

Title	Measuring the Sustainable Development Goals: What does it mean for Ireland?
Authors	MacFeely, Stephen
Publication date	2017
Original Citation	MacFeely, Steve. (2017) 'Measuring the Sustainable Development Goals: What does it mean for Ireland?', Administration, 65(4), pp. 41-71. doi: 10.1515/admin-2017-0033
Type of publication	Article (peer-reviewed)
Link to publisher's version	https://www.degruyter.com/view/j/admin.2017.65.issue-4/admin-2017-0033/admin-2017-0033.xml - 10.1515/admin-2017-0033
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Download date	2025-07-07 17:05:17
Item downloaded from	https://hdl.handle.net/10468/5411



DE GRUYTER
OPEN

Administration, vol. 65, no. 4 (2017), pp. 41–71
doi: 10.1515/admin-2017-0033

Measuring the Sustainable Development Goals: What does it mean for Ireland?

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Introduction

In March 2017 the United Nations (UN) Statistical Commission adopted a measurement framework for the UN Agenda 2030 for Sustainable Development (UN, 2015d), comprised of 232 indicators designed to measure the 17 Sustainable Development Goals (SDGs) and their respective 169 targets.¹ These universal goals cover all three key development pillars: economic, social and environmental. They also include indicators for enablers such as institutional coherence, policy coherence and accountability.

The implementation challenge arising from the SDGs is colossal but lies outside the scope of this article. Instead this article will focus primarily on issues relating to the measurement of the SDG indicators and the enormous challenges this will pose for countries, their

* All views expressed are those of the author and do not reflect the views of the United Nations Conference on Trade and Development or University College Cork.

¹ These indicators were adopted by the UN Statistical Commission in March 2017 (see UNSC 48 – E/CN.3/2017/35) and were subsequently endorsed by the United Nations Economic and Social Council (ECOSOC) in June 2017 and by the United Nations General Assembly on 6 July 2017 (see A/RES/71/313).

statistical systems and their broader information ecosystems. The paper will also discuss how the SDGs provide a perfect example of why a coordinated and integrated statistical system is required by countries. Of course such a system is also required for national planning purposes, but often indicators are not defined by national policy from the outset and thus the data demands are not always as immediately evident. By examining the challenges ahead, opportunities are identified where the Irish Statistical System (ISS) can show international leadership in areas of particular relevance to Ireland.

The remainder of this article is presented in five sections. The next section provides a short history of the SDGs and their predecessor, the Millennium Development Goals (MDGs), and identifies some of the most important differences between the two. The following two sections outline some of the challenges involved in measuring the SDGs and speculate on what the cost of the measurement framework might be. Some implications and possible opportunities for Ireland and the ISS are then discussed, centring around globalisation and gross domestic product (GDP), administrative data, an Irish Government Statistical Service, privatisation of official statistics and the challenges of coordinating the flow of data required to feed the SDG monitoring framework. The final section concludes the paper.

From MDGs to SDGs

At the beginning of 2016, the SDGs replaced the MDGs that had been in place since the turn of the century. Before going any further, it is useful to briefly review the history of the MDGs and explain how they differ from their successor, the SDGs.

The MDGs

After several attempts to build an international consensus on development priorities for the twenty-first century, and following the publication of the UN Secretary General's Millennium Report, *We the Peoples: The Role of the United Nations in the 21st Century* (Annan, 2000), which outlined the challenges for development in a globalised world, 189 member states finally adopted the Millennium Declaration (UN, 2000) at the fifty-fifth General Assembly, designated the 'Millennium Summit'. This declaration committed nations to reducing extreme poverty by 2015. The following year, in August 2001, the UN Secretariat published the MDGs.

The MDGs, described as a road map for world development, reflected the understanding of development at the time and attempted to bring governance and coordination to the global development agenda. Although a voluntary programme, unsupported by any legally binding instruments or formal UN resolutions, the MDG framework was nevertheless politically and morally compelling, and was seen (if implicitly) as a reformulation of the Millennium Declaration. They were adopted, in this spirit, as the framework for international development cooperation until 2015. Thus, the MDGs were not, strictly speaking, a formal intergovernmental mechanism, but rather an initiative driven by the UN Secretariat. A downside of this approach was the criticism that the MDGs did not fully reflect the will of the peoples or the views of their sovereign governments. On the other hand, the process was relatively light and driven by subject-matter experts,² resulting in a limited set of focused goals and targets. While the MDGs had eight goals and twenty-one targets, dealing with issues such as gender, disease, shelter and education, the primary and explicit aim was to reduce extreme poverty and hunger. The twenty-one targets were each accompanied by one or several predefined indicators. These indicators were the benchmarks against which progress was assessed. The MDGs achieved some notable successes, albeit with considerable help from a rapidly developing China, which dramatically improved global aggregates. For example, between 2000 and 2015 more than 1 billion people were lifted out of extreme poverty, and under-five child mortality was halved (UN, 2015b). The actual measurement of progress was only partially successful however. After fifteen years, developing countries could only populate, on average, two-thirds of MDG indicators (United Nations Conference on Trade and Development, 2016).

The SDGs

In 2012, at the UN Rio+20 Conference on Sustainable Development (United Nations Development Programme, 2012), member states of the UN met to create a new, global agenda for sustainable development. The outcome document, *The Future We Want* (UN, 2012), mandated the UN to develop a 'post 2015' global development programme to replace, but build, on the momentum of the MDGs.

Cognisant of criticisms of the MDGs, in particular, that they did not fully reflect the will or views of peoples or governments, the SDG

² Legend has it that the MDGs were drawn up by a small number of men in the basement of UN HQ (Ford, 2015a).

process from the outset aimed to create a people-centred development agenda. To do so, an unprecedented global consultation was undertaken. Specialised panels were held to facilitate inter-governmental discussions, with the result that 193 governments expressed their opinion. The online ‘My Word’ survey amassed over 7 million responses (Bhattacharya & Kharas, 2015). Civil society organisations, citizens, scientists, academics and the private sector from around the world were consulted through various fora and given an opportunity to express their views.

