CONCEPTUALISING AND MEASURING ECONOMIC VULNERABILITY AND RESILIENCE

Lino Briguglio,
University of Malta

Prepared for the Conference "Small States and the State"
24-25 April 2009, Tallinn, Estonia.
Organised by the Institute of Public Administration at Tallinn University of Technology and the journal Halduskultuur.

Layout

The presentation is organised as follows:

- Introduction
- Some Characteristics of Small States
- Juxtaposing Economic Vulnerability and Resilience
- Results of the Index and Country Categorisation
- Policy Implications
- Concluding considerations

Introduction

Introduction

The economic characteristics of small states are well documented, and include limited ability to exploit economies of scale; lack of natural resource endowments and high import content.

Other characteristics relate to limitations of diversification possibilities; dependence on a narrow range of products; limitations on the extent to which domestic competition policy can be applied.

Introduction (cont)

In the case of small island states, a major problem relates to high international transport costs and uncertainties of industrial supplies due to insularity and remoteness.

In spite of this, many small states would seem to be performing relatively well.

This paper will explore this seeming contradiction. The role of good governance, and therefore of the state, is seen to be of major importance for resilience building.

Some Characteristics of Small States

Characteristics of Small States

Definition of a Small State

Definitions may be behavioural and quantitative

- Behavioural definitions:
  These include being a price taker, limited resources and limited possibilities for economies of scale and scope
- Quantitative definitions:
  These include population, land area, GDP, share in world trade
- Quantitative indicators are more intuitive than behavioural ones but require a cut-off point
- Population is the most frequently used indicator. A cut-off point of 1.5 million is often used.

Characteristics of Small States

- Small states are located in every region of the World
- About 20% of United Nations members are considered to be small states
- Small states, though not a homogenous group, are characterised by a number of common factors which impinge on their economic behaviour.

Characteristics of Small States (cont)

Exposure to shocks

- Vulnerability is a relevant concept for small states. Small states, especially islands, are likely to exhibit higher degrees of economic vulnerability than larger countries, either by being relatively more exposed to shocks and/or by being more susceptible to the effects of such shocks.

- There may be adverse shocks and beneficial shocks. Cordina (2006) has shown that the effect of an adverse shock is larger than that of a beneficial shock, assuming that these shocks are of the same magnitude.

Characteristics of Small States (cont)

Studies so far have focused on measuring the phenomenon by proxying exposure to shocks or assessing variability in per capita incomes.

The economic vulnerability concept is related to exposure to shocks, and is sometimes measured by:

- Openness to international trade
- Export concentration
- Dependence on strategic imports.

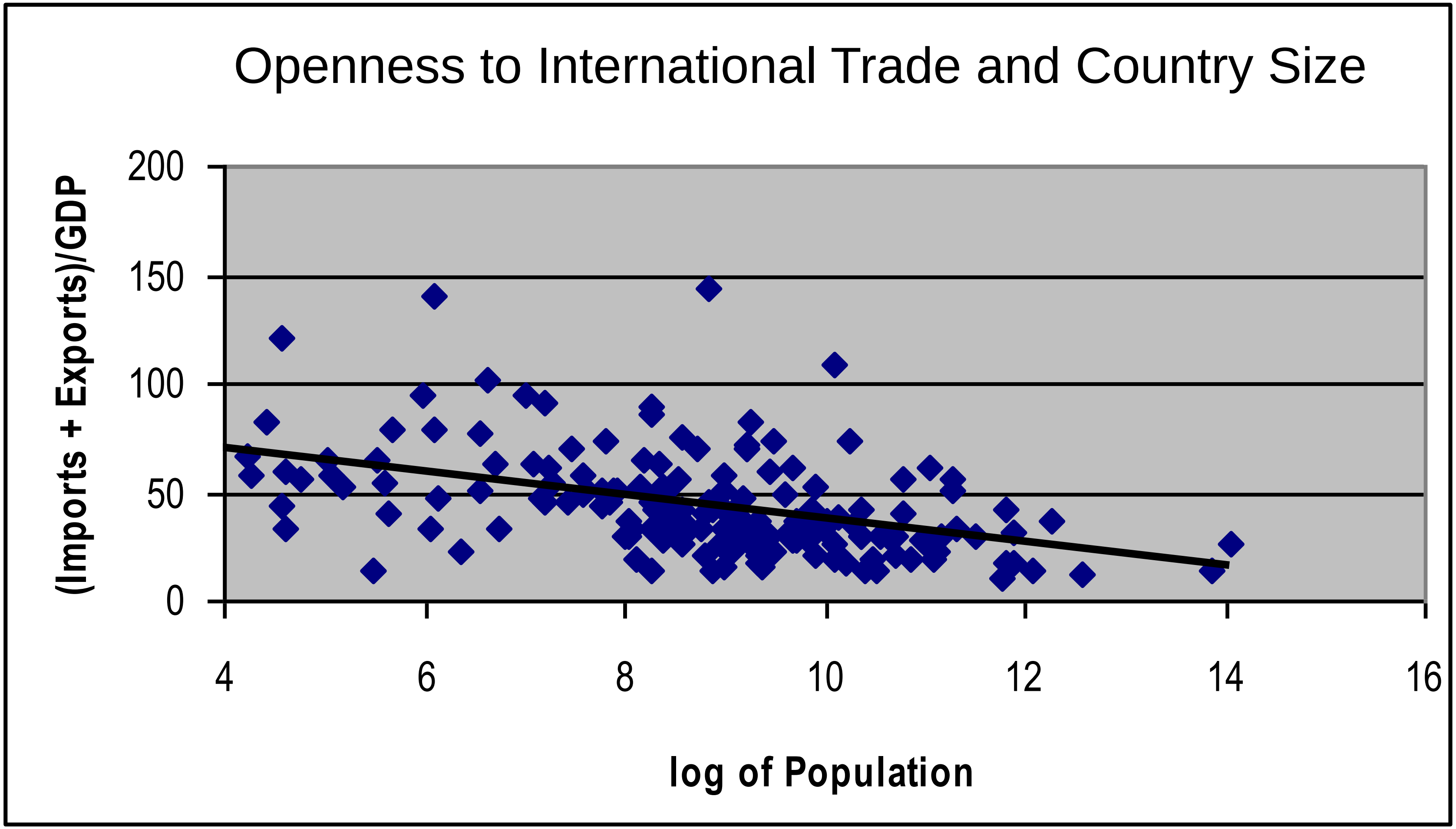
Characteristics of Small States (cont)

