



Review Article

My 50-Year Research Journey on the Economies of Malta and Other Small States

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Abstract. This article presents an overview of my work since the early 1970s. My early works were mostly related to the Maltese economy. Between 1989 to date, I focused my research interest on economic vulnerability and economic resilience of small states. I associated economic vulnerability with the high exposure to adverse external shocks by small states, mostly due to their high dependence on external trade as a result of their small domestic market. A piece of research on economic vulnerability published in *World Development* in 1995 was highly cited, possibly because it led the way in the construction of economic vulnerability indices, and ushered in a large number of studies on the same subject. I associated economic resilience with policy-induced changes which enable a country to withstand or recover from adverse external shocks. Two later studies on economic resilience which I co-authored pioneered the methodology for creating an economic resilience index, and were highly cited. My work on resilience highlighted the need for good governance. I end this personal overview, with the works that dealt with the pros and cons of island tourism, the role of competition law and policy in small states, the need for small states to be internationally competitive, the high degree of climate change vulnerability of small islands, and the need for sustainable development in islands in view of their environmental fragility. My 50-year research journey entailed thousands of labourious hours of processing and deriving conclusions from qualitative and quantitative information, but this often led to great satisfaction in seeing my studies published, cited and inspiring further research.

1 Introduction

I have been publishing academic papers since the early 1970s. The early works were mostly related to the

Maltese economy. Between 1989 to date, many of my publications focussed on economic vulnerability and economic resilience of small states. A paper on economic vulnerability published in *World Development* (Briguglio, 1995b) ushered in a large number of studies on the same subject. According to Google Scholar this article has been cited 1522 times in different studies (as on 30th June 2021). This excludes numerous citations in reports by international organisations. An article of mine on the vulnerability and resilience framework (Briguglio, 2004) and others which I co-authored (Briguglio et al., 2009b; Briguglio et al., 2006b) were according to Google Scholar cited 1262 times (as on 30th June 2021) together. Other publications relating to small states in which I was involved as a sole-author or as a co-author dealt with tourism, competition law and policy, international competitiveness, climate change, sustainable development and governance, all of which have been cited in related literature. Many of these publications are briefly described in this review.

This rest of the paper is organised in six sections, with each section focussing on a specific topic. Section 2 deals with the publications on the economic vulnerability and resilience, while Section 3 deals with a number of topics relating to small states. Section 4 describes the studies on the Maltese economy and Section 5 deals with topics which are not covered in the previous sections. The concluding section discusses some tendencies derived from my publications, relating to the chances of an author being cited in the literature.

2 Economic vulnerability and resilience

2.1 Evolution of the idea

In May 1985, I, together with Professor John Kaminarides, a visiting Rhodes scholar, hailing from the USA, with Cypriot roots, organised an international conference on

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the economic development of small states. The conference was attended by a large number of foreign scholars and representatives of international organisations, including the World Bank, UNCTAD and the Commonwealth Secretariat. One of the speakers presented a graph showing a scatter diagram with GDP per capita linked to country size, from which the trend line was derived indicating that small states tended, on average, to have a higher GDP per capita than larger states. The main message of the speaker was that small states do not seem to fare badly internationally, and therefore, he argued, we should not worry too much about the economic development of these states. The negative slope of the fitted line was heavily influenced, on the one side, by China, India, Indonesia, the Philippines and other large states with a very low GDP per capita at that time, and, on the other side, by small countries such as Luxembourg, Malta and Iceland, with a relatively high GDP per capita. This set me thinking. Did it follow that Malta, which then had a GDP per capita of about US\$4000, was 13 times stronger, economically, than India, which at the time had a GDP per capita of only about US\$300? I argued that it was true that Malta generated more income per capita than India, but Malta was very economically vulnerable because its existence depended very highly on demand from abroad, and most of its physical resources including oil, wood, textiles and metal had to be imported from elsewhere. This is how the idea of economic vulnerability of small states originated my mind, leading me to construct the so-called economic vulnerability index and to publish a number of papers on this matter, starting in the early 1990s.

The results that emerged from the application of the economic vulnerability index showed very clearly that small states, measured in terms of their population, tended to register relatively high scores when compared to larger states. This implies that small states tended to be associated with a high degree of exposure to external shocks due, mostly, to their very high dependence on international trade, their narrow range of exports and their high dependence on strategic imports. It was argued that small states that wanted to develop economically had no option but to depend highly on exports due to their small domestic markets, and on imports due to their limited natural resource endowment.

There remained the need to explain why many small states succeed in spite of their exposure to adverse economic shocks. As will be explained below, the answer proposed by myself was that a number of small states manage to build their economic resilience, through policy measures, enabling them to withstand or recover from their economic vulnerability.