Based on this feedback, the UN General Assembly Open Working Group proposed that seventeen goals be put forward to the General Assembly for approval in September 2015 (UN, 2013b). This proposal laid the ground for the new SDGs and the global development agenda between 2015 and 2030. In brief, it proposed that a set of SDGs be selected to build on the foundations of the MDGs but to adopt a much broader scope, attempting to not only end extreme poverty and eradicate hunger but also foster global prosperity in an economically and environmentally sustainable way. This expansion of scope arose from an attempt to move beyond the symptoms of poverty and hunger and begin to address the causes – the pillars of social cohesion, economic stability and environmental sustainability, and many of the other interrelated issues that contribute directly or indirectly to poverty, hunger and inequality, such as peace, stability, human rights and good governance. The SDGs would be ‘action oriented, global in nature and universally applicable’ (UN, 2013b, p. 4), and were described by Ban Ki-moon (UN, 2015a), former Secretary General of the UN, as the ‘to do list for planet and people’.

Following three years of consultation and negotiation, involving thousands of people, *Transforming Our World: The 2030 Agenda for Sustainable Development* (UN, 2015d) was formally adopted by 193 heads of government, including 150 heads of state on 25 September 2015. In the words of Liz Ford (2015b), reporting for *The Guardian*, ‘To cheers, applause and probably a tinge of relief, the 17 global goals that will provide the blueprint for the world’s development over the next 15 years were ratified by UN member states in New York’. Those goals are universal, integrated and transformative, applicable to all nations and cover the whole sustainability agenda: poverty, human development, the environment and social justice.

Reaction to the SDGs

Not surprisingly a programme the size and scale of Agenda 2030 has attracted much comment and provoked a mix of reactions, both

positive and negative. On the negative side the sheer scope and scale of the SDGs have come in for considerable criticism. So much so, *The Economist* ('The 169 commandments', 2015) famously baptised the SDGs the 'Stupid Development Goals', dryly quipping that 'Moses brought ten commandments down from Mount Sinai. If only the UN's proposed list of Sustainable Development Goals (SDGs) were as concise', and arguing that the SDGs were so 'sprawling and misconceived' that they would only 'betray the world's poorest people'. Certainly from a statistics perspective, the criticism that '169 commandments means, in practice, no priorities at all' ('The 169 commandments', 2015) is not far off the mark. Measuring, validating and communicating 232 indicators will be difficult and expensive, begging the question of whether some parsimony might have been prudent. The lack of priority has further fuelled concerns that in moving from 21 MDG targets to 169 SDG targets there will be a fragmentation of effort and resources. Those defending the SDGs have put forward the optimistic counterargument that more targets must mean more funding. It remains to be seen who is correct.

But it is easy to criticise the SDGs. Even those who defend Agenda 2030 would accept that it has flaws. But they will also, with some justification, point out that the SDGs mark the first time in human history that the nations of the world have reached an accord on a comprehensive vision, supported by goals and targets, for the development of our civilisation on planet Earth. Most will also accept that many of the 169 targets could have been better. As Bhattacharya & Kharas (2015) note, 'some are clearly not achievable and these may undercut the overall credibility of the package' but, as they also point out, this is the price of democracy. It reflects compromise and a desire for consensus. And this is an important point – the SDG goals and targets arise from a negotiated text and represent global agreement. Almost inevitably this will result in some inconsistencies and some flab but public good issues such as climate change or environmental sustainability cannot be realistically addressed any other way. Sandler-Clarke (2015) identified several reasons why the SDGs are better than the MDGs. First among this list is the fact that the SDGs are more 'globally cooperative' than the MDGs, meaning that they are, unlike the MDGs, the outcome of detailed international negotiations that involved middle-income and low-income countries, they are universal and apply to all countries, and they are more holistic in coverage, covering poverty reduction and inequality, sustainability and economic growth with job creation.

Many have welcomed the broad vision of the SDGs, and in particular the inclusion of climate and environmental targets, which are viewed as not only very important, both from a developmental and an existential perspective, but also urgent (Intergovernmental Panel on Climate Change, 2007; World Bank, 2010). Development and climate experts alike welcomed the precautionary approach, agreeing that it would be imprudent to ignore the growing body of evidence that suggests climate is an issue that must be addressed in both the developed and developing worlds. However, the lack of priority noted above has raised concerns that countries have not yet acknowledged the potential trade-offs between economic, social and environmental goals (Basnett & Bhattacharya, 2015). Although not the most robust or unbiased source, but nevertheless indicative, an analysis of tweets with ‘#SDGs’ in the days following the launch of Agenda 2030 suggests that Goal 13 (climate change) and Goal 8 (economic growth) were the most cited. ‘Data’ also featured prominently, with an apparent recognition that data will be needed, both as a life blood for decision-making and to track SDG implementation (Warren, 2015).

The difference between MDGs and SDGs

Clearly the concept of development between the MDGs and the SDGs has evolved considerably to include economic, environmental and governance issues. As a result, the SDGs are very different in scope, complexity and ambition to the MDGs. The focus on ‘leaving no-one behind’ also appears to place more emphasis on individual development and human rights than previously. As already noted they are the product of an extensive and very inclusive participatory process, including not only intergovernmental machinery but also citizens, civil society and private industry. The SDGs have set out to finish the job begun by the MDGs, this time eradicating world hunger and poverty, not just reducing them. But ‘zero’ targets will most likely be very difficult to achieve, and will require that poverty and hunger are tackled in the poorest and most underdeveloped regions of the world. The past performance of the MDGs may lead some to underestimate the challenge ahead. Many previous successes were helped significantly by developments in China. Progress in China over the next fifteen years is unlikely to be as impressive. Unlike the MDGs, the SDGs must address issues of peace and security. This is an important step as experts predict that the majority of those experiencing extreme poverty in the future will live in conflict-affected states. It is therefore sobering to observe that as the curtain closed on

the MDGs, the UN High Commissioner for Refugees (2015) stated that 2014 had seen the highest number of recorded refugees and displaced people since World War II (almost 60 million).

