

11. Conclusion

11.1 INTRODUCTION

This book has reviewed the statistical measurement of innovation in the business sector and the use of the resulting information for the monitoring of implemented innovation policy. As the propensity of firms to innovate in the business sector is not information of high priority to policy makers, ‘restricted innovation’ was introduced. The restriction could include green or sustainable innovation or inclusive innovation or any other restricted innovation of policy relevance in the business sector. This raised two questions about restricted innovation, the definition of the restriction for measurement purposes and the need to measure the restricted innovation and its outcomes at different points in time if change was being monitored. All of this could be done with the third edition of the *Oslo Manual* (OECD/Eurostat 2005) providing a definition of innovation and of innovation activities for measurement purposes.

Three things have happened since the third edition of the *Oslo Manual* in 2005 was published to guide the statistical measurement of innovation (OECD/Eurostat 2005). The first is that the fourth edition of the *Oslo Manual* was released in 2018 (OECD/Eurostat 2018) with a general definition of innovation, applicable in all economic sectors of the System of National Accounts (SNA) (EC et al. 2009). In the previous three editions of the *Oslo Manual* the presence of innovation ‘everywhere’ was acknowledged, but then put to one side so that the manual could focus on innovation in the business sector. The difference in 2018 was that the general definition of innovation was actually introduced, but then put to one side to get on with innovation in the business sector.¹

The second change since 2005 was the use of the SNA economic sectors in the *Oslo Manual*. Prior to 2018 there was the need for only one SNA sector, the business sector, but now, there is a definition of innovation applicable in all economic sectors, such as the general government sector (public sector is the general government sector combined with the aggregate of public corporations) (EC et al. 2009: para. 22.41), the

household sector and the non-profit organisations servicing households (NPISH) sector. Over the years there were important experiments in measuring innovation in the public sector and in the household sector, but without a common definition. It is now possible to bring the measurement of innovation in all sectors together to make comparisons and to see differences, while knowing that the underlying definition of innovation was consistent in all sectors.

The third change was the rapid development of the digital economy. As products and processes became digital, along with their delivery and maintenance, how innovation happened started to change. This is becoming a radical transformation in the economy and society, present in all economic sectors.

With the general definition and in the economic sectors of the SNA, innovation can be measured everywhere but with the growth of the digital economy, products and processes are changing as is the way innovation happens. All of this change affects innovation policy and how it is implemented. As we enter the 2020 decade, there is work to be done.

11.2 AN AGENDA

Given that innovation measurement and policy are changing rapidly, and that innovation contributes significantly to the economy and the society, some questions are posed in what follows for the consideration of the reader. The allocation of resources to innovation measurement and policy is a measure of their importance.

11.2.1 Official Statistics

In 2020, there are statistics produced by governments through national statistical offices or by contracting with research institutions. Since the first edition of the *Oslo Manual* (OECD 1992) the statistical measurement was governed by the *Oslo Manual* and the results published as official statistics from the business sector for use by governments and publication in scoreboards to support international comparison. One of the uses could be the adjustment of existing innovation policy to make it more effective, hence the importance of monitoring and evaluation.

With a general definition of innovation this process can be extended to any economic sector. What is missing is the equivalent of the *Oslo Manual* for the other sectors. What makes the *Oslo Manual* successful is that it is a product of the OECD and Eurostat and it is developed by the delegates,

including the European Union/Eurostat, of the OECD Working Party of National Experts on Science and Technology Indicators (NESTI). NESTI is not limited to indicators in the business sector, as shown by the *Frascati Manual* (OECD 2015c), which covers the performance of R&D in all economic sectors. It may be time to resume work on a possible manual for public sector innovation.

The question remains as to whether countries want an internationally standard manual that provides guidance for the measurement of innovation in the public sector. This question extends to manuals for innovation in the household and the NPISH sectors. Related questions are how innovation policy is used in these sectors and whether the statistical measurement of innovation influences policy development.

11.2.2 Beyond Sectors

While there is sectoral innovation, some kinds of innovation can happen in any sector, an example being innovation in the informal economy. Both statistical measurement and policy implementation are affected by the lack of information on institutional units engaged in the informal economy. This raises methodological issues: how to find the units and whether they are engaged in innovation.

In African countries, informal activities can account for a significant portion of GDP and innovation in the informal economy; both its detection through measurement and its influence through policy (Chapter 8) are important to the economy and society.

Other examples of innovation that can appear in any sector are eco-innovation (the *Maastricht Manual* is part of this discussion) and innovation resulting from the use of general purpose technologies. There is also social innovation.

Should innovation measurement and policy in these areas be seen as experimental, as the measurement of business sector innovation was for over a decade before the first edition of the *Oslo Manual* changed the situation? Or should there be international standards and guidelines?

11.2.3 Digital Economy

The digital economy is growing (more digital products) and product and process innovation differs from material product and process innovation. As discussed in Chapter 7, digital products can be made available at prices that are not economically significant, including zero price

products. In the discussion of zero price products a third condition for innovation was introduced. The first was ‘a new or improved product that differs significantly from the unit’s previous products’, the second was ‘that has been made available to potential users’, and the suggested third was to ‘have a connection between the user and the producer’. The third condition could be added as a restriction on the measurement of the product innovation.

The question is whether more effort should go into understanding innovation measurement and policy in the digital economy (OECD 2019a), which is present in all economic sectors.

11.3 THE END

The purpose of this book is to engage the reader in the role of innovation measurement and the use of the resulting information in the development of policy and in the monitoring and evaluation of implemented innovation policy. A recurring message is that innovation measurement and innovation policy are not simple but both are important to understanding the economy and society in which we live.

NOTE

1. The general definition in the fourth edition of the *Oslo Manual* (OECD/Eurostat 2018) is found in Chapter 1, para. 1.25, and in chapter 2, para. 2.99. The definition of innovation in the business sector is found in Chapter 3, para. 3.9. From there on in Chapters 3–11 of the *Oslo Manual*, the focus is on business sector innovation. This is consistent with the history of the *Oslo Manual* which was always focused on the business sector.