNDP, 2014:17). Also, foreign policies implemented by both DAC and several of the region's countries have a questionable track record with respect to their pledges towards supporting development aid in the region outside of immediate state interests; while others have contributed outright, through the unfortunate reality of global and regional politics, to the destabilization of the region.

3.1 COSTS OF CONFLICT

Every day, conflicts cost the region millions of USD that could have otherwise been allocated for economic and social well-being. The Arab world is expected to have lost, by 2016, around USD 600 bn due to conflict. Countries directly affected by conflicts and violence have already lost 5.2% in real GDP while neighboring

countries have lost 1.7% (ESCWA, 2017b:4). While conflicts in the region are diverse and complex, recent studies have shown that poor government effectiveness, particularly to do with social and developmental services, have, alongside political exclusiveness, played a larger role than previously asserted. Similarly, these recent findings have also demonstrated that income inequality and poverty are *not* the root causes of the breakdown of the state in the Arab world per se, particularly since many countries today torn by conflicts had actually experienced poverty and income inequality reduction (Ianovichina, 2018:8-9). Internal conflicts were also internationalized according to the foreign policy priorities of many Agenda-committed donor countries. In this geopolitical context, for every USD 1 the Arab region gained in development finance, it effectively lost USD 2.9 in direct financing (ESCWA, 2017b:8). Conflicts are also a major drain on budget as military expenditures in the region remains the highest in the world. Both a result and a cause of conflicts and violence, military spending keeps directing much needed resources away from socioeconomic development, environmental protection, and the reversal of environmental degradation (ESCWA, 2017b:5).

3.2 REFUGEES

The forced displacement and migration of refugees into other countries has also made socioeconomic progress extremely difficult. The region today hosts the highest ratio (37%) worldwide of refugees as a percentage of total population (Dugarova and Gulasan, 2017:48). In Yemen, starvation is threatening the livelihood of millions while the civil war in Syria displaced around 11 mn people (UN News, 2019). The presence of large displaced populations adds to the already-existing structural constraints, such as poor or lagging infrastructure, shortage of teachers, and issues related to safety and security, as well as socioeconomic constraints such as poverty, child labor, and non-affordable housing (Government of Lebanon and the United Nations, 2019). Moreover, the influxes of refugees have revealed the volatility of Official Development Assistance (ODA) and its diversion from development aid towards humanitarian and refugee aid (ESCWA, 2017b: 3-4). Consequently, several foreign policies conducted since 2011, including the intervention in Libya, Syria and Yemen have made donor commitments to the Agenda illusory at a time when the “three D’s”, defense, development, and diplomacy seem all the more intertwined (Abouassi, 2010:119).

3.3 RECURRENCE

Conflicts in countries such as Iraq, Libya, Syria, and Yemen, have created persistent economic costs and deep recessions. As underlined at the 2018 HLPF, “conflict not only impedes development. It can reverse decades of development gains and, in some countries, it has already done so [...]” (United Nations, 2018b). Overall, the recurrence of conflicts is pushing millions of people into poverty traps and driving domestic financing towards emergency and short-term humanitarian needs. The recurrence of conflicts is particularly worrying when the frequency and the length of these conflicts are considered. According to the IMF, from 1946–2015, 12 out of 59 conflict episodes in Middle East North Africa

(MENA) lasted more than eight years, and in about half of these episodes the ensuing peace lasted less than ten years. Given the significant political polarization, economic inequality, and rapid population growth in the region, these conflicts are unlikely to dissipate anytime soon (Rother et al. 2016:7).