2.2 Publications relating to the economic vulnerability Index

I was involved in many publications on the vulnerability index, on my own (Briguglio, 1992b, 1995b, 1997, 2014d, 2016a) and with others (Briguglio et al., 2006a, 2009b; Briguglio et al., 2003d; Briguglio et al., 1993). The variables used as components of economic vulnerability indices that I constructed relate to trade openness, export concentration, dependence on strategic imports, such as fuel and food, peripherality and proneness to disasters.

Economic openness captures the degree to which a state is susceptible to economic conditions in the rest of the world. It is often measured by expressing exports or imports, or an average of both, as a percentage of GDP. Export concentration exacerbates the economic vulnerability caused by economic openness. I argued that export concentration can also be observed in merchandise, but in the case of small states, it is likely to occur also in the trade in services, especially in tourism and financial business. For this reason, an export concentration index covering services and merchandise was devised by myself and a co-author (Briguglio et al., 2003d). Peripherality is associated with insularity and remoteness, leading to high transport costs and marginalization. The variables which were used to reflect the effects of remoteness are the ratio of transport and freight costs to imports. The proneness to disasters component was measured in terms of economic damage relative to GDP. These variables were suitably standardised¹, and averaged in a composite index.

As already indicated, Briguglio (1995b), published in *World Development*, is still highly cited 26 years after was published. This paper has been considered by many authors as a seminal one on the issue of economic vulnerability.²

¹The formula I used for standardizing (or rescaling) numerical observations is often utilised when a composite index is made up of components measured in different units. The standardized value of a numerical observation (X_i) in an array of such observations (X_1, X_2, \dots, X_n) is computed as follows. First the maximum and minimum values of the array of numerical observations are found. The minimum value in the array is subtracted from X_i . The result is then divided by the maximum minus the minimum values in the array. As a result, the formula standardizes or rescales the array of numbers so that they take a value of between 1 (maximum) and 0 (minimum). If X_i happens to be the minimum value, its standardized value will be zero. If X_i happens to be the maximum value, its standardized value will be 1. If X_i happens to take a value between the minimum and the maximum value, its standardized value will be a fraction. The procedure is explained further in Briguglio (1995b, 2016i)

²See for example Baldacchino (2015); Sharpley and Ussi 2014; Angeon and Bates 2015; Tita (2014).

2.3 Reference to the vulnerability index in international fora

The vulnerability index featured prominently in various meetings under the auspices of the United Nations (UN). The outcome document of the 1994 UN Global Conferences on the sustainable development of small island developing states (SIDS), called the Barbados Programme of Action (BPoA)³ contained two paragraphs (para 114–115) on this matter. Subsequently, the UN Commission on Sustainable Development called on the relevant UN bodies to accord priority to the development of the index, which led to the UN Department of Economic and Social Affairs to engage me as an expert, in which capacity I wrote a report on the economic vulnerability index (Briguglio, 1997).⁴ The issue of economic vulnerability of SIDS was also featured in the 2005 and 2014 UN international conferences on SIDS, respectively held in Mauritius and Samoa, as well as in the preparatory meetings for these conferences. My work was sometimes used as background documentation for these meetings (e.g. Briguglio, 1993a, 2003d).

The economic vulnerability of small states was also featured in many Commonwealth Secretariat meetings, in which I often participated as an expert on the subject. I published many works on this subject in collaboration with the Commonwealth Secretariat, all of which lead to the conclusion that small states tend to be highly exposed to adverse external shocks as a sole author (Briguglio, 2014a, 2014b, 2014d, 2018e) and with others (Briguglio et al., 2008, 2009b; Briguglio et al., 2011a; Briguglio et al., 2011b). Again here some of my publications were used as documentation for Commonwealth Secretariat meetings relating to economic vulnerability.

2.4 The concept of economic resilience

Economic resilience can be defined in many ways, but in my publications on this subject, I defined it as the ability of an economy to recover from or withstand or recover from the effect of adverse external shocks, as a result of policy-induced measures (Briguglio et al., 2009b).

Initially, I developed a conceptual framework for the measurement of economic resilience (Briguglio, 2004), and I, together with my research associates later constructed the resilience index (Briguglio et al., 2006a, 2009b) capturing policy-induced measures, including macroeconomic stability, market efficiency, good governance and social development. I subsequently added environmental

management to the policy measures that are conducive to economic resilience (Briguglio, 2014c, 2016c). These five variables were again measured using global databases and suitably observations were standardised to enable the construction of a composite index.