Reliance on exports and imports:

Economic smallness is associated with a relatively high reliance on international trade:

- high reliance on imports due to limited natural resource endowments and limited diversification possibilities;
- high reliance on exports due to the limited size of the market and to meet import expenditure.

Characteristics of Small States (cont)



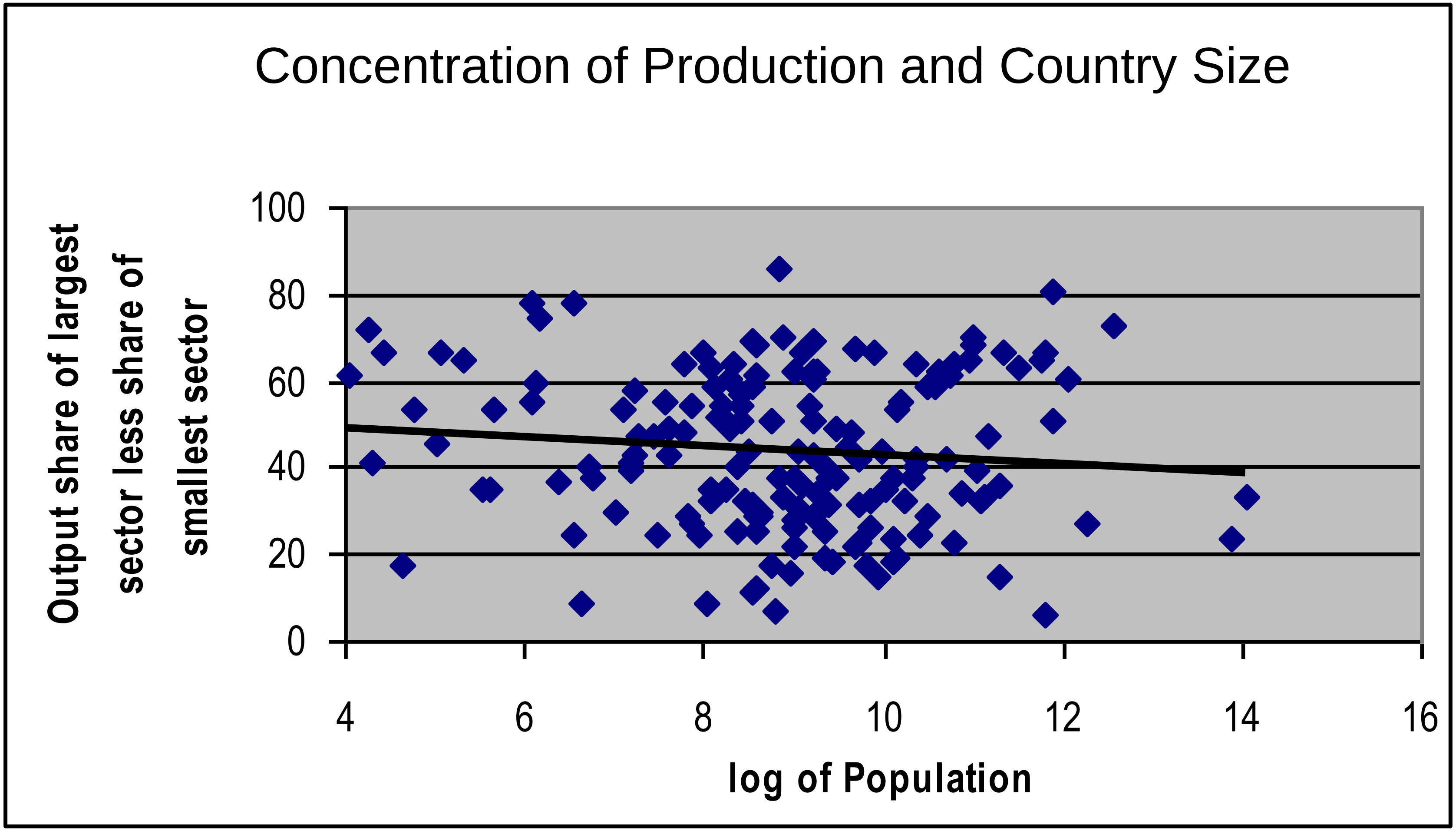
Characteristics of Small States (cont)