3.4 FIRST AS TRAGEDY, THEN AS FARCE?

Tracing the origins of conflicts in the Arab region leads us to the failure of states in establishing sustainable political consensus through “social contracts”: from defaulting social services, to sectarian resentment, to socioeconomic changes including the “frustrated development syndrome”. It is also impossible to underestimate the extent to which geopolitical rivalries, interventionist foreign policies, and white-collar arms sales have contributed to the recurrence of conflicts and an unprecedented refugee crisis. In such a context, two conclusions may be derived. The first is that the regional implementation of the Agenda needs to be contextualized within a framework that addresses the root causes of conflicts as a starting point. The second is that North-South frameworks for implementation are elusive: the foreign policies of many international actors towards the Arab world contradict the stated objectives of the Agenda, thereby rendering it either the subject of lip-service, or a “soft power” foreign policy mechanism. As one participant in a study by Abouassi (2010:120) perhaps correctly stated, “we are not living in a utopia, no one is really interested in giving assistance without linking it to a political agenda or national interest; there is no altruism in aid assistance”. In such a context, local, national, and regional “domestication” of the Agenda, and the development of frameworks of implementation that correspond to current contexts is of paramount importance. In the case of the Arab world, policy action directed towards the achievement of all of the SDGs needs to be geared primarily towards addressing “key levers” for change that correspond to current needs. They have been identified in an extensive study published as *Eruptions of Popular Anger* by the World Bank (Ianchovichina, 2018). Through these key levers, the streamlining of policy action towards all of the other goals becomes possible.

4 THE KEY LEVERS FOR CHANGE

While seeking to tackle, and duly so, poverty, gender inequality, and unemployment, governments in the Arab region would need to address, above all, the overarching peace gap and gear policymaking towards addressing key deficiencies that have led to the outbreak of conflicts. Ianchovichina (2018) asserts that perceived economic *and* social inequality, access to much-needed social services, and lack of inclusiveness and rule of law have contributed to the establishment of a “frustrated development syndrome”, primarily within a growing and increasingly educated middle class, leading to the breakdown of peace across the region, and rendering the achievement of all other SDGs elusive in a conflict-ridden context.

4.1 REDUCING (REAL) INEQUALITIES

Despite the recurrent focus on poverty and income inequality reduction, many of the economic root causes that have fueled discontent in the Arab region remain today largely unaddressed. Many countries and governments have rushed to reactive measures aimed at absorbing the shocks or preventing the crisis. The priority has traditionally been given to short-term responses at the expense of correcting long-established structural inequalities that permeate societies throughout the region and that transcend simple income inequality. At that level, little room is left for inclusive practices and for closing the wealth gap, which already stands among the highest in the world (Alvaredo et al., 2018:133). Moreover, if such inequality has been identified as a cause of unrest, several nuances are required: income inequality, by itself, does not seem to have been a root cause of conflict, but broader inequality (income, access to jobs, social services, etc.), understood as a failing social contract mainly between an increasingly ambitious and educated middle class and a traditionally-established elite, is largely to blame (World Bank, 2015).

4.2 ACCESS TO SOCIAL SERVICES

Complementary to the analysis pertaining to real inequalities, the findings outlined in Ianchovichina (2018:8) have also underlined the importance of ensuring outlets for the “frustrated middle class” (such as promising careers in a meritocratic civil service) while addressing fundamental demands that were at the heart of the Arab uprisings, such as affordable housing and policies promoting social economic justice including universal social security coverage. Factors that have contributed to the breakdown of the social contract in states across the Arab region include:

- A decline in the perceived quality of life and a deterioration of social services,
- The erosion and frustration of an increasingly educated middle class,
- Fiscal imbalances, burdensome subsidies, and distorted recruitment policies that were (1) either kept unchecked despite the decline in quality of life; or (2) remedied through unprecedented austerity measures.

4.3 EQUITY AND THE RULE OF LAW

These findings also have several ramifications in what relates to equity and the rule of law, which would hence need to be understood outside their strict economic or judicial dimensions. While initially packaged as a means to circumvent political exclusiveness, austerity measures have in reality been accompanied, in several countries, with an exacerbation of the hold of the elites on the state accompanied with a breakdown of structures that had provided social welfare for generations (ESCWA, 2017c:13). Ianchovichina (2018), who appropriately underlines the “frustrated development” syndrome, frames such disparities within a larger deficiency related to the rule of law, namely that laws tend to apply to the middle and lower echelons of society, while privileges are retained by power-wielding elites, hence contributing to an increased breakdown of the social contract.

In the following section, the reasons pertaining to the inability of states to address these dimensions is studied from the perspective of policymaking, particularly that which relates to the ability of states to finance such dimensions-goals. Drawing primarily on the classification proposed by the Addis Ababa Action Agenda, domestic resources inflows and outflows, foreign private and public financing, as well as complex financing frameworks, are examined. Further attention is given evidently, considering its sheer size, to domestic resources mobilization. As outlined by Guterres (2018), efforts should “continue to support developing countries in creating conditions for mobilizing domestic resources, including tax reform and other good governance measures” Unfortunately, the Arab countries’ capacity to mobilize domestic finance towards such key levers remains crippled, thereby underlining the need for urgent governance reforms. Foreign sources of financing, it is argued, could face challenges and risks in mobilizing resources for development before such reforms are realized.

