

Growth with Resilience in East Asia and the 2008–2009 Global Recession

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This paper assesses why the 2008–2009 global economic recession impacted East Asia less than it did the United States (US) and the European Union (EU). The paper utilizes a “growth-with-resilience” (GWR) index aimed at measuring the extent to which a country can absorb or counteract external shocks and at the same time promote economic growth. The main findings show higher GWR index scores for East Asia compared to those for the EU and the US, which may explain why the global recession had a milder impact on the region. The study also shows East Asia as being very heterogeneous, with major differences in the countries’ economic, political, and social realities, more so than in the US and EU. Therefore, the overall picture for the region may not apply to individual economies.

JEL classification: O10, O11, O12, O23, O53, O57

I. INTRODUCTION

This paper assesses why the 2008–2009 global economic recession impacted East Asia less than it did the United States (US) and the European Union (EU). The paper utilizes a “growth-with-resilience” (GWR) index aimed at measuring the extent to which a country can absorb or counteract external shocks and at the same time promote economic growth.¹

Although economic vulnerability is often associated with small states (Briguglio 1995), the recent global recession has shown that no country is really sheltered from external economic shocks. This has brought the challenge of building economic resilience to the forefront of economic policy.

The two major economic centers of the world are currently the US and the EU, but many studies have predicted a move towards East Asia (e.g., Quad 2011, Grether and Mathys 2008). A study comparing the three major economic centers of the world in terms of growth and resilience is therefore of interest.

The main findings of this paper are the higher GWR index scores for East Asia compared to those for the EU and the US, which may explain why the impact of the recent global recession had been milder on the region. The paper

¹Growth with resilience is sixth among the nine pillars of work pursued by the G20 Development Working Group. This pillar was identified at the G20 Seoul Summit in 2009. Available on-line: <http://www.economicsummits.info/2010/11/seoul-summit-annex-2-g20-action-plan-on-development>

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also reveals East Asia to be a very heterogeneous region, with major differences in economic, political, and social realities of the various countries, again more so than in the US and the EU. Therefore, the overall picture for East Asia may not apply to individual economies.

This paper is organized as follows. Section II, which follows this introduction, outlines the main characteristics of East Asian economies and assesses the impact of the global recession on these economies. Section III describes the methodology for computing the GWR index, while Section IV presents the results of the index for the selected East Asian economies, comparing these with results for the US and the EU. Section V provides the conclusions of the study and discusses implications of results.

II. THE EAST ASIAN ECONOMIES

A. The Economies of East Asia

In this paper, East Asia refers to ten economies, six of which are members of the Association of Southeast Asian Nations (ASEAN) and the remaining four comprising the People's Republic of China (PRC); Hong Kong, China; the Republic of Korea; and Taipei, China. The population of East Asia as defined in this paper is about 2 billion, of which about 65% live in the PRC alone (see Table 1).²

There have been major developments in East Asian economies in the past 20 years or so, including a rapid process of foreign trade liberalization and, as a result, a high rate of foreign direct investment (FDI). Although there is extensive cooperation between East Asian countries, notably between the members of the ASEAN, economic integration is not very deep. The ASEAN Free Trade Agreement (AFTA) came into force in 1992. AFTA does not apply a common external tariff on imports, and each member is free to impose tariffs on goods entering from outside the area.³ Economic relations between ASEAN and the other Asian economies covered by this study, however, have been increasing and there are now various preferential trade agreements in the region, with different rules of origin and tariff arrangements.

²Members of ASEAN are Brunei Darussalam, Cambodia, Indonesia, the Lao People's Democratic Republic (Lao PDR), Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Viet Nam. Brunei Darussalam, Cambodia, the Lao PDR, and Myanmar were not included in the analysis because of missing data needed for the construction of the GWR index. The PRC and the Republic of Korea are both part of ASEAN+3.

³However, for goods originating within ASEAN, in line with specified rules of origin, there is a Common Effective Preferential Tariff (CEPT) among member states, with the exception of Cambodia, the Lao PDR, Myanmar, and Viet Nam, where the application of CEPT has been delayed.

B. Major Divergences

The economies under consideration diverge markedly, differing in terms of population, stages of development, religious belief, political governance, and social development. One can see from Table 1 that Singapore and Hong Kong, China—two of the smallest members of the group in terms of population—have relatively high gross domestic product (GDP) per capita and human development index (HDI) scores, while the larger countries (the PRC, Indonesia, and the Philippines) have relatively low GDP per capita and HDI scores. Governance arrangements also vary considerably, with some having negative scores on a political governance index (based on Kaufman, Kraay, and Mastruzzi 2010).