Concentration of Production :

Economic smallness is also associated with:

- high export concentration (i.e. reliance on a few items of exports of goods and services) and
- high industrial concentration (i.e. reliance on a few items of manufactured products).

Characteristics of Small States (cont)

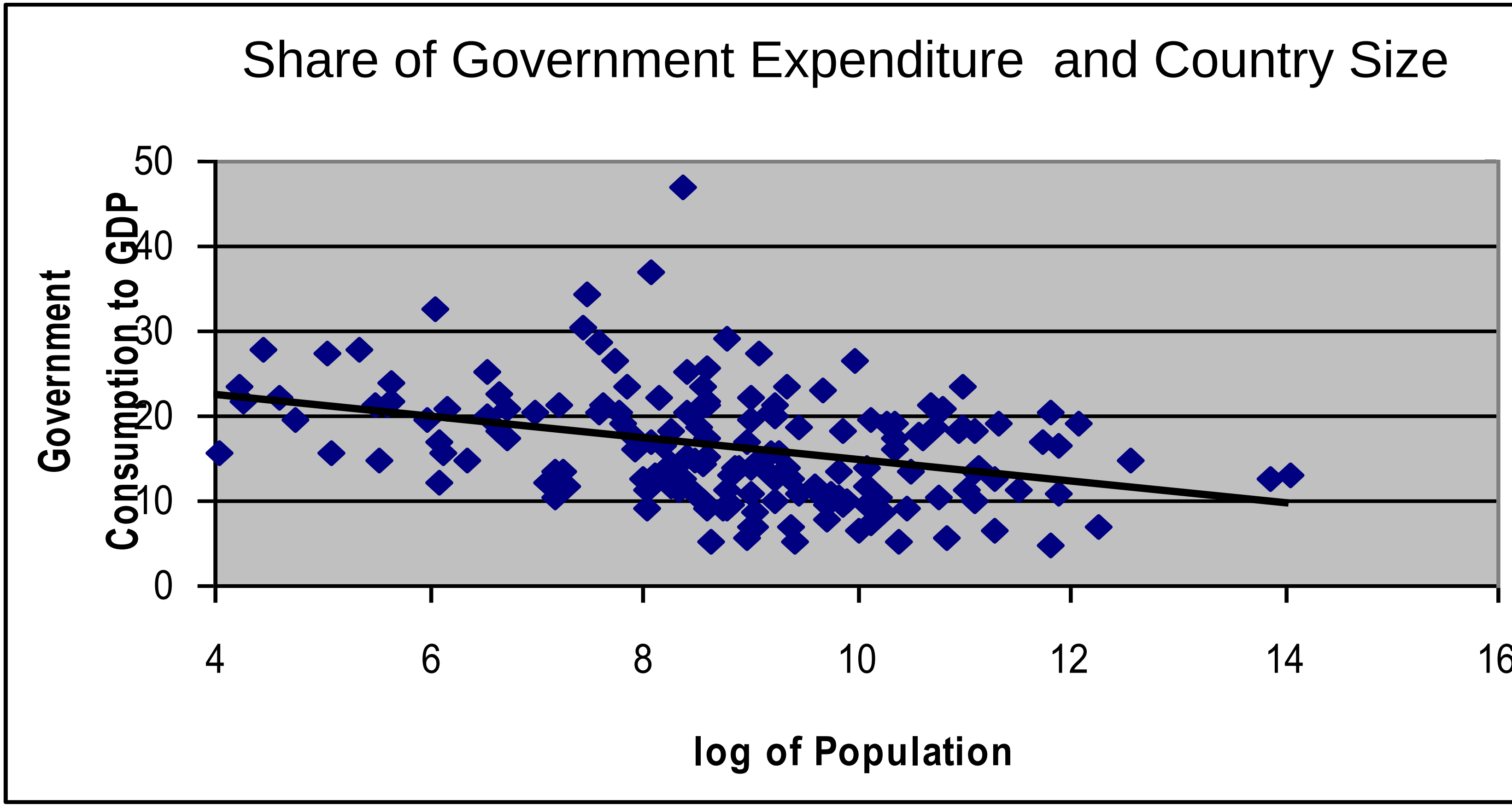


Characteristics of Small States (cont)

Share of government expenditure

Economic smallness is associated with a larger share of government expenditure within aggregate demand.

Characteristics of Small States (cont)



Juxtaposing Economic Vulnerability and Economic Resilience

Juxtaposing Vulnerability and Resilience

Economic Vulnerability

There are inherent features associated with small states, which lead to economic vulnerability.

Such vulnerability arises from the fact that the economies of small states are, to a large extent, shaped by forces outside their control.

Juxtaposing Vulnerability and Resilience (cont)

Economic Vulnerability

- Economic vulnerability refers to proneness of an economy to exogenous shocks, lying outside its control