There are also a number of differences between the MDGs and the SDGs of more immediate interest and relevance to Ireland. Firstly, the SDGs are ‘an integrated, indivisible set of global goals’ (UN, 2013b). In other words, development is no longer just an issue for developing countries and the provision of development aid is no longer just an issue for the developed world. But the key message here, from an Irish perspective, is that the SDG goals are applicable to every country, including Ireland. As already outlined, the scope of Agenda 2030 is far broader than that of the previous MDGs. But with added complexity and ambition comes greater risks and there are concerns that the sheer scale of Agenda 2030 will pose major challenges for implementation and resourcing. From an Irish perspective, the pressure for resources will most likely come from two directions. Firstly, as an OECD Development Assistance Committee (DAC) member, Ireland will face increasing pressure to provide more Official Development Assistance (ODA) to developing countries. Secondly, there will be increasing pressure to finance a range of actions that will contribute to Ireland implementing Agenda 2030. Another area of relevance to Ireland and the Central Statistics Office (CSO) will be the monitoring and evaluation of the SDGs. Unlike the MDGs, the SDGs from the very beginning formally recognised the need to incorporate a monitoring and evaluation mechanism to ensure accountability and benchmark progress. The General Assembly Open Working Group noted that ‘It will be important to improve the availability of and access to data and statistics disaggregated by... characteristics relevant in national contexts. There is a need to take urgent steps to improve the quality, coverage and availability of disaggregated data to ensure that no one is left behind’ (UN, 2013b, p. 4). This call was further reinforced by the subsequent report of the UN Secretary General’s Independent Expert Advisory Group on a Data Revolution for Sustainable Development, *A World That Counts* (2014), which highlighted the need but also the opportunities to improve data. I will return to these issues later in the article.

Measuring the SDGs

From a statistical perspective the implications of Agenda 2030 for the accompanying monitoring framework are enormous. Not only have

the number of goals and targets increased considerably (the MDGs had 8 goals, 21 targets and 60 indicators whereas the SDGs have 17 goals, 169 targets and 232 indicators), but so also has the complexity of these targets. The scope of Agenda 2030 is also far wider than that of its predecessor, attempting to span the full spectrum of development issues, including not only aspects of society, economy and the environment but also institutional coordination. The intricacies and ambition of this challenge led Mogens Lykketoft, President of the seventieth session of the UN General Assembly, to describe it as an ‘unprecedented statistical challenge’ (Lebada, 2016).

This unprecedented statistical challenge arose from criticisms of the data in the MDG process, which in turn led the High-Level Panel of Eminent Persons to call for a data revolution in their report *A New Global Partnership* (UN, 2013a). Following this report, the then Secretary General of the UN, Ban Ki-moon, established the Independent Expert Advisory Group on a Data Revolution for Sustainable Development, asking the group to translate the broad brush concept of a data revolution into something more concrete. In *A World That Counts*, the expert group advanced several interesting ideas, but the underlying message stressed throughout was the need to better align data availability and decision-making cycles – more data, better data and above all faster data. The report also raised the thought-provoking idea that, in a data-driven world, the inability to access data should in itself be a measure of inequality. Unfortunately, since the publication of the report, the terms ‘data revolution’ and ‘big data’ appear to have become synonymous in the minds of many, leading to unrealistic expectations and the misguided belief that the data revolution is an inexpensive panacea for the world’s global statistical and data problems. Nothing could be further from the truth.

Compared with the 169 targets set out by the SDG programme (United Nations Economic and Social Council, 2016), the MDGs’ requirements were modest, both in number and complexity (United Nations Statistics Division, 2008). Yet at the end of the MDG life cycle in 2015, countries could populate, on average, only 68 per cent of MDG indicators (United Nations Conference on Trade and Development, 2016). Nevertheless, at the forty-seventh session of the United Nations Statistics Commission (2016), the seventieth session of ECOSOC (2016) and at the seventy-first session of the UN General Assembly (2017), governments agreed to populate the 232 indicators proposed by the Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs) for the global monitoring framework. Apart from

resource constraints, there are also other technical and political complications that will make measuring the SDGs a challenging task. The first challenge facing statisticians was to clarify what it was they were being asked to measure. This was easier said than done. Deciphering or interpreting exactly what is meant by the agreed text of *Transforming our World: The 2030 Agenda for Sustainable Development* (UN, 2015d) was not always straightforward. Lack of clear definitions and inconsistent use of terminology are just some examples of where statisticians, in selecting appropriate indicators, were forced to decide what targets actually meant. For example, what is meant by ‘sustainable’? Does it just mean environmentally sustainable, or does it also mean economically sustainable or socially sustainable? Environmentalists will naturally assume it means environmentally sustainable, but economists will equally assume it means economic sustainability. What are the ‘basic services’ or the ‘new technologies’ referred to in Target 1.4³ and are they the same in all parts of the world? This might seem like pedantry but it matters when you are trying to design an appropriate measurement. A plethora of seemingly commonly understood words⁴ caused comprehension problems and challenges of consistent interpretation across the 169 targets, requiring the construction of an SDG ontology (United Nations Environmental Programme, 2015) to make progress.

Another challenge was the lack of priority within complex and sometimes rather muddled targets. This proved particularly thorny, as statisticians were instructed by their political masters to limit the number of indicators to one indicator per target.⁵ Take Target 17.19,⁶ for example. This target combines two completely different and unrelated issues (the measurement of progress beyond GDP and supporting statistical capacity-building) in the same target. This problem, not uncommon to many targets, poses a dilemma. Which element of the target should be measured? Both are very important

³ Target 1.4: By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance.

⁴ Access, adverse, adequate, appropriate, basic, benefit, efficient, effective, informal, infrastructure, integration, promote, resilience, resource, sustainable and vulnerable.

⁵ Numerate readers will have noted that this guideline was not respected, as 169 targets resulted in 232 indicators. In truth, to measure the targets properly, closer to 400 indicators would probably be required.

⁶Target 17.19: By 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement GDP and support statistical capacity-building in developing countries (UN, 2015d).

but both are also very complex. The challenge of how to properly measure progress is a highly contentious issue, hotly debated by economists, social scientists, environmentalists and statisticians (MacFeely, 2016), and would probably need a whole dashboard of indicators to do justice to this one issue. Equally, the best way to approach statistical capacity-building is also being actively discussed and reassessed (Jütting, 2016). But the idea that such a cocktail of issues could somehow be amalgamated into a single indicator is absurd. *The Economist* ('The good, the bad', 2015), citing Target 4.7⁷ as an example, put it bluntly, simply saying, 'try measuring that'.