5 RESOURCES MOBILIZATION

5.1 DOMESTIC RESOURCES MOBILIZATION: A CRIPPLED CAPACITY FOR THE KEY LEVERS

5.1.1 INFLOWS: ENDURING FISCAL PRIVILEGES

The breakdown of the social contract in the Arab world would therefore need to be remedied through answering several popular needs that are intrinsically related to inequality, social services and the rule of law. Several among those identified previously, including affordable housing, public transportation, healthcare, and schools require securing the necessary funds for public or subsidized housing as well as public education and healthcare, all while a reduction of real and perceived inequalities is sought. In theory, several domestic policy reforms would need to be conducted to expand the tax base, particularly through increased taxation on wealth, property, and capital gains, which are still negligible even when compared to the low global average of 7% of total tax revenue. Such steps would be essential for overcoming wealth confiscation, democratizing fiscal policies, and increasing public revenues (ESCWA, 2017c). More progressive taxation schemes throughout the region would also enable economic reforms, and human capital investments, reduce social inequalities, and lessen the impact of fluctuations in commodity prices (ESCWA, 2017c).

Nevertheless, such steps are and will continue to be met with resistance at both central and local levels (Lutz and Linder, 2012:25). Even if central governments agree on progressive and equitable taxation schemes particularly on large estates, local areas have historically shown resistance to the application of central government laws and tax systems that circumvent, or jeopardize, traditional power structures (Gana, 2012). Even if the current post-insurrection context is theoretically favorable for the “buying in” of the elites, political bargaining would be essential (Besley and Persson, 2014:113) and the region’s recent overall record in that respect has not been encouraging.

The inability of traditional elites to grasp the urgency of reforming fiscal frameworks towards more equity and towards fiscal inclusiveness has tarnished the legitimacy of states *and* of fiscal systems across the region: consequently, illicit financial flows (IFFs) and tax evasion have increased exponentially. Indeed, IFFs thrive when citizens or businesses seek to avoid taxation by deeming it unnecessary, when government officials divert public money for personal gain, or when armed or unarmed groups and terrorist organizations seek to contest the state's authority by opening parallel economies (Everst-Phillips, 2012). In the Arab region, illicit outflows started exceeding the combined aggregate of ODA and FDI inflows with trade mis-invoicing estimated at a total of USD 60.3 bn per year between 2008 and 2015 (ESCWA, 2017b:5).

The recent report (ESCWA, 2018a:45-46) has proposed several recommendations to curb IFFs including the establishment of national and multi-national bodies to track and curb IFFs, enhancing accountability, adopting regional and stand-alone laws, and requiring public country-to-country reporting by multinationals. However, two conditions are required for the control of IFFs to apply: (1) state effectiveness, capability and determination; and (2) the support or neutrality of “veto-holding” elites (Everst-Phillips, 2015). While several institutional-level policies such as capacity development are recommended to create institutional momentum outside the political realm, international practice has reiterated that these conditions are intrinsically political and that the political drive is much more potent than the institutional one (Tilley et al., 2015: iv-v, 18-19). Consequently, the impasse is straightforward: privileged fiscal positions and money laundering practices that tarnish the legitimacy of states, thereby leading to more tax evasion and IFFs.

5.1.2 OUTFLOWS: SOWING INSTABILITY AND INEFFICIENCY?

Increases in military spending is not only diverting funds from socioeconomic development, but it is also associated with increased instability and mutual suspicion, hence undoing steps towards regional integration and peace. The dual effect of increased military spending hence contributes to internal instability through de-prioritizing socioeconomic well-being and to regional instability through the increased risk of the recurrence of conflicts (Gaub, 2014:1). Many countries that have invested greatly in development aid have also played a central role in the exponential increase of arms flows into the region. This is exemplified by the most recent US arms sales to Saudi Arabia, or the fact that 60% of French arms sales have gone to the Middle East, doubling in 2017 alone, despite criticism from lawmakers and increasing scrutiny concerning the military operations in Yemen (Irish and Louet, 2018).