Macroeconomic stability is associated with economic resilience as it contributes to efficiency in resource allocation and creates latitude for monetary and fiscal policy to respond to shocks. The relevance of market flexibility to economic resilience arises from the extent and speed with which resources are reallocated following the incidence of a shock, to return to an equilibrium situation. Good governance is essential for an economic system to function properly and in the absence of good governance, it would be easy for adverse shocks to result in economic and social chaos and unrest. Social development is another essential component of economic resilience. This factor indicates the extent to which relations within a society are properly developed, enabling an effective functioning of the economic apparatus without the hindrance of civil unrest, and the extent to which effective social dialogue takes place in an economy, which would, in turn, enable collaborative approaches towards the undertaking of corrective measures in the face of adverse shocks. Environmental governance, or lack of it, has an important bearing on the ability of a country to withstand economic shocks. The connection between environmental governance and economic resilience can be explained in terms of the link between stability and environmental management through enforceable rules, economic instruments and education aimed at encouraging good environmental practices.

On the basis of the results of the economic resilience index, it emerged that there was no correlation between country size, measured in terms of population, and the resilience scores. However, there was a positive correlation between economic success and resilience, a tendency confirmed through the use of the analysis of the relationship between the resilience scores and the GDP per capita of countries.

2.5 The vulnerability and resilience framework

By juxtaposing economic vulnerability and economic resilience, I identified four possible scenarios into which countries may be categorized according to their vulnerability and resilience characteristics. These scenarios were termed as "best case", "worst case", "self-made", and "prodigal son" (Briguglio, 2004). Countries classified as "self-made" are those with a high degree of inherent economic vulnerability and which are economically resilient enabling them to cope with their inherent vulnerability. Countries falling within the "prodigal son" category are

³Available at: https://www.un.org/esa/dsd/dsd_aofw_sids/sids_pdfs/BPOA.pdf

⁴The report of this meeting (UN document A/53/65 - E/1998/5) is available at: <https://www.un.org/esa/sustdev/sids/A5365Vulindex.pdf>

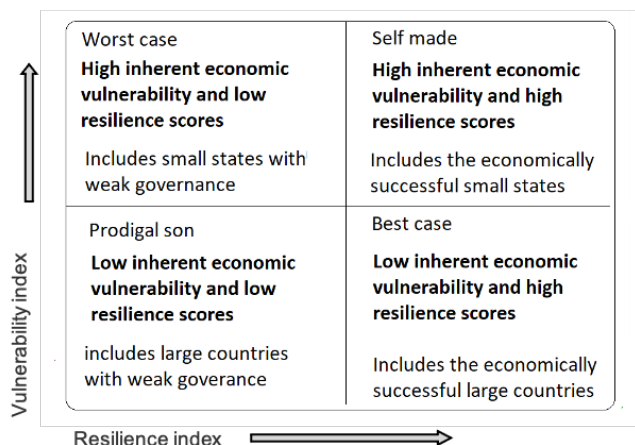


Figure 1: Four country scenarios in terms of vulnerability and resilience scores

Source: Adapted from Briguglio (2004)

those with a relatively low degree of inherent economic vulnerability but whose policies are detrimental to economic resilience, thereby exposing them to the adverse effects of shocks. The “best case” category applied to countries that are not inherently vulnerable and which at the same time adopt good economic policy measures. Conversely, the “worst case” category refers to countries that compound the adverse effects of inherently high vulnerability by adopting policies that run counter to economic resilience.

In Briguglio et al. 2006a, 2009b, the scores of the vulnerability and resilience indices, which I computed together with my research associates, enabled us to identify which countries could be classified in terms of the four categories, as shown in Figure 1.

The V&R framework sheds light on the reason why a number of vulnerable small states manage to do well economically in spite of their inherent economic vulnerability. In Briguglio (2004, p.96), I referred to this reality as the “Singapore Paradox” with reference to a small country, highly exposed to external shocks, which, through solid economic governance, managed to achieve economic success.

The main implication of the V&R framework proposed by myself in 2004, and the follow-up 2006 and 2009 studies, is that given that small states tend to be highly economically vulnerable, inherently, they, possibly more than other groups of countries, need to adopt suitable policy measures to step up their ability to withstand or recover from adverse external economic shocks.

I authored or co-authored many other articles which related directly or indirectly to the V&R framework, including, on my own, (Briguglio, 2002, 2003b, 2003c, 2008a,

2010a, 2012, 2013b, 2016a, 2016g, 2016h) and with others, (Briguglio et al., 2012; Witter et al., 2002; Ziglio et al., 2017).