Table 1. Characteristics of East Asian Countries

	Population, 2010 (million)	GDP, 2010 (\$ billion)	GDP per Capita, 2010 (\$)	GDP Growth, 2004–2010 (%)	HDI Score	Political Governance Score
ASEAN Countries						
Indonesia	234.4	706.7	3,015	5.6	0.600	−0.45
Malaysia	28.3	238.0	8,423	4.9	0.744	−1.80
Philippines	94.0	188.7	2,007	5.1	0.638	1.47
Singapore	5.3	222.7	43,117	7.0	0.846	0.74
Thailand	63.9	318.9	4,992	4.1	0.654	−0.24
Viet Nam	88.3	103.6	1,174	7.3	0.572	−0.50
Other East Asian Economies						
PRC	1,341.4	5,878.3	4,382	11.1	0.663	−0.50
Hong Kong, China	7.1	225.0	31,591	5.1	0.862	1.61
Republic of Korea	48.9	1,007.2	20,591	3.9	0.877	−0.97
Taipei,China	23.3	430.6	18,458	4.6	0.868	0.76

ASEAN = Association of Southeast Asian Nations, HDI = human development index, PRC = People's Republic of China.

Note: HDI scores range from 0 to 1, with higher values corresponding to higher degrees of human development. Political governance scores range from −2.5 to 2.5, with higher values corresponding to better governance outcomes.

Sources: IMF. 2011. *World Economic Outlook*. Washington, DC; UNDP. 2010. *Human Development Report 2010*. New York; Kaufman et al. 2011. *Aggregate Governance Indicators 1996–2009*. Data accessed 26 August 2011.

The structures of these economies are also very divergent as can be seen from Table 2. Lower-income countries such as Viet Nam, Indonesia, and the Philippines depend highly on agriculture and fishing, while higher-income economies (e.g., Singapore; Hong Kong, China; and Taipei,China) have very small agricultural sectors and relatively large services sectors. The smaller economies, as expected, tend to be more trade-oriented, with Singapore and Hong Kong, China leading in the openness score.

The structures of these economies are also very divergent as can be seen from Table 2.

Table 2. Structure of the East Asian Economies

	Structure of the Economy			Trade Openness		
	Agriculture	Industry	Services	Exports (% of GDP)	Imports (% of GDP)	Average (% of GDP)
ASEAN Countries						
Indonesia	14.5	47.6	37.9	27.6	25.0	26.3
Malaysia	9.8	46.0	44.1	103.6	81.9	92.7
Philippines	14.6	31.1	54.2	36.8	37.1	37.0
Singapore	0.0	26.4	73.5	220.2	196.5	208.3
Thailand	11.3	44.0	44.6	72.8	65.7	69.2
Viet Nam	21.1	40.4	38.5	77.1	91.9	84.5
Other East Asian Economies						
PRC	10.9	48.0	41.1	43.3	33.7	38.5
Hong Kong, China	0.1	8.0	92.0	204.8	195.2	200.0
Republic of Korea	2.7	37.7	59.6	48.0	46.6	47.3
Taipei,China	1.6	31.0	67.4	69.2	61.9	65.5

PRC = People's Republic of China.

Note: Agriculture includes agriculture, hunting, forestry, and fishing (corresponds to ISIC Rev.3 divisions 01–05). Industry includes mining and quarrying, manufacturing, electricity, gas and water supply, and construction (corresponds to ISIC Rev.3 divisions 10–45). Services include all other economic activities (corresponds to ISIC Rev.3 divisions 50–99).

Available: <<http://unctadstat.unctad.org/ReportFolders/reportFolders.aspx>>. Data accessed 26 August 2011.

Source: UNCTADStat (On-line).

C. The Impact of the Global Recession on East Asia

The global economic downturn had an impact on the growth process in East Asia with almost all countries in the region facing a reduction in demand in 2009. As shown in Table 3, this resulted in slower growth rates compared to previous years. Economies that rely heavily on exports such as Hong Kong, China; the Republic of Korea; Malaysia; Singapore; Taipei,China; and Thailand experienced a downturn. In contrast, countries such as the PRC, Indonesia, and the Philippines, which rely to a lesser extent on exports and imports, did not experience negative growth, though they still went through a slowdown during the period.

With regard to the eurozone, the EU, and the US, changes in real GDP during 2009 were negative, and declines were higher on average than those of the 10 East Asian economies taken together.