Although the scope of Agenda 2030 is universal and applies to all countries, clearly not all targets are relevant to every country. Striking a balance between national and global demands has proven challenging. For example, Target 3.3⁸ targets the eradication of a wide variety of unrelated diseases, many of which are not prevalent across the globe. As a result, statisticians have selected two statistical indicators, targeting HIV and tuberculosis, as the appropriate global indicators. So not all elements of the target are addressed and thus some elements of the target must be ignored and remain unquantified. While this might make sense from a global perspective, it may not necessarily make sense from a regional or national viewpoint. For example, the control of dengue fever is not a big issue globally but is very important in South-East Asia.

Another tension between national and global perspectives has been the question of who supplies the data. Countries are anxious that only official national data are used. At first glance, this seems sensible but more careful consideration pinpoints some problems with this approach. Targets, such as 16.5⁹ or 16.6¹⁰, which deal with corruption, bribery and accountable institutions, provide perfect examples of why it might make sense to use unofficial data as official data may not exist or may not be trusted to provide an independent, impartial picture of such sensitive matters. Another exception might be where a single

⁷ By 2030, ensure all learners acquire the knowledge and skills needed to promote sustainable development, including among others through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development.

⁸ Target 3.3: By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases.

⁹ Target 16.5: Substantially reduce corruption and bribery in all their forms.

¹⁰ Target 16.6: Develop effective, accountable and transparent institutions at all levels.

source could provide better-quality and globally more consistent data than the amalgamation of multiple individual country data sets. This might be applicable to targets such as 15.1¹¹ that deal with forest, drylands, wetlands and mountain regions governed by international agreements. Arguably superior quality and internationally comparable data could be derived from satellite imagery. Despite the best efforts of international organisations, internationally comparable data will be a real challenge for the SDG monitoring framework generally. Many of the targets (and consequent indicators) fall well outside the scope of traditional official statistics and thus are not guided by agreed international measurement standards. Even for those indicators that fall within the scope of traditional official statistics, there will be a wide variety in general quality and adherence to international standards across countries. Thus, it may be sensible to apply a healthy scepticism to any of the resultant country rankings published.

Using alternative sources to official national data might also be reasonable where problems with the data exist. Problems with the data could mean anything from errors or inaccuracies, non-adherence to international standards, incompleteness or data gaps, inconsistencies over time or imbalances. A good example of where this might arise is the asymmetries that frequently exist between bilateral trade data sets. From a global perspective, unbalanced trade data are not especially useful, and so steps are taken to remove these asymmetries. But this may lead to a mismatch between official national statistics and official international statistics. For the moment, the challenge of how to balance the needs of national and global interests remains unresolved. Equally, it is not clear how countries will balance the requirements of their own national development plans with those of the SDGs, or how statistical systems will be expected to serve the data demands of both (MacFeely & Barnat, 2017).

All of the goals and targets of Agenda 2030 are underpinned by the ambition that ‘no one gets left behind’ (UN, 2015b). This ambition was translated for statisticians by Mogens Lykketoft, President of the seventieth session of the UN General Assembly, as ‘leaving no one uncounted’ (Lebada, 2016). In principle this is fine, but such a literal translation does not make much sense from a statistical perspective. The purpose of official statistics, with a few exceptions such as

¹¹ Target 15.1: By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services – in particular forests, wetlands, mountains and drylands – in line with obligations under international agreements.

population censuses, is not to account for every single person, but rather to provide general aggregate, anonymised information on population cohorts of interest. This is a fundamental difference between producing official statistics and accounts or audited data. Apart from issues of confidentiality, the cost of realising the ambition of 'leaving no one uncounted' would be prohibitive and not financially viable for even the best-resourced and efficient statistical systems. So the challenge for the global statistical system is how to improve the granularity of data sufficiently to satisfy this new political ambition, but in a way that prioritises the measurement of the poorest and most vulnerable, and does not divert scarce resources into generating fruitless levels of disaggregation.

As noted above, the SDGs are significantly more ambitious in scope and complexity than their predecessors, the MDGs. It is evident that many of the new policy targets are far ahead of the available statistics. In fact, in many cases, an appropriate statistical concept does not exist from which to generate indicators.¹² In 2016 the United Nations Statistics Division (UNSD) estimated that less than half of the selected indicators for the SDG monitoring framework could be classified as 'Tier I', meaning that the indicator is conceptually clear with an established methodology and set of standards, and that data are already regularly produced by countries (United Nations Statistics Division, 2016). While the UNSD notes that this estimate is very preliminary, it nevertheless gives an indication of the magnitude of the task facing the global statistical community. As already noted, estimates of the resources required to support the poorest countries in implementing the SDG monitoring framework range between US\$1 billion and 1.25 billion per annum. But many other countries will also require assistance or additional resources, meaning the investment required will most likely be far greater.

The cost of measurement

The SDGs, unlike their predecessors, the MDGs, are universal and apply to all signatories, of which Ireland is one. As noted above, the

¹² For example, Target 2.c sets out to 'adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility'. The theoretical indicator agreed by the IAEG-SDGs is an indicator of 'food price anomalies', which has been classified as Tier III, meaning that no appropriate statistical concept or methodology exists.

development agenda has broadened, far beyond simply reducing extreme poverty, to now encompass the survival of our planet, improving equity and freedom in our societies, and trying to develop a more stable and sustainable economic model. In other words, implementing the SDGs is not a developing-world challenge but rather a global one, with many topics of direct relevance for a developed country like Ireland. One of the implications of such a broad and ambitious development agenda is the price tag. Estimates vary, but Ambassador Macharia Kamau of Kenya, who along with Ambassador David Donoghue of Ireland co-chaired the SDG intergovernmental consultative process, estimates that implementing the SDG agenda could cost somewhere between \$3.5 trillion and 5 trillion per year (Deen, 2016). *The Economist* ('The 169 commandments', 2015) described their estimate, of between \$2 trillion and 3 trillion per year (or the equivalent of 4 per cent of global GDP), as 'unfeasibly expensive'. The Intergovernmental Committee of Experts on Sustainable Development Financing (2014) estimated the value of investment in infrastructure required to achieve the eradication of poverty alone at between \$5 trillion and 7 trillion annually.