- Small states tend to be more economically vulnerable than other group of countries as many studies have shown
- Manifestations of vulnerability include high degree of fluctuations in GDP and in export earnings

Juxtaposing Vulnerability and Resilience (cont)

Economic Vulnerability

- In spite of their economic vulnerability, many small states manage to generate a relatively high GDP per capita, when compared to other developing countries
- This has been called the ‘Singapore Paradox’
- One can explain this paradox by juxtaposing economic vulnerability with economic resilience
- Economic resilience refers to the extent to which an economy can withstand or bounce back from the negative effects of external shocks

Juxtaposing Vulnerability and Resilience (cont)

Methodological framework

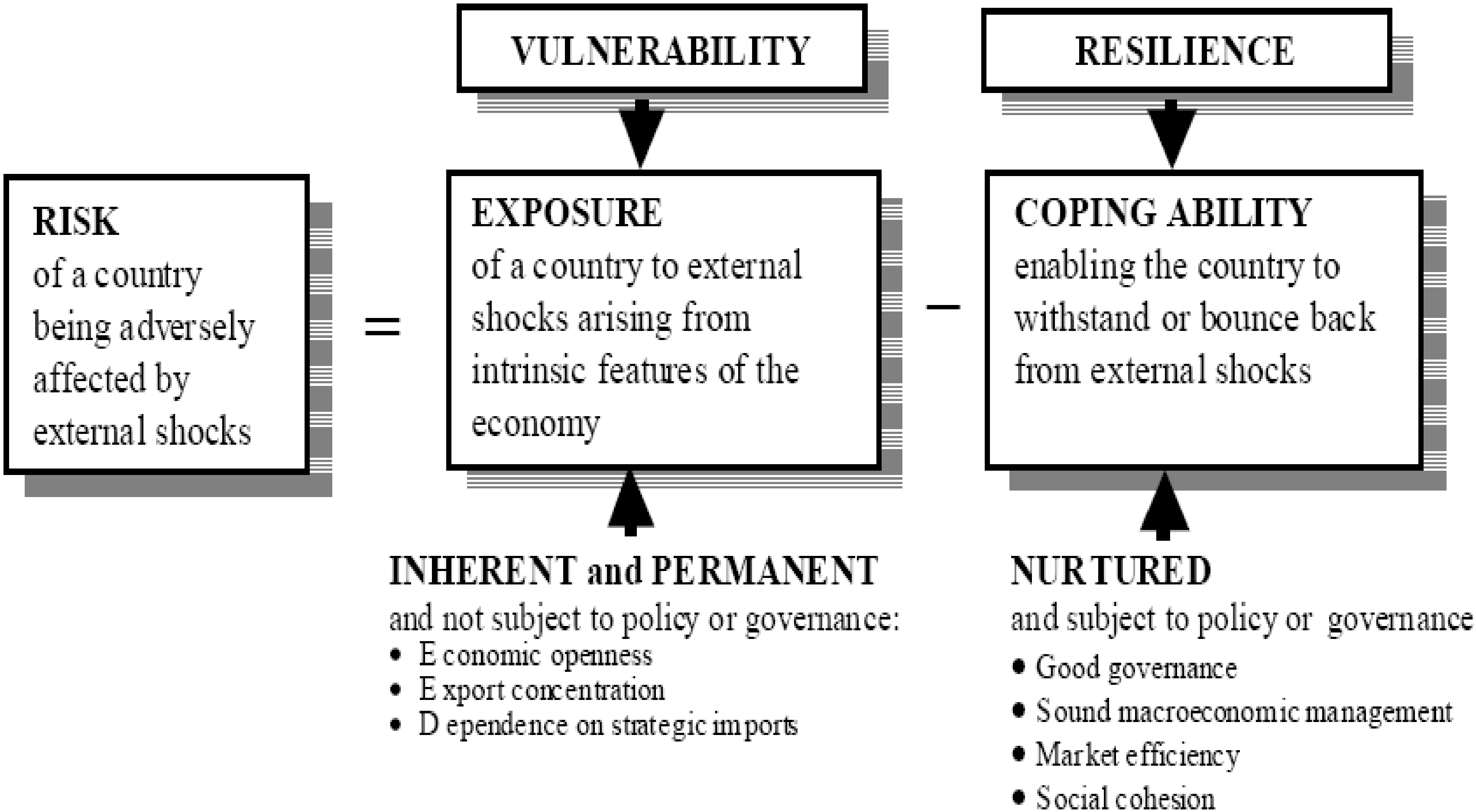
By distinguishing between inherent economic vulnerability and nurtured economic resilience, it is possible to create a methodological framework for assessing the risk of being affected by external shocks, as shown in the following figure.