Table 3. GDP Growth Rates in East Asia, the EU, and the US

	2004–2007	2009	Difference
Indonesia	5.6	4.6	1.0
Malaysia	6.1	–1.7	7.8
Philippines	6.0	1.1	4.9
Singapore	8.5	–0.8	9.3
Thailand	5.3	–2.3	7.6
Viet Nam	8.2	5.3	2.9
PRC	12.1	9.2	2.9
Hong Kong, China	7.3	–2.7	10.0
Republic of Korea	4.7	0.2	4.5
Taipei,China	5.6	–1.9	7.5
Region:			
ASEAN 6	6.2	1.1	5.1
East Asia 4	10.3	6.5	3.8
East Asia 10	9.5	5.5	4.0
USA	2.8	–2.6	5.4
Eurozone	2.5	–4.1	6.6
EU	2.8	–4.2	7.0

PRC = People's Republic of China.

ASEAN 6 = Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam; East Asia 4 = the PRC; Hong Kong, China; the Republic of Korea, and Taipei,China; East Asia 10 = comprises ASEAN 6 and East Asia 4 economies.

Note: Growth rates for the different economies are weighted averages, where the weights refer to the GDP of each country or economy.

Source: IMF. Various editions. *World Economic Outlook*. Washington, DC

In order to assess the recovery following the global recession, we compared GDP and GDP per capita in 2007, the year before the impact, with figures in 2010, the year after the impact. This indicator is shown in Table 4, which suggests that East Asian economies recovered better than the US and the EU in 2010.

This paper argues that one reason for the sharp fall in real GDP of the EU and the US in 2009 and their slower recovery in 2010 compared to East Asia can be explained in terms of the lower degree of GWR ingredients in the US and the EU.

Table 4: **Rate of Recovery—GDP Growth Rates in East Asia, the EU, and the US**
(% difference from 2007 to 2010)

Economy:	GDP Per Capita	GDP
Indonesia	13.2	17.6
Malaysia	6.1	10.3
Philippines	6.1	12.5
Singapore	8.0	15.3
Thailand	6.5	7.9
Viet Nam	15.4	19.6
PRC	30.0	32.0
Hong Kong, China	3.8	6.40
Republic of Korea	7.8	8.80
Taipei, China	7.7	9.50
Region:		
ASEAN 6	9.6	13.9
East Asia 4	24.0	25.8
East Asia 10	21.2	23.6
United States	-2.5	0.13
Eurozone	-3.3	-2.10
Europe	-3.1	-2.10

PRC = People's Republic of China.

ASEAN 6 = Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam; East Asia 4 = the PRC; Hong Kong, China; the Republic of Korea, and Taipei, China; East Asia 10 = comprises ASEAN 6 and East Asia 4 economies.

Source: IMF *World Economic Outlook*. Note the growth rates for the ASEAN, East Asia, the EU and the EZ are weighted averages, where the weights are the GDP of each country.

III. CONSTRUCTING A GROWTH-WITH-RESILIENCE INDEX

To construct the GWR index, this paper mostly draws on two studies, one authored by Briguglio et al. (2006 and 2009) and the other by the Commission on Growth and Development (2008).⁴

A. The Economic Resilience Index

Briguglio et al. (2006) argue that the term economic resilience can be used in two senses relating to the ability of an economy to: (i) recover quickly from harmful external economic shocks, and (ii) withstand the effect of such shocks.

The ability of an economy to recover from the effects of adverse shocks will be severely limited if, for example, there is a chronic tendency for large fiscal deficits. On the other hand, this ability will be enhanced when policy tools can be utilized to counteract the effects of negative shocks—for instance, when the fiscal position is strong, allowing policymakers to use discretionary expenditure or implement tax cuts to contrast the effects of negative shocks. This type of resilience is therefore associated with “shock-counteraction.”

⁴The Commission on Growth and Development was chaired by Michael Spence and consisted of 22 leaders and policymakers mostly from developing countries, academics, and influential business persons.

An economy is able to withstand shocks when these are neutered or rendered negligible. This type of resilience, which can be referred to as “shock absorption,” is possible when mechanisms are in place to reduce the effects of shocks. For example, flexible markets could act as instruments of shock absorption, since negative external demand shocks affecting a particular sector could be met relatively easily by shifting resources to another sector enjoying stronger demand.

The authors hypothesize that the variables enabling a country to build economic resilience comprise the following: (i) economic factors measured by macroeconomic stability and market efficiency, and (ii) sociopolitical factors measured by good political governance and social development.