Moreover, the popular demand for social services is both tied, and inversely related to, the size of the region's public sector wage bill, which stands at 30% of total expenditures compared to 14% in OECD countries (World Bank, 2016b). In Lebanon, the cost of central government staffing is believed to have more than doubled in a decade. Mostly dependent on political affiliation and allegiance, the

civil service remains considered as the primary employer, the opportunity cost of which is, in fact, the funding of much-needed public services (Al-Aref, 2014). Moreover, the efficiency of the public sector does not explain current spending trends, particularly if we were to account for subsidies that largely benefit high income strata (Fattouh and El-Katiri, 2012:8; ESCWA, 2017a: 11-12). The second opportunity cost of not reforming the civil service lies in the failure to tap into its capacities as a post-conflict settlement-building mechanism *and* to defuse the “frustrated development syndrome” by allowing the staffing of the government with candidates that have both educational competencies and professional training. (United Nations, 2010: 21; UNDP, 2014: 26, 31).

From this section, several conclusions can be reached. Firstly, given their sheer size, it is clear that domestic resources are the most potent means of implementation, yet that political exclusiveness, particularly in matters such as taxation and tax evasion, are at the root of real inequalities and cripple domestic resources inflows towards such much-needed sectors as social services. Secondly, this political exclusiveness is also at the root of the “frustrated development syndrome” as political influence in the staffing of civil services and allocation of subsidies remains potent, and often overlooks the large pool of educated, middle-class youth on one hand, and the capacity of civil services to act as brokers of reconciliation and consensus-building. Thirdly, if resources are to be mobilized for the achievement of this priority framework, then political systems will inevitably need to become more inclusive or suffer the cost of recurrent and persistent instability and conflicts. In this coming section, we look at the potential of foreign and complex financing mechanisms as means of mobilizing resources for development, and argue that given the most recent turn in Official Development Assistance (ODA) and lagging regulatory frameworks, these financing mechanisms will need to “be driven” by domestic resources mobilization, rather than the opposite.

5.2 FOREIGN AND COMPLEX FINANCING MECHANISMS:

IN THE FOOTSTEPS OF DOMESTIC RESOURCES MOBILIZATION

5.2.1 FOREIGN FINANCING

Since 2010, increases in ODA have been mainly attributed to increasing humanitarian aid and in-donor refugee costs while ODA to non-emergency situations fell considerably. The Economic and Social Commission for Western Asia – ESCWA (2017b: 3-4.7) confirms that in 2015, humanitarian aid from OECD-DAC countries increased by 11% (USD 13.6 bn) while refugee aid constituted nearly 10% of total ODA, thereby doubling to USD 12 bn. Moreover, in 2014 and 2015, the total amount of ODA received by the Arab region from the rest of the world was less than what the region gave in return as ODA outflows. Moreover, only 36% of the total ODA provided by Arab development funds in 2015 was received by countries of the region.

Moreover, the Arab world has become highly unattractive for foreign investment in recent years. According to the World Development Indicators, FDIs remain

relatively low in the region, averaging 1.7% of GDP when compared with 2.9% worldwide; 6.39% in Lebanon, and 2.04% in Egypt (Abaza, 2016: 61). The vast majority of investment is still short-term oriented and most FDIs have been directed towards low technology sectors that generate few new jobs: oil, real estate and construction. Since FDIs require competitive business environments, peace and stability to maintain in the long run, it is also unlikely that FDI will become a source for the achievement of the domains-goals outlined above, particularly since local governments are often unable to borrow, and across developing countries, are still considered not creditworthy.

While the private sector can bring cost-efficient solutions, it is also often associated with higher financing costs because most investors demand a competitive return for the risk they assume. Tax and other incentives designed to attract FDI ought to be viewed with caution, as they are often used at the expense of generating public revenue. Emphasis should theoretically be placed on long-term measures that do not involve forgoing revenue, and that would include combating corruption, establishing flexible regulatory frameworks and an equitable judicial environment. In the current situation, the combined framework of these prerequisites is not established in most countries across the MENA region, with the exception of some of the oil-rich Gulf States.