From a statistical perspective the implications of populating the SDG monitoring framework are enormous, even for a country like Ireland which has, by global standards, a very developed and sophisticated statistical system. When you consider that the UNSD (2016) estimates, albeit tentatively, that as much as a third of the proposed 232 indicators are classified as Tier III, meaning they are not supported by formal statistical methodology or concepts, you begin to understand the extent of the problem. Developing concepts and collecting all the data required will not be cheap or straightforward. Paris 21 (2015, p. 11) has estimated that 'funding for statistics needs to be increased from current commitments of between US\$300 million and 500 million to between US\$1 billion and 1.25 billion by 2020'. Danish economist Bjorn Lomborg estimates that the SDG monitoring framework could cost as much as \$1.5 billion per target, meaning that measurement alone would account for 12.5 per cent of total development aid ('The economics of optimism', 2015). While clearly the bulk of these resources will be required to develop statistical capacity in developing countries, it is evident that resources will be required in the developed world too, including Ireland, to deliver on the promises made by national governments.

To put these numbers in perspective, total ODA contributions from the OECD DAC members average about \$110 billion per year.¹³ So there is clearly an expectation that additional funding will be made available for development aid. While new revenue streams, such as private funding, philanthropy and public–private partnerships, are all expected to be part of the mix, there will unquestionably be mounting pressure on the wealthier nations of the world, of which Ireland is one, to live up to the promises made at Monterrey in 2002 to contribute 0.7 per cent of their Gross National Income (GNI) to ODA (UN, 2003) – most particularly as these commitments were reaffirmed during the third Conference on Financing for Development in 2015 (UN, 2015c). During that period, Ireland’s delivery on the promise was reasonably good, contributing slightly less than 0.5 per cent of GNI. In concrete terms, this means that Ireland contributes on average \$850 million every year to overseas development aid. It also means that the approximate annual shortfall of 0.2 per cent of GNI equates to an average \$386 million, which has accumulated over the years since 2002, reaching \$5 billion by 2014.¹⁴ The cumulative shortfall in ODA between 2002 and 2014 for all DAC countries stood at over \$2 trillion (United Nations Conference on Trade and Development, 2016). Thus, one can reasonably expect international pressure to grow on this front, in particular as a growing proportion of ODA is diverted to Europe, away from developing countries, to deal with the migrant crisis. Pressures are growing, and countries are reacting differently. For example, in the UK the previous Conservative administration took preemptive action, introducing the International Development (Official Development Assistance) Act, 2015, that requires the government to spend 0.7 per cent of UK GNI on ODA and recognise the importance of ODA to achieving the SDGs (House of Commons, 2016). Other industrialised countries have raised concerns about some developing countries abusing the principle of ‘Common but Differentiated Responsibilities’ and the tenability of some emerging countries, such as Brazil, India, China and South Africa, still being classified as developing countries without responsibilities (Pauw et al., 2014). Of course the recent announcement that the Trump administration plans to cut the budget for diplomacy and foreign aid by 28 per cent (Muhammed, 2017) creates more uncertainty still.

¹³ Author’s own calculations based on OECD DAC statistics (Table 1: Net Official Development Assistance) 2002–2014.

¹⁴ Author’s own calculations based on OECD DAC statistics (Table 1: Net Official Development Assistance) 2002–2014. Current prices.

Implications and opportunities for Irish statistics

There are a number of issues addressed by the SDGs that are immediately relevant to Ireland and where Irish statistical experience could be very useful in informing international debate and discussions. From a statistics perspective, Ireland has not proactively engaged in the debate thus far. But over the next thirteen years there will be ample opportunity to participate in and influence discussions.

Globalisation and GDP

Ireland, as one of the most globalised economies in the world, and one that has experienced first-hand the turbulence of global economic and financial crises, should have plenty to say on the relevance of standard economic indicators. In July 2016 the question of how appropriate it is to use GDP as the primary barometer of economic progress in a country like Ireland came into sharp focus when 2014–15 real GDP growth was estimated at 26.3 per cent (CSO, 2016b). The reaction was instructive. American economist and Nobel Laureate Paul Krugman (2016) unfairly characterised Ireland's GDP growth with the unfortunately memorable quip 'leprechaun economics' and, in doing so, provided a perfect illustration of how poorly even highly influential economists understand the impact of hyper-globalisation on the internationally agreed system of national accounts. Happily, other comments were more considered. Deen & Doyle (2016) noted that 'Clearly, the standard European national accounting methodology is not fit for purpose as an indicator of economic growth in an economy like Ireland'. A point also emphasised by the Irish Economic Statistics Review Group (2016). The OECD (2016) also stated that 'The Irish figures help to illustrate the limits of GDP and in particular the care needed in its interpretation, particularly in the domain of material well-being. It also highlights the importance of focusing on additional aggregates including those defined within the system of national accounts, and not exclusively on GDP.'

Of course, this is not a new debate either in Ireland or internationally (see MacFeely, 2016). This is what makes Krugman's comment all the more surprising. It also illustrates why those who understand the phenomena must make greater efforts to explain it. Here, Ireland and the CSO can bring almost unique hands-on experience to this debate.¹⁵ Firstly, there are few economies as open

¹⁵ The introduction of the new indicator GNI* in 2017 is a case in point. For more information on this indicator, see the reports and discussion papers of the Economic Statistics Review Group: <http://www.cso.ie/en/csolatestnews/eventsconferences/seminars/resrg/>

and globalised as Ireland. Secondly, the CSO has a dedicated ‘Large Cases Unit’ within their National Accounts Division that specialises in measuring the activities of large multinational enterprises operating in Ireland. The work of this unit is of critical importance to understanding how Ireland’s economy functions, which in turn is essential to understanding the implications of initiatives such as the OECD’s Base Erosion and Profit Shifting (BEPS) (Department of Finance, 2014). This discussion is also of immediate concern and relevance to the SDGs. For example, Targets 8.1 and 8.2 deal with issues such as per-capita economic growth and economic productivity; Target 17.1 deals with tax and revenue collection; Target 17.13 addresses the need to measure global macroeconomic stability; and Target 17.19 deals with initiatives to develop measurements of progress that complement GDP. The CSO is also developing what they describe as ‘Household Social Accounts’ (McManus & Morrin, 2016), which could assist in understanding the relationship between corporate and household incomes, and the impact of changes to savings and social transfers to aggregate and cohort demand. Compiling this new account will rely heavily on being able to link administrative microdata (see next section).