B. Macroeconomic Stability

According to Briguglio et al. (2006), macroeconomic stability is conducive to economic resilience as it relates to the interaction between an economy’s aggregate demand and aggregate supply. If aggregate expenditure in an economy moves in equilibrium with aggregate supply, the economy would be characterized by internal balance (manifested in a sustainable fiscal position, low price inflation, and unemployment rate close to the natural rate) as well as by external balance (reflected by the level of government debt). These can be considered as variables highly influenced by economic policy. Briguglio et al. (2006) propose that the macroeconomic stability component of resilience be measured by three variables: (i) the fiscal deficit-to-GDP ratio, (ii) the sum of unemployment and inflation rates, and (iii) the debt-to-GDP ratio.

C. Market Efficiency

Briguglio et al. (2006) further argue that if markets adjust rapidly to achieve equilibrium following an external shock, the risk of being negatively affected by such a shock would be lower than if market disequilibria persisted. Indeed, with very slow or non-existent market adjustment, resources will not be efficiently allocated in the economy, resulting in welfare costs—for instance, in the form of unemployed resources and waste or shortage in the goods markets. These considerations have important implications for shock-absorbing resilience.

Following a search for suitable indicators, Briguglio et al. (2006) decided to use a component of the Freedom of the World Index (Gwartney and Lawson 2005) that focuses on the regulation of credit, labor, and business. The index is aimed at measuring the extent to which markets operate freely, competitively, and efficiently across countries. It is designed to identify the effect of regulatory restraints and bureaucratic procedures on competition and the operation of markets.

Bureaucratic control of business activity tends to inhibit market efficiency as it limits competition and hinders the operation of markets. This occurs, for example, when regulation retards entry into business or when prices are determined by dictate hence discouraging private sector involvement. Such actions impede the adjustment of markets and hence their ability to absorb shocks.

Similar considerations apply in the case of the labor market. Here, interference relates to unduly high unemployment benefits, which could undermine the incentive to accept employment; excessive restrictions on dismissal; minimum wage impositions; centralized wage setting; and conscription. All these could preclude work effort, limiting the ability of an economy to recover from adverse shocks.

D. Socio-political Factors⁵

Briguglio et al. (2006) believe that good political governance is essential for an economic system to function properly and hence to be resilient. Good governance is associated with issues such as rule of law and property rights. Without mechanisms of this kind in place, it may be relatively easy for adverse shocks to result in economic and social chaos and unrest, and the effects of vulnerability to external shocks would be exacerbated. There are various indicators of political governance including that produced by the World Bank (Kaufmann, Kraay, and Mastruzzi 2010). An analysis of these indices would indicate that the highest rankings in terms of good governance tend to be associated with economic success in terms of GNI per capita (Curmi 2009).

Briguglio et al. (2006) also argue that social development indicates the extent to which relations within a society are properly developed, enabling effective functioning of the economic apparatus without hindrance of civil unrest. Social development can also indicate the extent to which effective social dialogue may take place in an economy which, in turn, would enable collaborative approaches towards the undertaking of corrective measures in the face of adverse shocks. Briguglio et al. (2006) propose that the social development component of economic resilience be measured by the education and health indicators used in constructing the UNDP Human Development Index (HDI).

E. Factors Conducive to Economic Growth

In identifying countries that attained high growth rates and establishing the reasons for their success, the Commission on Growth and Development (2008) listed 13 countries with an average growth rate of 7% or higher for 25 years in the

⁵It should be noted that the GWR index constructed in this paper does not have separate “good governance” and “social” components. However the “institutions” and the “soundness of banks” indicator which are used for the GWR index, is likely to capture these factors.

post-war period. These were Botswana; Brazil; the PRC; Hong Kong, China; Indonesia; Japan; the Republic of Korea; Malaysia; Malta; Oman; Singapore; Taipei, China; and Thailand. The findings of the Growth Commission present useful insights on the issue of economic growth.

Five key Ingredients

In describing its findings, the Growth Commission considered five key ingredients that helped sustain high levels of growth. These are enumerated below.