The figure shows that risk has two elements:

- the first is associated with the inherent vulnerability - conditions of the country that expose it shocks, and
- the second is associated with good economic governance
- the risk of being adversely affected by the shock is therefore the combination of the two elements.

Juxtaposing Vulnerability and Resilience (cont)

Risk of being harmed by external shocks



Juxtaposing Vulnerability and Resilience (cont)

Economic Vulnerability Indices

- Economic vulnerability indices have been constructed by various authors, including Briguglio (1995, 1997), Briguglio and Galea (2003), Commonwealth Secretariat – Atkins *et al* (2000), United Nations Committee for Development Policy (2006).

- Various variables have been utilised to measure economic vulnerability. These include variables that are related to exposure to external forces, variables that capture the internal structures which lead to instability and variables that measure the magnitude of shocks.

Juxtaposing Vulnerability and Resilience (cont)

Economic Vulnerability Indices

The main determinants of economic vulnerability in Briguglio and Galea (2003) are:

- Economic openness
- Export concentration
- Dependence on strategic imports

Juxtaposing Vulnerability and Resilience (cont)

Economic Vulnerability Indices

The main determinants of the UN Vulnerability Index (2006) are the following seven:

- population size;
- remoteness from world markets;
- merchandise export concentration;
- share of agriculture, forestry and fisheries in gross domestic product;
- homelessness owing to natural disasters;
- instability of agricultural production; and
- instability of exports of goods and services.

Juxtaposing Vulnerability and Resilience (cont)

Economic Vulnerability Indices

Studies on vulnerability indices generally conclude that small states tend to be more vulnerable than other groups of countries.

Juxtaposing Vulnerability and Resilience (cont)

Economic Resilience

Meaning of economic resilience (*resilire*)

refers to:

- the ability of an economy to recover quickly following adverse shocks: **shock counteraction**
- The ability of an economy to withstand shocks: **shock absorption**

Juxtaposing Vulnerability and Resilience (cont)

Economic Resilience

- Resilience can be measured by an index which refers to what a country is doing to mitigate its inherent vulnerability, such as sound economic governance
- The combination of the vulnerability and resilience indices would indicate the overall risk of being harmed by external shocks

Juxtaposing Vulnerability and Resilience (cont)

Four Country Scenarios

On the basis of this methodology, one can propose 4 scenarios into which countries may be placed according to their vulnerability and resilience characteristics. These scenarios are termed “best-case”, “worst-case”, “self-made”, and “prodigal-son”.