Other countries are already explicitly positioning themselves to ensure their perspectives are influential and reflected in the next generation of international guidelines and SDG indicators. For example, the Office for National Statistics in the UK is developing an ‘Economic Statistics Centre of Excellence’ in order to, among other things, ‘Deliver research and conceptual work which is influential in the international standard-setting agenda, allowing ONS to exert greater influence over the direction of travel of such standards’ (Office for National Statistics, 2016). Ireland is well placed to cultivate similar strategic ambitions, particularly as the chair of the UNSD Expert Group on International Trade and Economic Globalization Statistics.

Administrative data

Long before the latest European migrant crisis, migrants posed a particular statistical challenge for Ireland. In recent decades, relatively stable fertility and mortality rates have meant that the single biggest influence on population growth rates in Ireland has been the direction and volume of migrant flows (see CSO, 2013b). Understanding where migrants come from, where they settle in Ireland, how long they stay and how well they integrate are very difficult questions to answer. A major contribution to answering these questions has come from being

able to analyse and link administrative data. In particular, the ability to match personal public service numbers allocated to foreign nationals across different public service data sets has proven essential to understanding the movements of migrants. For example, the growing numbers of migrants from Romania and Brazil are clear from the data. Furthermore, regular cyclical migrant employment patterns suggest that, on average, between 35 and 40 per cent of migrants typically leave Ireland after five years (CSO, 2014a). Again, this is directly relevant to the SDGs, in particular with regard to the protection of migrant worker labour rights (Target 8.8¹⁶). But more broadly, this provides a perfect illustration of why being able to access and link administrative data is existentially essential for a statistical system (see MacFeely & Dunne, 2014).

It is already clear that for many of the SDG indicators, survey data will not be sufficient, and that compilation will require the use and integration of administrative data (and most likely other third-party data). In Ireland a wide range of official statistics, from national accounts and Live Register statistics to crime recidivism and agriculture statistics, are all either partially or fully dependent on the availability of administrative data. As noted in the section above, being able to link and integrate administrative microdata with other survey data is facilitating an approach to compiling estimates for household incomes that is providing an analytical bridge between micro- and macroeconomic analysis. Work done by the CSO in this field over recent years, fostering and cultivating a national data infrastructure and an ISS with an increased emphasis on exploiting administrative data, is also of immediate relevance to the SDGs, particularly Targets 9.1¹⁷ and 17.19¹⁸, which deal with developing infrastructure and improving statistical capacity. An emerging but existentially important challenge for national statistics offices (NSOs), and the CSO, in an era of big data is how to secure legal access to secondary data. In an increasingly complex data protection environment, there is a growing but discernable mismatch between potential and actual, between

¹⁶ Target 8.8: Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants and those in precarious employment.

¹⁷ Target 9.1: Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.

¹⁸ Target 17.19: By 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement GDP and support statistical capacity-building in developing countries.

expectations and reality. The rather fantastic talk of data revolution does not seem to make any allowance for the complex legal and ethical issues that prevent access to many valuable data sources. From a European (and Irish) perspective, the forthcoming EU General Data Protection Regulation may bring some clarity and consistency of interpretation across the EU, but it is not clear that the particular requirements of official statistics have been addressed fully within data protection legislation. It is precisely for this reason that MacFeely & Barnat (2017) have suggested, perhaps provocatively, that the next generation of statistical legislation should provide an explicit right of access to all appropriate secondary data.

An Irish Government Statistical Service

Agenda 2030 poses a fascinating challenge for the ISS. To begin with, meeting the challenges posed by the SDG monitoring framework will require a coordinated approach across the entire ISS as the CSO cannot possibly address those demands alone. Furthermore, the bulk of those demands will not be met by traditional survey data or statistics and will rely to a very large extent on administrative data and newly derived indicators. Finally, and perhaps most importantly, many of the data required are far beyond the scope and expertise of a typical NSO: water resource management (6.5), energy efficiency and intensity (7.3), labour rights (8.8), financial market regulation (10.5), corporate sustainability reporting (12.6), fish stock regulation (14.4), coastal conservation (14.5), corruption (16.5), investment promotion (17.5) and policy space (17.15), to name a few. Yet, critically, NSOs will be responsible for ‘clearing’ national data. Sourcing, validating and linking data to compile measures for these targets will require a combination of statistical and subject matter expertise.

The data demands arising from Agenda 2030 provide a perfect example of why an Irish Government Statistical Service, such as that proposed by the National Statistics Board (NSB) in their 2015–20 strategic plan (2015) is necessary. The NSB notes that European legislative requirements, specifically EU Regulation 2015/759, make it necessary for the CSO to adopt a more formal approach to the coordination of statistical activities in other government agencies. It also highlights the benefits of a multidisciplinary approach to developing value-added analyses (and one could also add indicators). The data demands arising from Agenda 2030 have only strengthened this argument. The establishment of a new directorate in the CSO to coordinate the statistical system is a step in the right direction but it is

important that this unit is adequately resourced and empowered to deal with the challenges ahead.¹⁹ The NSB strategy does not explicitly address the demands of Agenda 2030, and so some future issues are not addressed, in particular: how will the ISS work with and coordinate the wider data ecosystem of unofficial data producers that may need to be harnessed to meet the SDG demands? Should academia be included in this wider data ecosystem? How far will the ISS progress towards ‘open data’ to facilitate the development of new indicators and analyses?²⁰ What implications does the SDG measurement framework have for future iterations of the ISS Code of Practice (ISSCoP)?²¹ And in this wider ecosystem, who will decide how national and global indicators should be balanced or selected?

The good news is that many public service entities are keen to participate and cooperate. As evidence, the 2016 annual ISSCoP report of the Director General of the CSO notes that twelve organisations have signed statements of commitment and appointed statistical coordinators (CSO, 2016a). While the priority has been, and will remain, coordination to support EU legislative requirements and adherence to European Statistics Code of Practice and the legislative requirements set out in the amended Regulation (EC) 223/2009, a broader view could be adopted that also incorporates Ireland’s commitments with regard to Agenda 2030.