3 Other works relating to Small States and Islands

3.1 Publications on small states in general

I edited a book on various aspects of small states, which was published by Routledge (Briguglio, 2018a), and contained 29 chapters on political, economic, environmental and social issues. I also wrote its extensive introduction in this book 2018b, which, amongst other matters, discussed the definition of small states, contending that population size is the most common indicator of countries size used in the literature, although different authors use different population cut-off points to distinguish between small states and larger ones. A common population threshold for this purpose is 1.5 million persons and using this definition there are about 45 such sovereign states. Country size can also be measured using indicators other than population size, although population size remains the one most widely used. The area of the territory, which is a geographical factor, and the GDP of the country, which has direct economic connotations, have been used for this purpose.

Earlier, I was involved in two other publications on small states in general (Briguglio et al., 1993; Kaminarides et al., 1989) again covering various issues relating to small states. These two publications in a way anticipated the increasing body of literature that emerged during the second half of the 1990s and later.

3.2 Governance in small states

In many of my publications, I considered good governance as an important requisite of political, economic, social and environmental performance, and I edited a book, published by Routledge (Briguglio et al., 2020b) covering these four aspects of governance. The book carried two articles, co-written by myself, with the first one (Briguglio et al., 2020a) commenting on government complexities in small states and the second one focussing on social governance (St Bernard et al., 2020). The various dimensions of governance were also discussed by myself in earlier papers including Pirotta, Wettenhall and Briguglio 2001 and Briguglio, Saliba and Vella 2015a.

Various governance indicators across countries, assign high scores for democratic countries, such as Germany, where economic growth tends to be slow. Conversely, in some not-so-democratic countries, such as China, economic growth tends to be fast. In fact, in many studies, a negative correlation between GDP growth and governance is found. This paradox was examined in an article

I co-authored (Briguglio et al., 2019c), where it was queried whether or not the negative correlation between GDP growth and governance indicators is to be interpreted as an indication that good governance is undesirable for growth. In the article, it was shown that if governance is measured by improvements, rather than levels, the countries with the highest improvements in governance tended to register the fastest growth, *ceteris paribus*. It was concluded, therefore, that improvements in governance are good for growth, and this could possibly be an explanation why badly governed countries, that show improvements in governance, tend to register high economic growth rates. This tendency was termed "diminishing marginal governance effect". In the article it was emphasised that the results were statistical tendencies and that there were many exceptions.

3.3 Climate change and small islands

Between the mid-1990s and 2014, I formed part of the Inter-governmental Panel on Climate (IPCC) and was one of the lead authors for the chapters on small islands as part of the third (Nurse et al., 2001), fourth (Mimura et al., 2007)⁵ and fifth (Nurse et al., 2014) assessment reports of the IPCC Working Group II on Impacts, Adaptation and Vulnerability. My main contribution to these chapters related to economic aspects, mostly in connection with the links between climate change adaptation and development, as well as on the constraints faced by small states in view of the high cost per capita when undertaking adaptation measures.

In the IPCC fifth assessment report, I drafted the response to a frequently asked question (FAQ 29.2) as to why the cost of adaptation to climate change tends to be relatively high in small islands. The text reproduced in the report, based on my draft, states that adaptation to climate change that involves infrastructural works generally requires large up-front overhead costs, which in the case of small islands cannot be easily downscaled in proportion to the size of the population or territory. This is a major socioeconomic reality that confronts many small islands, notwithstanding the benefits that could accrue to island communities through adaptation. Referred to as "indivisibility" in economics, the problem can be illustrated by the cost of shore protection works aimed at reducing the impact of sea level rise. The unit cost of shoreline protection per capita in small islands is substantially higher

⁵In 2007 the Nobel Peace Prize was awarded jointly to the IPCC and to Al Gore Jr. "for their efforts to build up and disseminate greater knowledge about man-made climate change, and to lay the foundations for the measures that are needed to counteract such change." All those involved in the drawing up of the IPCC Fourth assessment report, including myself, received a certificate for contributing to the award of the Nobel Peace Prize.

than the unit cost for a similar structure in a larger territory with a larger population. This scale-reality applies throughout much of a small island economy including the indivisibility of public utilities, services, and all forms of development. Moreover, the relative impact of an extreme event such as a tropical cyclone that can affect most of a small island's territory has a disproportionate impact on that state's gross domestic product, compared to a larger country where an individual event generally affects a small proportion of its total territory and its GDP. The result is relatively higher adaptation and disaster risk reduction costs per capita in countries with small populations.