- Countries classified as “self-made” are those that take steps to mitigate their inherent vulnerability by building their economic resilience, thereby reducing the risks associated with exposure to shocks.
- Countries falling within the “prodigal-son” scenario are those with a relatively low degree of inherent economic vulnerability but which adopt policies that expose them to the adverse effects of exogenous shocks.

Juxtaposing Vulnerability and Resilience (cont)

Four Country Scenarios

► The "best-case" scenario applies to countries that are not inherently highly vulnerable and which at the same time adopt resilience-building policies.

► Conversely, the "worst-case" scenario refers to countries that are inherently highly vulnerable but make matters worse by adopting policies that exacerbate the negative effects of their vulnerability.

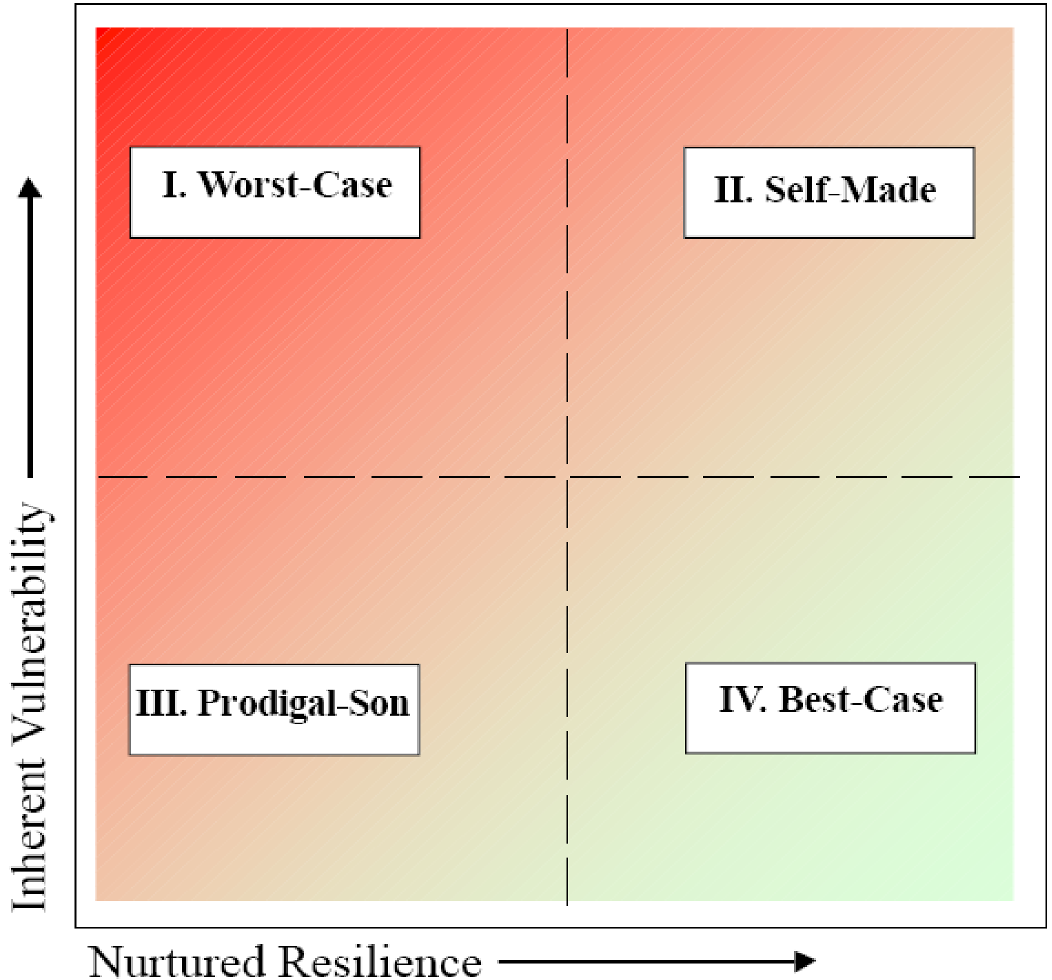
Juxtaposing Vulnerability and Resilience (cont)

Four Country Cases

- These four scenarios or cases are depicted in the following figure, where the axes measure inherent economic vulnerability and nurtured resilience, respectively.In this scheme the best situation in economic terms falls in quadrant IV.
- The vulnerable small island states that have adopted resilience-building policies are likely to fall in quadrant II.