Compiling SDG indicators

Identifying and compiling indicators suitable for measuring progress in Ireland is nothing new for the CSO. For many years the CSO has published a number of general national indicator reports or dashboards, namely: *Measuring Ireland’s Progress* (CSO, 2014b), first published in 2003 and presenting fifty-eight indicators covering a range of social, economic, environment, education and health topics; the *Macro-Imbalance Scorecard*, which is designed to contribute Irish data to the European Commission Economic Surveillance Framework,²² and publishes eleven indicators;²³ and the *Key Short-*

¹⁹ For a broader discussion on the need for coordinated statistical systems to meet the requirements of the SDGs, see MacFeely & Barnat (2017).

²⁰ Surprisingly, official statistics in Ireland are ranked relatively closed compared with most equivalent European official statistics by the 2016 Open Data Inventory.

²¹ See <http://www.isscop.ie/>

²² See http://ec.europa.eu/economy_finance/economic_governance/index_en.htm

²³ See <http://www.cso.ie/en/releasesandpublications/ep/p-macip/macroeconomicsscoreboard2014/headlineindicators/>

Term Economic Indicators, which makes twenty-seven indicators²⁴ available. Naturally there is an element of repetition or overlap between these dashboards, as some indicators, such as the unemployment rate or general government debt as a percentage of GDP, are so important as to be essentially ubiquitous in any general indicators report. Nevertheless, these dashboards make a large volume of useful indicators available, either on a sub-annual or annual basis. In 2012 and 2013 the CSO released two new biennial indicators reports – *Environmental Indicators Ireland* (CSO, 2012), comprised of eighty-seven indicators, and *Sustainable Development Indicators Ireland* (SDII) (CSO, 2013c), which provided a selection of fifty-five indicators comprised of global and national indicators categorised by social, economy and environment.

In this experience, particularly with the SDII, lies opportunity. There would be a relatively low marginal cost, but high strategic and political value, in reorienting the SDII to more explicitly map the existing indicators in that report to the SDG targets and explain the difference between national and global targets and indicators. Such a report not only would contribute to a baseline for the global initiative but would allow Ireland to measure development using the same conceptual framework as that used internationally. In explicitly mapping Ireland's national priorities vis-à-vis global targets, it would also help to identify if any important gaps exist in Ireland's development programme. The CSO could, as the Office for National Statistics (2017) has done in the UK, or as the Central Bureau for Statistics has done in the Netherlands,²⁵ conduct an open consultation with stakeholders to solicit opinions on the SDG indicators and what might be appropriate or relevant national indicators for reporting Ireland's progress towards the SDGs. Such an approach would be consistent with the Irish Civil Service Renewal objectives of responsiveness, openness and accountability.^{26, 27}

Privatisation of official statistics

Agenda 2030 is a global framework arising from a UN resolution, so there are naturally some regional tensions and geopolitics to be played

²⁴ See <http://www.cso.ie/indicators/Maintable.aspx>

²⁵ The Dutch Statistics Office (CBS) has already done an initial assessment of the SDGs from a Dutch perspective: see CBS (2016, 2017).

²⁶ See <http://www.per.gov.ie/en/civil-service-renewal/>

²⁷ In November 2017 Ordnance Survey Ireland, GeoHive and the CSO jointly launched an interactive SDG platform. This platform provides ninety-nine indicators: <http://data-irelandsdg.opendata.arcgis.com/>

out behind the scenes. From a statistics perspective, one of these tensions arises over the question of whether it is appropriate to use both official national and/or official international data to populate SDG indicators. Countries (in particular some larger, developed countries) have insisted that all member states must ‘sign off’ on all data used in the compilation of SDG indicators. Ostensibly, the reason for this is to improve the democracy and transparency of the process and push back against the sinister tentacles of ‘post-truth’. And who could argue? But it is not clear how this would work in practice. There is no existing mechanism to facilitate this and the risk is that, by insisting on this path, it may bring the entire system to a standstill. Perhaps this is intentional? Concerns have been expressed in some quarters that clogging up the system might actually be the objective, paving the way for the privatisation of the SDG indicators. This is perhaps just a conspiracy theory but, if true, it would set a dangerous precedent. As Davies (2017) puts it, ‘privatising truth’ would undermine liberalism, democracy and enlightenment. The CSO must be alert to this debate as the *ISS Code of Practice* (CSO, 2013a), the *European Statistics Code of Practice* (European Commission, 2011) and the UN’s *Fundamental Principles of Official Statistics* (UN, 2014) all stress the need for official statistics compiled free from political and external interference. O’Neill (2016), in her polemic *Weapons of Math Destruction*, outlines clearly the contradiction between private and impartial data.

National coordination & prioritisation

Unless national governments expressly set up another mechanism, NSOs will be expected to coordinate the ‘sign off’ or validation of methodology and data used in the compilation of the 232 indicators each year. This will be very challenging as most SDG indicators fall well outside the normal scope of a typical NSO mandate, and so will present some unique challenges. This specific challenge was discussed at the UN Statistical Commission in 2017. It further reinforces the importance of having a functioning and efficient statistical system, as much of the data and technical expertise will not be normally available from a NSO but will come from other government and public service departments and offices. In Ireland’s case it would mean that the CSO will most likely need to dedicate resources to SDG indicators in order to coordinate both the validation of data and metadata throughout the ISS and organise a reporting mechanism back to the UN. It seems

unlikely that Eurostat could be mandated to take on this role on behalf of European NSOs as a significant number of indicators fall far outside the scope of traditional official statistics.

The insistence on using country data will also create additional pressures to compile a lot of new data and indicators. Given normal resource constraints, it presumably will also create pressure to prioritise indicators that are of relevance to Ireland. The extent of this task should not be underestimated. As already outlined, after fifteen years only 68 per cent of MDG indicators were populated. Of the proposed SDG indicators, less than half are classified as ‘Tier I’ meaning that indicators are conceptually clear with established methodologies and standards and available data. A further third are classified as ‘Tier III’, meaning they have no formal statistical methodology or concepts. So even for countries like Ireland that enjoy a relatively sophisticated statistical system, the effort to develop, populate and validate and coordinate the data requirements of the SDGs could be significant. The joint Ordnance Survey Ireland/CSO SDG portal, launched in November 2017, includes only ninety-nine indicators – most of which are not the official SDG indicators. But how will priorities be identified for Ireland, and by whom? In the absence of a national SDG coordination body, the task will presumably fall on the shoulders of the ISS.