5.2.2 COMPLEX FINANCING FRAMEWORKS: THE LONG SHOT?

While public-private partnerships (PPPs) offer promising frameworks as they allow for risk sharing and the possibility of benefiting from the private sector's management and efficiency, the public sector's involvement can also allow for the streamlining of labor laws while providing private capital with a certain margin of risk sharing. Nevertheless, PPPs require comprehensive regulatory frameworks that mitigate risks such as unclear delineation of responsibilities between the public and private actors (World Bank, 2016a); efficient and effective public institutions and administrative capacities that are capable of acting as partners as well as managers; and independent judiciary oversight to uphold constitutional rights, thereby disallowing corporate takeover or actions that contradict domestic and local laws.

While blended financing (Harvey, 2018) by multilateral development banks (MDBs) and development finance institutions (DFIs) is being increasingly used in some countries of the Arab world (Hashemite Kingdom of Jordan, 2015: 59), it remains prone to issues related to risk and return. Project returns may not be enough to cover the risks originally incurred by financing institutions. If green financing is increasingly being used to "localize sustainable development", most particularly on the environmental level, (United Nations, 2018a: 94) local administrations in most countries of the Arab region have limited capacities to operate or implement green and climate financing projects. Such projects consequently remain dependent on external aid or projects managed by international donors or development organizations.

It is therefore clear that while foreign and complex sources of financing can direct resources towards several action areas that would benefit from both foreign technical assistance and funding, as well as the efficiency of the private sector, both local and foreign, such sources require competitive business environments as well as environmentally and fair trade-gearred legislative and legal frameworks that can curb relations of dependency. Functioning and effective institutions that can ensure tax collection are also required. Nevertheless, as long as domestic resources mobilization remains crippled, such an infrastructure cannot be developed, if only for the fluctuations in ODAs, FDIs and remittances; and as long as political exclusiveness is maintained, domestic resources mobilization is likely to continue suffering from financial drains, waste and inefficiency.

6 CONCLUSION

Despite its adoption as the central international development framework, Agenda 2030 needs to be contextualized in order for it to become achievable in the regions and countries it will service. Its translation into a workable model is threatened by the prevalence of interventionism and geopolitical dynamics on one hand, and poor contextualization on the other. In this article, we have attempted to bridge the international development literature and the current context, and identify the key levers for policy action in the Arab world that could serve as entry points for the achievement and the streamlining of the SDGs. By analyzing the impediments pertaining to the mobilization of these levers, we have underlined the observation that domestic resources mobilization remains crippled due to several limitations at the level of inflows and outflows. The overarching cause of these limitations is political (and economic) exclusiveness, namely the inability of political establishments to grasp the pressing need for the democratization of fiscal and financial systems in order to create a political consensus sufficient to reduce illicit financial flows on one hand, and the immense potential that the reduction of military spending and subsidies coupled with the recruitment of the educated youth hold for peacebuilding.

On the other hand, policies that would promote political and economic inclusiveness, particularly fiscally and financially, are expected to allow for the creation of a greater pool of resources that could be immediately put at the service of the “key levers”, thereby realizing progress on directly-related SDGs but also allowing for the establishment of “entry points” and silo-breakdown towards the achievement of all other SDGs. While recognizing the inherent complexity of addressing conflict and peacebuilding in the region, this article presents, in the annex, a summary of this analysis and a “roadmap”. By undertaking several incremental fiscal, financial, civil service and military-spending related reforms, Arab states could establish long-term social development programs that reduce inequalities, improve socioeconomic welfare and access to much-needed social services, and promote the rule of law.

Curbing illicit financial flows and trade misinvoicing could be achieved by focusing not solely on practical mechanisms but also on underlying causes such as lack

of national cohesion and inclusiveness, which can be remedied through cross-sectoral policymaking such as civil service reform, the establishment of quotas and meritocratic considerations. Encouraging all constituencies to take part in public procurement would also reduce incentives for white-collar tax evasion – measures that can be complemented with more thorough clearance, control and investigation procedures.

Finally, foreign financing, whether foreign direct investment, official development assistance or remittances, given their fluctuating natures, is more suited to follow improvements in domestic resources mobilization than to lead them. The most recently acclaimed international financing mechanisms including public-private partnerships, blended financing, and green financing, may yield socio-economic gains yet require legislations, public sector capacities, tax levying enforcement, and infrastructures that are currently inadequate to properly oversee, facilitate, or manage, such mechanisms. It is therefore imperative for many states in the Arab region to recognize that political and economic exclusiveness comes with a heavy price tag that cannot be paid in the long term.