Juxtaposing Vulnerability and Resilience (cont)

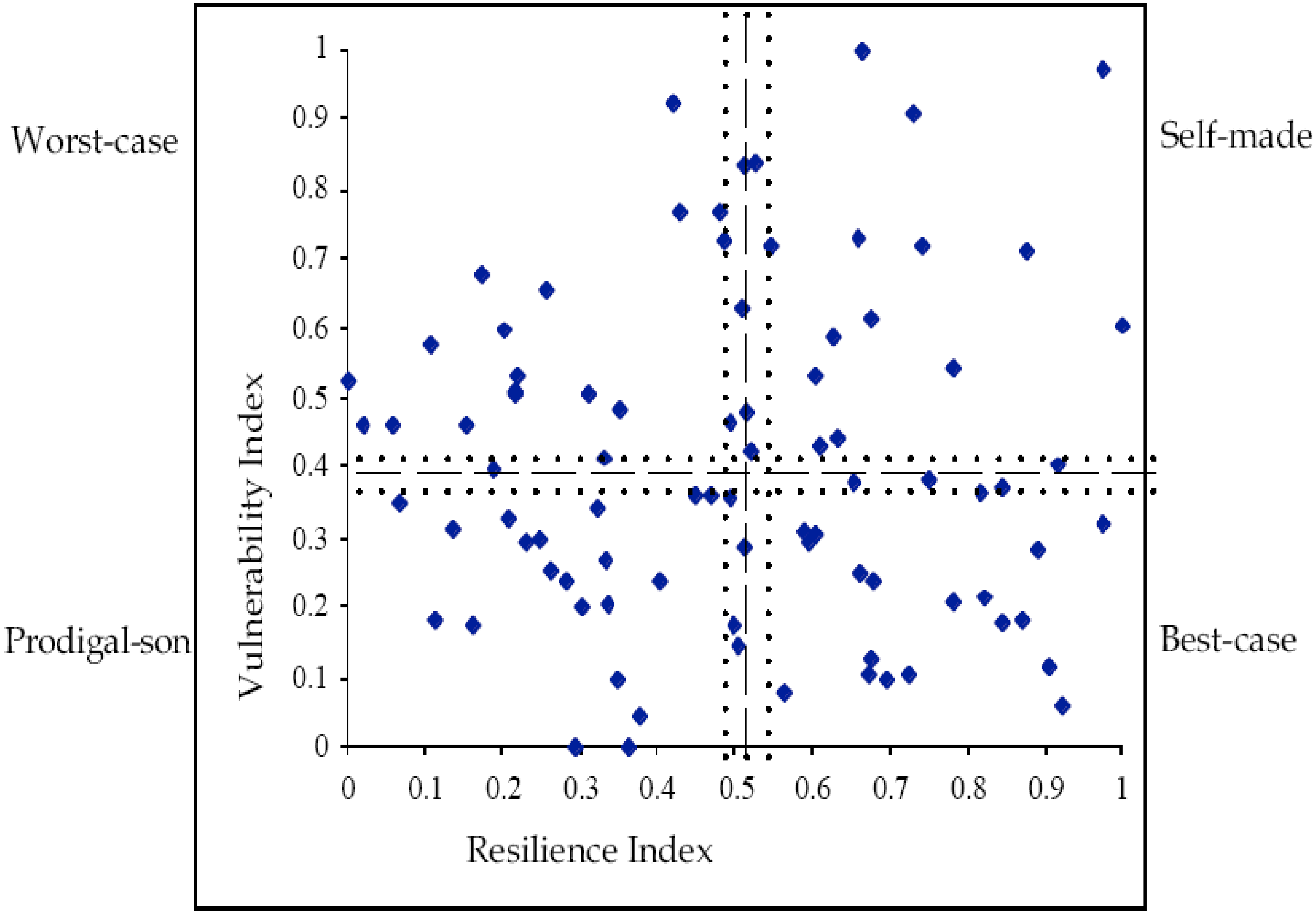
Country Categorisation



Results of the Index and Country Categorisation

Results of the Index

Results produced by Briguglio et al (2006)



Results of the Index (cont)

Overall tendencies:

- countries which fall in the “best-case” quadrant are mostly the large developed countries;
- countries which fall in the “self-made” quadrant include a number of small states with a high vulnerability score;
- countries which fall in the “prodigal-son” quadrant include mostly large third world countries; and
- countries which fall in the “worst-case” quadrant include a few vulnerable small countries with weak economic governance.