I also contributed actively to the debate on the definition of vulnerability and resilience with regard to climate change, insisting that vulnerability should be reserved for inherent features, such as low-lying area and location, and resilience to policy-induced measures, including adaptation. I discussed this point in an article (Briguglio, 2010a) which dealt with the risk of a population in a given territory being harmed by climate change. The approach adopted in this paper sharpens the definition of climate vulnerability, by confining it to inherent and natural conditions. Man-made or policy-induced factors are, according to this approach, associated with adaptation. It is argued that this distinction is useful as a methodological approach and for policy-making purposes. The same article utilised indices of climate change vulnerability and adaptation, and juxtaposed them to arrive at an assessment of risk of cities being harmed by climate change. The major findings of this paper are that the "lowest-risk" or "managed-risk" category of territories are mostly port cities in high-income countries, whereas the "mismanaged-risk" and "highest-risk" categories of territories are vulnerable port cities located in low-income countries. The methodology emphasizes the benefits of policies that promote adaptation, which is an important component of risk management in the context of climate change. These policies do not reduce the inherent vulnerability of the territories concerned, but they do serve to enable humans to withstand, bounce back from or absorb the effects of climate change. The importance of this study is that it emphasizes the need to distinguish between inherent and self-inflicted changes – a distinction which I consider to be of major importance for policy making.

In other papers on climate change (Briguglio et al., 2003c; Briguglio et al., 2007; Formosa et al., 2017; Moncada et al., 2018), I refer to the already mentioned high cost per capita of adaptation measures in small island states, and the relatively high climate change risks faced by these states in view of the relatively high coast area to land mass, exposing them to sea-level rise and other

ocean borne hazards. In Briguglio and Moncada 2020c, it is argued that the reality of climate change and the need for mitigation and adaptation in this regard would be better understood if this subject is treated in a multidisciplinary approach in a University education context.

3.4 Domestic competition and small states

I formed part of the Malta Commission for Fair Trading between 1995 and 2011 and the Competitions and Consumer Appeals Tribunal between 2011 and 2019. These were judicial panels which operated at the law courts, in order to hear and determine appeals from decisions taken by competition and consumer affairs authorities, as provided in the Malta Competition Act. The experience I gained as a member of these panels enabled me to appreciate the constraints that small states face in matters relating to competition law and policy and I published three co-authored studies (Briguglio et al., 2003b, 2004a, 2009a). Subsequently, I published updated and extended versions of the 2009 paper in two edited books published respectively in English by Springer (Briguglio, 2017b) and in French by LexisNexis (Briguglio, 2018c).

These publications highlight a number of characteristics of small states which have a bearing on competition law and policy in these states. A major contention in these publications is that small states face major constraints in applying competition law and policy. In many such states, the culture of competition may not easily take root due to the fear that intense competition may destabilise a small fragile and thin market. Another reason is that government involvement in such states tends to loom large over the market, and public undertakings often clamour for exclusion from competition law provisions claiming that they have a social role to play. In addition, the advantages of business consolidation and the disadvantages associated with business fragmentation often lead authorities of small states to justify monopolistic and oligopolistic structures. For these reasons, certain exceptions, normally based on social considerations are more likely to be hold water in small states.

Even where competition legislation is in place in a small state, its enforcement may be more difficult than in larger countries due to the fact that everybody knows each other, and inter-family business links are common. Thus, it was argued in the mentioned papers on competition law and policy, that in small states, methods other than enforcement may sometimes bring about better results as far as implementing competition policy is concerned. Competition advocacy among citizens, to render them aware of the benefits of competition policy is of relevance in this regard.

Overall, the publications on competition law and policy

in which I was involved, did not put forward the argument that competition rules should be discarded in small states, or that abuse should be tolerated in these states, but that in certain circumstances there may be the need to tweak the mainstream rules to take account of the limitations associated with a small domestic market.

3.5 International competitiveness and small states

I published a number of papers on international competitiveness, some with others, including a study commissioned by the World Bank and the Commonwealth Secretariat (Briguglio et al., 2006c), an edited book published by the Commonwealth Secretariat (Briguglio et al., 2004b) and an edited special issue of Small States and Territories Journal (Allegrezza et al., 2019).

The main argument in these publications is that small states need to be competitive internationally more so than larger states in view of the fact that the former states have a small domestic market and therefore have to rely on exports for viable quantity of production. It also argued that competitiveness is to a large extent an enterprise issue, and it is the individual company at the micro level that needs to be competitive, in order to enhance national competitiveness. However, the public sector has a major role to play in this regard, by taking a lead in placing competitiveness on top of the policy agenda, and in removing excessive bureaucratic business bottlenecks when these occur.