Conclusion

One of the biggest challenges facing the SDGs is that they have not, in most countries, formed part of the national discourse. Although many national development issues overlap closely with some or all of the SDGs, the public do not typically view progress and development in those terms, and consequently many governments may not either. As Wulforst (2015) notes, selling the SDGs to the media and the public has been a tough sell. For much of the developed world, the shift from the MDGs (which were largely an issue for developing countries) to the universal SDGs appears to be a slow awakening. Kroll (2015, p. 4) notes ‘policymakers in the OECD countries still generally look upon the SDGs as a development policy issue’. As a consequence, several NSOs from developed countries have not engaged in the SDG discussions to any great extent. While there are a variety of reasons for this – many understandable – NSOs will be forced to get involved whether they like it or not. As yet, few SDG indicators have been published, but once data become available, and in particular when

country rankings are inevitably compiled, or when conflicting estimates of data are cited in global reports, national administrations and governments will wake up and react.

In Ireland a long-standing priority for the CSO has been adherence to EU statistical legislation. It is possible therefore, in the absence of any clear signals from government,²⁸ that Ireland, like many other European countries, may be awaiting direction from the European Commission. While this may be understandable, it may be a misguided hope and arguably a wasted opportunity. So although the SDGs as a process may seem somewhat distant to many in Ireland, several of the issues and goals contained within the framework are immediately relevant to Ireland. The SDGs present a real opportunity to define and shape a range of future statistics. Consequently, there are good reasons to get involved, as from the SDG process many new statistical concepts and methodologies will emerge, and countries not involved will have no one to blame later if they do not like the results. For better or worse, the SDGs will be the driving force, or *raison d'être*, for many statistical advances in the coming years. Many of these debates and advances will be made through existing mechanisms and fora, but new ones will also unquestionably emerge. It is for this reason that the statistics division of the United Nations Economic Commission for Europe, whose constituency comprises NSOs from the developed world, hosted their first expert meeting on statistics for SDGs in April 2017, to encourage countries to put in place national strategies for SDG compilation, coordination, validation and reporting to the UN. As noted above, Ireland is well placed to influence international thinking on a range of topics from globalisation to data infrastructure. But it will be important that Ireland remains alert to new opportunities. For example, the Global Action Plan (High-level Group for Partnership, Coordination and Capacity-Building, 2017) envisages, among other things, developments regarding statistical coordination and governance, use of administrative data, statistical modernisation and dissemination.

There are also rising pressures to take the SDG indicators (and perhaps other statistics) away from official statisticians. Conspiracy theories aside, these pressures should be taken seriously. Often the time it takes the global statistical system to develop consistent concepts and methodologies is not appreciated, and so we see remarks

²⁸ The answer to parliamentary question 24896/16 on 27 September 2016 suggests there were no concrete plans at that stage (Dáil Éireann, 2016).

like ‘national statistical offices are not exactly hotbeds of innovation’ (Anderson, 2015), followed by the argument that the private sector can do it better. By global standards, the CSO is a very modern and efficient statistical office. It adheres to the demands of the EU statistical system, which are, without question, the most extensive and rigorous in the world. Within this system, and globally, the CSO enjoys a reputation of high standing and, as such, it has a strong voice. Ireland, through Eurostat and as a member of the UNECE High-Level Group for the Modernisation of Official Statistics, must defend official statistics, outlining the innovation taking place in Ireland and highlighting the importance of impartiality and the risks of privatisation. There is now underway a battle for the ownership of ‘facts’ – a battle that perhaps the global statistical community has not taken sufficiently seriously. Davies (2017) believes official statistics is losing this battle, arguing ‘The declining authority of statistics is at the heart of the crisis that has become known as “post-truth” politics’.

From a broader perspective, other lessons can be learned from the shortcomings of the SDG process – in terms of the development of performance indicators but also from the lack of prioritisation. One of the main criticisms of the SDGs has been the lack of prioritisation across the 169 targets and the consequent challenges for the development of appropriate indicators. The same criticism could be made of many Irish policy documents. The recent policy initiative *Realising our Rural Potential* (Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs, 2017) serves as a good example, where 276 actions are listed without priority. The SDGs are at least explicitly accompanied by 232 specific indicators that will be used as the agreed benchmarks of success and failure. *Realising our Rural Potential* notes the importance of measuring the economic and social impact of the plan and promises to develop ‘appropriate output and impact indicators’ (p. 60). Many policy plans in Ireland have made similar promises in the past but failed to live up to the promise (MacFeely, 2016).

This paper has outlined some of the challenges that are emerging from Agenda 2030. But there will also be opportunities – opportunities to reshape and redefine the role of NSOs, opportunities to engage in new partnerships and build wider data ecosystems, and opportunities to shape new concepts and methodologies. While there are many misapprehensions arising from the profuse and loose use of terms such as data revolution and big data, there will clearly be opportunities in the future to compile official statistics in new and

exciting ways. To capitalise on these opportunities, a certain amount of infrastructure must first be put in place. Over the years the NSB has identified and championed this cause. Most recently the NSB (2015) has identified and articulated the need for a Government Statistical Service to properly position Irish official statistics for the future. For Ireland the new statistical landscape has provided further justification, if more were needed, to quickly establish the Irish Government Statistical Service to facilitate the necessary coordination mechanisms. The establishment of the new Statistical System Coordination Directorate in the CSO is an important step, but it will need to be adequately resourced if it is to deliver on its promise. Cultivating mechanisms that facilitate the cross-fertilisation of statistical and subject matter expertise will allow the ISS to provide new data to support national policy formulation and compile the complex indicators required to measure Agenda 2030. An Irish Government Statistical Service will also allow Ireland to proactively and strategically engage, helping to shape the future of official statistics at home and abroad.

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