Disclosure statement

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7 ANNEX: A ROADMAP FOR THE CONTEXTUALIZATION OF AGENDA 2030 IN THE ARAB WORLD

Contextualizing Agenda 2030 in the Arab world

Peacebuilding framework: reducing real inequalities, resuming social services, and promoting equity and the rule of law

Overarching considerations Avoiding top-down approaches to development management and addressing the political incoherence between Agenda 2030 and regional priorities

Aligning policy and institutional actions with regional priorities: overcoming political and economic exclusiveness, “un-crippling” domestic resources mobilization, financing key action areas

Context	Priorities	Corresponding international development frameworks	Means of implementation	Financing framework	
				Policy	Institutional
Fragility	Exit from conflicts	The principle of leaving no one behind	Consensus-building politics	Institutional coherence with the policy-related means of implementation:	Fiscal and financial frameworks reform
Violence	Consensus and settlement building	Empowerment-centric goals	Improving citizen-state relations	– Inclusiveness in civil service recruitment	Progressive taxation, property tax increase, curbing IFFs
Breakdown of social contracts	Reducing inequalities	SDG-16, “Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels”	Wealth redistribution and allocation	– Meritocratic recruitment	Financing civilian service rather than military service
Distrust in the State	Improving access to social and public services	Empowerment of the judiciary	Curbing the “frustrated development syndrome”	– Quota-based recruitment	Optimizing public sector recruitment
Increases in IFFs	Upholding equity and the rule of law	Empowerment of vulnerable populations	Financing social services and resuming public services and infrastructure development	– Capacity-development	Competitive packages granted according to merit and quotas (including vulnerable background)
Refugee crisis			Reinforcement of the impartiality of the judiciary	– Improving the efficiency, effectiveness and reach of public services	Reducing subsidies and optimizing procurement
			Empowerment of vulnerable populations	– Establishment of sustainable legal and regulatory frameworks	Establishing emergency funds and directing complex financing framework towards non-political functions

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Sustainable Development Goal 16: Focus on public institutions, World Public Sector Report 2019

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Book review by DAGMAR RADIN*
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The Sustainable Development Goals (SDGs), part of the United Nations' 2030 Agenda for Sustainable Development, have by now become a widely recognized and agreed upon set of developmental goals the world community is striving to achieve. One of the goals connected to the success and achievement of all the others is SDG 16, which focuses on public institutions. The World Public Sector Report (WPSR) reviewed here focuses on the part of SDG 16 addressing institutional principles of effectiveness, transparency, accountability, anti-corruption, inclusiveness of decision-making processes, access to information and non-discrimination. More specifically, the Report analyzes the institutional principle of anti-corruption and the cross-cutting issue of gender equality, as well as the public budget process, and risk management in public administration as instruments and tools that can advance the attainment of the SDG16 goal.

The SDGs have become a substantive part of the dialogue in the international organizations focused on developmental issues as well as within national governments, the international academic community and civil society worldwide. While the UN 2030 Agenda is a comprehensive document outlining the priorities, commitments, goals, targets of achieving sustainable development, the SDGs represent seventeen goals identified as action arenas, interconnected with one another, and requiring a comprehensive approach to achieve, through the consideration and inclusion of what are known as “the 5 Ps” (people, planet, prosperity, peace and partnership). If there is one message that the UN sends through the Agenda it is that the only way to achieve all SDGs by 2030 is by considering how actions to achieve one goal affect all the others. While the achievement of all of the SDGs by every country by 2030 is an ambitious, and some would even say unrealistic, target, the goals represent not only specific areas where action is needed to achieve a sustainable world, but also constitute a new understanding and acknowledgment that different segments of development are no longer seen as operating in individual silos, exclusive to the agencies and policy areas targeting them. Rather, the adoption of the SDGs represents an acknowledgment that the SDGs are closely interrelated, dependent on and influencing one another, and that cooperation between the different areas is crucial for their joint success.