In other papers on competitiveness, I hypothesised that economic resilience and competitiveness are interlinked globally (Briguglio, 2018d), testing and confirming this hypothesis across all countries for which data was available. As a follow-up I co-authored a paper (Briguglio et al., 2019b) testing the same hypothesis, but focussing on the EU small states. In order to test this assertion, the resilience index constructed by myself in 2016 (Briguglio, 2016c) was correlated with the index of competitiveness derived from the Global Competitiveness Report, and a statistically significant correlation coefficient between the two variables was found in both papers. The basic message of these two papers, is that in small states the enhancement of competitiveness is important, in view of their high dependence on exports, but this exposes them to external shocks, calling for appropriate policies based on strategic directions to improve resilience through good economic governance. Given that resilience and competitiveness are multifaceted, requiring economic, social, political and environmental policy measures, the mentioned papers on this subject argued that it would be beneficial for small states to embed these policy measures in their national plans and strategies.

3.6 The economic volatility and small states

The already cited 2018 Routledge handbook which I edited, contained a chapter (Briguglio et al., 2018) on a major characteristic of small states namely trade openness. In this chapter it was surmised that trade openness should lead to economic volatility, but it was found that, in reality, a number of highly-open economies including Malta, Singapore and Luxembourg, do not exhibit a high degree of volatility. The main implication of the econometric results derived from this chapter is that although countries with a high degree of trade openness would expose these countries to external shocks and therefore to GDP growth volatility, such volatility may be attenuated and dampened if the countries concerned adopt appropriate stability policies. Conversely, it is possible that countries which are not highly trade-open exhibit a high degree of volatility, if their economic governance is weak, leading to instability. This is in line with the vulnerability/resilience framework, discussed in Briguglio et al. (2009b) and Briguglio (2014c, 2016g), where factors that lead to economic vulnerability were juxtaposed against factors that lead to economic resilience in order to assess the risk of a country being harmed by adverse external shocks.

3.7 Small-island tourism

In 1996, I was instrumental in the convening of a sustainable-tourism conference in Malta, which attracted top researchers on this matter including Richard Butler, Geoffrey Wall, Jafar Jafari, Brian Archer and others. Taking advantage of the presence of these renowned academics, I co-edited with them two books on sustainable tourism in islands and small states (Briguglio et al., 1996a; Briguglio et al., 1996c), the first book focussing on issues and policies and the second on case studies. The authors of the chapters came from different academic disciplines and included geographers, anthropologists, sociologists and economists, including myself.

In many chapters of these two books there was a conceptual discussion, often backed by country case studies highlighting two major effects of tourism in small islands. While tourism is an important income earner and employment generator in small islands, given the limited diversification possibilities of these territories, this industry also tends to damage their fragile eco-systems. The issue of carrying capacity of small islands, which features in many chapters of the two books, is a very important concept in the case of small islands as these tend to very quickly reach a threshold level beyond which the natural ecosystem could be irreversibly damaged.

4 Publications on the Maltese economy

4.1 General macroeconomic aspects

My publications on the Maltese economy include two books (Briguglio, 1988b, 2011b) where I argue that, in many cases, major macroeconomic theoretical prescriptions are applicable to the Maltese economy. However, it was contended, the Maltese economy has special features which distinguish it from larger countries, including a very high dependence on exports and imports, very high population density, and rapid structural changes over time, all of which have to be kept in mind when applying mainstream economic theory. Other publications on the Maltese economy in general include Briguglio (1984a, 1987, 1988c, 1989a, 1989c, 1992a, 1994a, 1995a); Azzopardi and Briguglio 1993; Van Schijik and Briguglio 1992.

4.2 International economic transactions

In some of my articles on the Maltese economy, I focussed on a specific aspect, such as international economics (Briguglio, 1988a, 1989b, 1993b). In the 1988 and 1989 papers, I argue that a devaluation of the Maltese lira at the time of writing the article, would have in the short run improve export competitiveness, with a positive effect on output and employment. However, such a devaluation would have also increased the price of imports, negatively affecting competitiveness in the longer run. This will also have affected inflation, leading to an increase in wage rates, again negatively affecting competitiveness. The net result of the opposing effects of a devaluation on competitiveness would depend on various circumstances, including the import content of the product in question and the extent to which employee union manage to raise wage rates when prices increase.

4.3 International competitiveness

Another area which I explored in my publications in connection with the Maltese economy is international competitiveness (Briguglio, 1998a; Briguglio et al., 2003a; Briguglio et al., 2004d). In the 1998 article, was written six years before Malta joined the EU, I referred to the feeling of unease which existed at that time regarding the long-term survival or otherwise of small firms. The reason for this was that a sizeable proportion of these enterprises were only able to operate profitably behind a wall of protection, which was due to be dismantled with EU membership. In the same article, I contended that the performance of small firms was crucial for the overall growth and therefore the promotion of competitiveness was of utmost importance for the development of the

economy.