Results of the Index (cont)

GDP per capita: relationship to resilience & vulnerability

Regression results indicate that resilience is positively related to GDP per capita and vulnerability is negatively related to GDP per capita

Regression Results

G =	0.14	+ 0.95 R	- 0.14V
t statistics	(3.5)	(17.2)	- (2.4)

$R^2 = 0.78$ Number of observations = 86

Results of the Index (cont)

Benefits of the approach

This approach could be used to:

- support decision-making, setting targets and establishing standards
- monitor and evaluate developments
- derive quantitative estimates
- disseminate of information and drawing attention to the issue
- focus the discussion on the essential elements, given the quantitative estimation requires precise definitions
- promote the idea of integrated action

Results of the Index (cont)

However:

The methodology requires the estimation of indices. This is associated with a number of weaknesses:

- Subjective choice of variables
- Problems of measurement
- Averaging and weighting procedure
- Lack or shortage or other inadequacies of data
- Non-homogenous data

Policy Implications

Policy Implications

Options for Small States

- Either suffer the consequences of vulnerability
- or build resilience against shocks, which is also promotes growth.

Policy Implications

Policies for Macroeconomic Stability

- set credible and sustainable deficit and public debt targets which would serve as indicators of the effective and efficient stewardship by government of the economy's resources,
- target low and stable rates of unemployment and inflation;
- adopt sustainable exchange rate mechanisms and monetary policy stances which reflect underlying economic fundamentals in a credible manner;
- conduct precautionary international lines of credit and insurance mechanisms so that small states can overcome temporary macroeconomic shocks, subject to safeguards against adverse selection and moral hazard.

Policy Implications (cont)

Policies for Microeconomic Market Efficiency

- enhance knowledge-based economic activities with a view to promote creativity, innovation and technology development and transfer
- promote the development of skills and flexibility in the labour market while facilitating migration as a vehicle for human capital to achieve maximum rewards
- secure property rights and implement adequate competition rules which would prevent abuse from market dominance
- minimise policy failure
- abet development of entrepreneurship and micro-enterprises
- develop dynamic and internationally oriented financial sectors where small states can typically enjoy comparative advantages
- strengthen the institutional capacity of small states in international trade negotiations
- support the efforts of preference-dependent economies to reposition their output towards outward-looking export-led growth strategies.

Policy Implications (cont)

Policies for Good Governance

- put in place effective and efficient mechanisms for revenue collection and expenditure control in the public sector;
- invest in infrastructure and other enabling mechanisms that stimulate and sustain economic development
- implement the best practice of government intervention in various scenarios
- promote ecological governance in relation to environmental concerns and the management of natural disasters.

Policy Implications (cont)

Policies for Social Development

- promote education and health services (particularly in the prevention of HIV/AIDS);
- develop instruments aimed at reducing crime and security problems;
- mainstream social planning into development planning, with special emphasis on vulnerable and marginalized groups;
- put in place effective and durable social pacts so to encourage the equitable distribution of benefits and costs among the various segments of society;
- foster participatory approaches in the resolution of conflict.

Concluding Considerations

Concluding Considerations

Main Implications

- The main implication of this study is that vulnerability is negatively related to economic development due to the effects of negative external shocks.
- On the other hand, resilience building has a positive influence on economic development as it helps a country to withstand or absorb these shocks.
- Many small states succeed economically in spite of the small size constraints, due to good economic governance.

Concluding Considerations (cont)

Usefulness for policy

- The juxtaposition of economic vulnerability and resilience permits an assessment of the reasons behind the economic success or failure of small vulnerable countries.

- A number of policy implications were suggested, mostly intended to enhance resilience building by:
  - reducing instability,
  - improving the workings of the market,
  - enhancing political governance, and
  - promoting social development.

References

- Atkins, J., Mazzi, S. and Easter, C. *A Commonwealth Vulnerability Index for Developing Countries: The Position of Small States.* London: Commonwealth Secretariat (2000).
- Briguglio, L. "Small Island States and their Economic Vulnerabilities," *World Development*, Vol.23 (9): 1615-1632. (1995).
- Briguglio, L. "Alternative Economic Vulnerability Indices for Developing Countries", Report prepared for the Expert Group on Vulnerability Index, United Nations. (1997).
- Briguglio, L. and Galea, W. "Updating the Economic Vulnerability Index." *Occasional Papers on Islands and Small States*, No. 2003-4. Malta: Islands and Small States Institute. (2003).
- Briguglio, L. Cordina, C. Farrugia, N. and Vella, S. "Conceptualizing and Measuring Economic Resilience." In *Building the Economic Resilience of Small States*, Edited by L. Briguglio, C. Cordina and E.J. Kisanga, Malta: Islands and Small States Institute and London: Commonwealth Secretariat, 2006.
- United Nations Committee for Development Policy. *Overcoming Economic Vulnerability and Creating Employment.* Report of the Committee for Development Policy on the Eighth Session (20–24 March 2006), United Nations, New York

THANK YOU FOR YOUR ATTENTION