One of the SDGs connected to the success and achievement of all the others is SDG 16 which focuses on public institutions. In addition to being a standalone issue, both the Agenda and the SDGs feature institutions as a cross-cutting issue tying in multiple goals. SDG 16 is about promoting “peaceful and inclusive societies for sustainable development, provide access to justice for all and build[ing] effective, accountable and inclusive institutions at all levels”.

In light of the importance of SDG 16, the United Nations Department of Economic and Social Affairs (UNDESA) was tasked to inform the review on the progress on the goal for the High-level Political Forum that took place in July 2019 and which gave the opportunity to Member States to discuss this issue. The end product of this undertaking is the WPSR reviewed here. The seventy-four

individuals contributing to the Report come from a variety of backgrounds and experiences: several UN agencies, international organizations, national governments, public institutions, and academia from across the world, all reflected in the diversity of examples that enrich the Report, as well as the rigor, breadth and depth of knowledge presented in it.

The Report focuses on the part of SDG 16 addressing institutional principles of effectiveness, transparency, accountability, anti-corruption, inclusiveness of decision-making processes, access to information and non-discrimination. However, because of the breadth of the principles, which would make the task of creating a comprehensive Report on all institutional principles and across all issues impossible to complete within a reasonable time frame, the authors have chosen to focus on a sample of issues and instruments that do a reasonably good job of illustrating the state of affairs on the goal attainment and that are tied closely together (ex. Anti-corruption and budgetary processes).

With respect to the level of analysis, the focus of the Report is on national institutions and international only to the extent that they affect the national context, and this is reflected in the varying lengths of the international aspects section in the chapters. This is a sensible approach because the reality of the attainment of SDGs makes the national political arena, where policies are formulated and implemented, even when they are guided or conditioned by international organizations, the most relevant one. While the focus is on institutions, the scope of the Report is further limited to only public institutions, while acknowledging the influence of the private institutions separately and in cooperation through various public-private partnerships. Finally, given the complexity of the topic, which reaches all sectors of socio economic and political development, the Report focuses only on a small sample of issues. The SDG areas included as examples are anti-corruption, and institutions for gender equality, while examples of the tools and instruments include the budget and planning processes, and risk management in public administration. The inclusion of SDG 5, the promotion of gender equality and empowerment of women through public institutions, is especially worth noting as it represents a central issue in the Agenda that is integral to achieving all SDGs.

The structure of the Report and the interconnectedness of the units within it make this Report very much in line with the UN Sustainable Development Agenda, which points to and reinforces the main messages of the Agenda and the SDGs: the interconnectedness and interdependence of all SDGs, both in the areas they cover and in the instruments and tools used to address them. The Report begins with the Executive Summary giving a clear overview of the main points of the Report, that is, focusing on the main aspects of each institutional principle and chapter. What makes the function of the various sections of the Report easier to follow is the actual structure of the chapters, which are divided into three types: the first type looking at one institutional principle of anti-corruption (chapter 2), the second type providing examples of instruments/tools that can also be used to

achieve other SDGs (chapters 3 and 4), and the third type where through the lens of SDG 16 institutional principles the promotion of gender equality through public institutions is analyzed (chapter 5).

Chapter 1 presents the progress made so far globally on the institutional dimensions of SDG 16. It discusses some issues faced with the very definition of progress, how the authors chose to define it and what challenges exist when attempting to measure it in the context of institutional dimensions. Among other aspects, the chapter presents international dimensions of attempts to measure progress, as well as several interesting examples of issues that may not be easy to see such as: political sensitivity to governance indicators, examples of stakeholder analysis in Chile, and the global review of the participation of environmental impact assessments. The chapter concludes with an assessment of implementation challenges and gaps and leads into the following chapter. Corruption and SDGs are the focus of the second chapter. Given the covert nature of corrupt activities, there are challenges in covering the topic of corruption and, subsequently, anti-corruption strategies but the Report does an excellent job at synthesizing both the theoretical foundations as well as data availability on corruption as well as taking a comprehensive and global analysis of available and documented anti-corruption strategies. As in every chapter, it adds to the understanding of the topic by introducing examples such as corruption in the health care sector in Croatia, as well as examples of social accountability initiatives across the globe, among others. Chapter 3 takes a look at an implementation instrument, the process of public budgeting and does a very thorough job of analyzing a topic that can be tedious and not as easily engaging for stakeholders. However, given the importance of public budgeting as a tool for planning and executing public policies and programs affecting entire populations, the Report adds significant value in explaining how the different institutional principles can be included in the process and how it is related to anti-corruption efforts, as well as in offering visual presentations of tools of public engagement in the process, among others.