The 2003 and 2004 articles, written with EU membership on the horizon, argued that the Maltese economy at that time faced various competitiveness downsides including lacunae in the educational system, labour market rigidities, lack of an innovation culture, excessive government intervention in the economy, inadequacies in infrastructural services and insufficient research activity. The two articles argued that these downsides needed to be addressed if Maltese firms were to compete successfully in an intensely competitive setting associated with EU membership.

4.4 The Maltese labour market

Another specific aspect of the Maltese economy on which I wrote a number of papers, was the labour market on my own (Briguglio, 1977, 1984b, 1985) and with others (Briguglio et al., 2015b, 2016; Inguanez et al., 1986). Chapters on the labour market were also included in the two books I published about the Maltese economy (Briguglio, 1988b, 2011b).

In most of these publications, econometric techniques were used to estimate the factors that affect labour demand (including wage rates, output and technological change) and those that affect labour supply (including working age population and changing attitudes in the case of women).

In one of my papers (Briguglio, 1984b) I tested whether disequilibrium in the Maltese labour market existed and persisted during the period 1955 to 1979. Persistent disequilibrium would seem to contradict mainstream microeconomics, given that theory suggests that when there is excess demand in the market for a given product, its market price is likely to increase, and conversely, when there is excess supply the price of the product is likely to decrease, and therefore there is a continuous tendency for demand and supply to equal each other. Labour market data in Malta was used to construct a model in order to test the assumption that excess supply in the Maltese labour market persisted indicating that the market was characterised by disequilibrium during the mentioned period. The rate of unemployment is often considered as a measure of excess supply, but I did not rely on published unemployment statistics for this purpose because registered unemployment may have included persons who were employed and still seeking unemployment benefits. The model itself was formulated in such a way as to predict excess labour supply. This paper was considered by a well-known economist (Quandt, 1988, :130) as an important contribution to the literature on disequilibrium economics.

4.5 Tourism

I published several studies on the impact of tourism on the Maltese Islands, on my own (Briguglio, 1992c, 2008c, 2009, 2020) and with others (Briguglio et al., 2019a, 2021; Briguglio et al., 1996b; Briguglio et al., 1995b). The main argument in these writings on tourism is that the tourist industry has positive impacts on the Maltese Islands, mostly economic in nature, but it also has social and environmental downsides, primarily due to Malta's limited carrying capacity.

In many of my writings on this subject, I contend that the Maltese tourism authorities pay lip-service to sustainable tourism, but in practice what seems to matter most for them is the number of incoming tourists. This is a common stance taken by the tourism authorities of many island destinations. One reason for this is that a policy of controlling and possibly reducing tourist inflows would not find much support from those benefiting materially from tourism and tourism related activities. As a result, tourism inflow increased rapidly during 2000s and in the 2019 and 2021 studies, I and my co-author argue that the Maltese Islands had become associated with overtourism.

The main message in my publications on tourism is that there is the need to find ways of minimising environmental damage and social discomfort of the local community, without threatening the economic well-being of the host country – admittedly not very easy objective to attain, and it often involves walking on a very tight rope.

4.6 Sustainable Development in Malta

I published a number of articles on sustainable development, covering various aspects of this concept, including its place in education (Briguglio et al., 2004e), its association with economic resilience (Briguglio, 2008b) and its measurement (Briguglio, 2010b, 2011a).⁶

Sustainable development is often discussed in terms of its economic, social and environmental pillars, but in my writing, I also emphasise the ethical dimension of sustainable development (Briguglio, 2003a), which is not often treated in the literature on this subject. The 2003 paper considers sustainable development as a value to be upheld, given that it is associated with the responsibility towards future generations. There are also ethical considerations relating to science and technology in this regard, because sustainable development should have the improvement of quality of life as a central objective. Ethics also has an important role in the promotion and sharing of knowledge

⁶I was involved as coordinator in drawing up of a sustainable development strategy for the Maltese Islands, which was published in 2006 on behalf of the National Commission for Sustainable Development. <https://sdgtoolkit.org/wp-content/uploads/2017/02/A-SUSTAINABLE-Development-Strategy-for-Malta-2007-2016.pdf>.

and in the participation of stakeholders in the process of pursuing sustainable development goals. In many of my writings on this matter, the term "responsibility" is emphasised with regard to policies and practices relating to environmental quality, political matters, use of economic resources, education, culture, and intergenerational concerns.

4.7 Malta and European Union

I published various works on the relationship between Malta and the EU. The pros and cons of Malta's accession to the EU featured as chapters in Briguglio (1988b, 2011b) and as articles in Briguglio (1994b, 2011c, 2016f); Briguglio and Cordina 2004c.

The economies of small states of the EU, including Malta, was the theme of a book which I edited and which was published by Routledge 2016i. Separate articles on this matter also include in Briguglio (2013a) on the EU competition policy, Briguglio (2016d) on the small states of the EU and Briguglio and Vella 2016 on the EU labour market.

4.8 A focus on Gozo

I edited four books (Briguglio, 1994c, 2000a) and co-edited two others (Briguglio et al., 1995a; Briguglio et al., 1996d) and matters relating to Gozo. Other publications of mine on Gozo affairs include Briguglio (2000b, 2001, 2010c, 2016b).

Most of these works dealt with the specificities of Gozo in various aspects, including its culture, its economic structure and its physical environment. A major implication in these writings is that Gozo is not simply an extension of mainland Malta and in many cases one-size-fits-all policies may not be appropriate for Gozo due to its special needs.

5 Final considerations on citations outcome of the research paper

This article has given an overview of my publications, starting from the early 1970s. In this concluding section, I try to identify factors that may improve the chances of an article being cited, based on the number of citations to my publication, as listed in Google Scholar on 30th June 2020. Three tendencies would seem to emerge from these citations.

First, works with an international dimension, keeping other explanatory factors constant, have a better chance of being cited, than otherwise. In the list of publications presented above, the most highly-cited publications (Briguglio, 1995b; Briguglio et al., 2009b) have such a dimension. On the other hand, the publications focusing on the Maltese Islands, except for a few relating to

tourism, were not cited much, possibly because of the very limited world-wide academic interest in Malta's economy and Malta's affairs generally. This may also be the reason why many well-known Maltese authors, with important publications relating to the Maltese Islands, are very poorly cited in the literature. This is likely to be true also in the case of authors from other small states, who focus on matters relating to their own country only, even if the academic worth of their publication could be very high. This argument may also apply in the case of larger countries when authors from these countries focus on one nation. In this regard, Bornmann et al. (2018) discuss the negative effects of citing with a national orientation in terms of recognition referring to citations in papers from Germany, the Netherlands, and UK.

The second tendency that emerges is that publications that are easily accessible on line free of charge to the user have a better chance of being cited, although this possibility is sometimes contested in the literature (see for example Anderson, 2012; Basson et al., 2021). In the publications listed in the present review, chapters of books, which are normally made available online against a charge, are not as frequently cited as articles in journals, which can often be accessed online free of charge by academics (possibly through their university affiliation). In my view, some of the book chapters that I authored or co-authored, particularly Briguglio and Vella 2018, were of relatively good quality, and the main reason that they received few citations probably relates to lack of ease of access.

A third tendency that emerges from the citations relating to the above list of my publications is that if a study is regarded as seminal, its rate of citation follows an S-shaped pattern of change, as explained below. In the case of my 1995 paper on economic vulnerability, which has been described as seminal, as indicated above, the related citations increased at a slow pace initially as the interest in small states increased slowly in academic circles. However, as the paper became better known, the citations shot up and increased exponentially through a multiplier effect, reaching a peak around 2010, after which the paper continued to be cited but at a lower rate than in previous years. This would seem to suggest that a seminal academic article is not likely to be highly cited *ipso-facto*, and when eventually citations peak a slowdown will follow as the year of publication becomes distant in time. However, a seminal paper is likely to remain being cited for many decades.

It should be emphasised that the three tendencies just discussed do not detract from the fact that there are many other attributes of a publication that are likely to lead to high citation rates, including its quality, the reputation

and competence of the author, the language used, with English being an advantage in the regard, techniques used in generating visibility of the publication, the impact factor of the journal in which it is published, and others.⁷

There may also be random factors affecting the number of citations of a particular publication, including luck. I am sure many an author has experienced situations where a paper developed over a week or two, following an idea that pops suddenly and out of nowhere in the author's mind, gets accepted and cited. Conversely, an author might spend many months if not years labouriously working on a paper, only to be informed that it has been rejected by the journal, and therefore without a chance of being cited.

The tendencies discussed in this concluding section may be of interest to researchers, who wish to improve the chances of their work being cited. As is well known, having one's work cited in the literature does not only carry prestige for the cited author, but can also lead to material gains including securing a university position and getting promoted.

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⁷For a discussion on the various factors affecting number of citations see Tahamtan et al. (2016).

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