Chapter 4 addresses risk management in public administration in the SDG context. This topic is particularly challenging given that risk is used in different fields and disciplines differently, and this chapter is able to explain well the different meanings of risk and how it is used in public administration. Furthermore, its importance is highlighted by the fact that risk management, while often mentioned in some fields (such as emergency response management, etc.) is still largely not understood in many areas of public administration as it relates to the public interest rather than private interest, and how it can be used to achieve the SDGs. In addition to the main structure, the chapter offers a variety of examples, such as Liberia's lead managing agencies and alternates for specific risks, providing an overview of the different areas where risk management is needed. Also addressed are such issues as Canada's risk management in public safety, and Ethiopia's food security early warning system. The fifth and final chapter looks at how the issue of gender equality is being promoted by public institutions. Since gender

equality is a cross cutting issue that is equally important in the achievement of all SDGs, its highlight in the Report is imperative. This chapter looks at the national level at how and what type of gender responsive institutions exist, both through legal mechanisms and through the analysis of the institutional principles and associated challenges. In terms of achieving the SDG, the topic focus on achieving gender equality is on education, equal pay, safety and hygiene, and safe transport, all areas where gender inequality is most pronounced as well as areas where significant improvement is possible. The chapter concludes on the issue of the effectiveness of creating gender responsive institutions, an issue often discussed in the context of public institutions.

What makes this Report particularly valuable is in the way it integrates a broad theoretical knowledge and understanding of the topics with the most recent data that inform the state of affairs on a particular topic, and it does so in a way that is easy to follow and comprehend. In other words, the Report retains credibility and rigor without getting too entangled into any academic or research area, thus covering the topics in an easy to understand way.

In some way the Report brings together the diversity of the topic areas covered and offers perspectives on how existing policies or approaches may or may not work to further the SDG 16. Furthermore, it integrates the latest information and data on topics which are often difficult to find, and which have historically not been well covered in some fields of research. One such area is that of anti-corruption, notorious for the lack of reliable and comparable data, where research is still limited when compared to other developmental issues. The Report offers a considerable richness of data sources, summarizing the main trends in the anti-corruption efforts documented while offering specific examples of local or sectoral strategies to enrich the understanding of a topic that can be abstract at times (there are examples of voluntary multi-stakeholder anti-corruption initiatives in different sectors; examples of social accountability initiatives and their effects specified in several countries).

Another notable aspect of the Report is the multidisciplinary approach, its lack of disciplinary bias, thus offering a comprehensive and complete picture of the topic analyzed. Finally, the integration of the public budgeting processes as a tool of implementation of the SDG is thorough, well structured, and appropriate in addressing all the main institutional principles of transparency, inclusive participation, nondiscrimination and anti-corruption. This chapter will be particularly useful for direct application by governments who wish to make their budgets more responsive and responsible.

While the Report is not expected to offer an exhaustive analysis of the SDG 16 institutional principles, the choice of coverage of examples and focus is somewhat guided by the professional background of the individuals contributing to the Report. While this is expected to an extent and it does not make the Report any

less valuable, it is inevitable that some topics may not be touched upon. For example, when discussing corruption and its definition, as well as anti-corruption measures, the Report does not delve into types of corruption other than distinguishing it by level and or causal models. However, one aspect of corruption is organized crime, where the state and criminal groups are closely tied, and can also involve illicit international activities, such as the arms trade in cases in which the perpetrators are supposed to be enforcing the international laws they are breaking. In these cases, existing anti-corruption measures may not be effective, and the Report may just need to include such areas that are yet to be addressed.

In summary, the World Public Sector Report does an excellent job at presenting the current progress on the institutional dimension of SDG 16 and while it does not provide for a detailed analysis of the global condition, it offers a solid, and reliable foundation for different stakeholders – academic, in local and national government and in NGOs – interested in making progress towards the achievement of the institutional dimensions of SDG 16, and makes for a worthwhile reading for anyone who wishes to have a broad perspective on this SDG.

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