- (i) Economic openness. This enabled successful countries to import ideas, technology, and know-how from the rest of the world and at the same time exploit global demand. It also spurred inward FDI and investment by multinational companies in turn leading to technological advance and the creation of export markets.
- (ii) Economic stability. A steady environment was found to encourage investment and leave room for maneuver when the economy fell under pressure. Conversely, volatility and unpredictability were found to discourage private sector development and discourage savings.
- (iii) High rates of saving and investment, including public investment in infrastructure. Had a high degree of inflation prevailed in these countries, wealth could have been redistributed from savers to debtors, possibly discouraging people from holding financial assets. In some cases, direct measures to encourage or even enforce thrift were employed as in the case of Singapore and Malaysia.
- (iv) Reliance on a market system. Markets were free to allocate resources, provide price signals, and encourage competitive private sector participation. The Growth Commission argued that even in the PRC and Singapore, where the political role of the government was very prominent, the administration had been essentially *laissez-faire* in the economic (though not the political) sphere. There were government interventions such as the provision of tax breaks, subsidized credit, direct lending, and similar government-led initiatives, but generally speaking, these measures were not restrictive—on the contrary, they often enhanced mobility in the factors of production, particularly labor, leading to the destruction of jobs with low productivity while creating more productive ones.

- (v) Sound institutions. These played a major role in terms of defining property rights, enforcing contracts, and encouraging fair trading. The Growth Commission argued that the immaturity of institutions may well be synonymous with underdevelopment. In addition, growth requires credibility and commitment in governance.

F. Juxtaposing Growth with Resilience

Combining the resilience index proposed by Briguglio et al. (2006) and the findings of the Growth Commission (2008), it is possible to identify a number of economic traits that are likely to lead to growth with resilience, all of which can be associated with good economic governance. These elements shall be used in this study to construct the GWR index in order to compare the impact of the global recession on East Asia with that on the US and the EU.

The GWR index proposed in this paper has three components: (i) the market flexibility indicator, (ii), the macroeconomic stability indicator, and (iii) the sources-of- growth indicator.

The market flexibility component was introduced on the assumption that markets that operate well allow a country to better absorb external shocks and therefore be more resilient, as explained above, with reference to Briguglio et al. (2006).

The macroeconomic stability component indicates whether an economy has room to maneuver if it is hit by an external shock. The *raison d'être* for including the stability component has been explained in Briguglio et al. (2006), as indicated earlier.

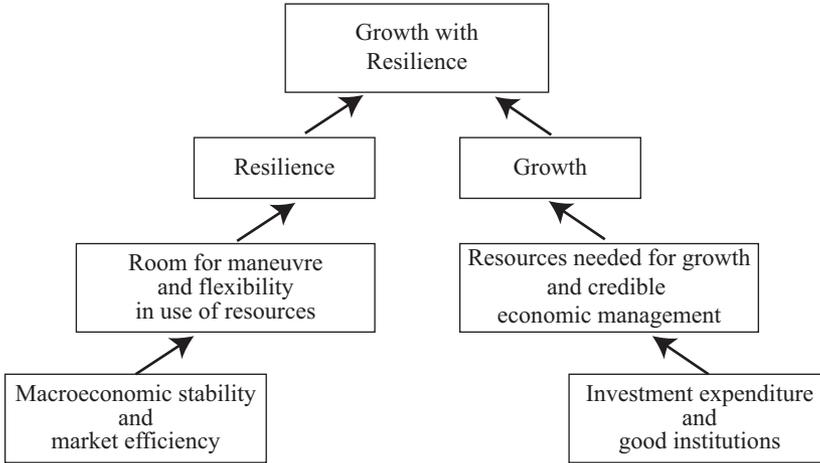
The sources-of-growth indicator has two subcomponents: investment (and by implication savings) as a percentage of GDP and sound institutions, both of which were given major importance by the Growth Commission (2008).⁶ Investment may be considered as an indicator of the extent to which resources are assigned for economic growth.⁷ The institutions component was introduced recognizing that economic growth required sound and credible economic management as explained above with regard to the Growth Commission report. Flexibility, stability, and sources-of-growth indicators are summarized in Figure 1, which shows the basic arguments underpinning each indicator. These

⁶The openness indicator identified by the Growth Commission (2008) as an ingredient of economic growth is not used in the GWR index developed in this paper. In the opinion of the present authors, a high degree of openness is not a policy-induced variable but an inherent characteristic of small states. It is essentially an indicator of economic vulnerability rather than resilience. However, the possible policy-induced factors associated with openness identified by the Growth Commission are probably captured by the institutions indicator introduced in the GWR index.

⁷Results do not change significantly when the savings-to-GDP ratio is replaced by the investment-to-GDP ratio.

components are used in this paper to assess the degree of growth with resilience of 10 East Asian countries in comparison to the US and the EU.

Figure 1. The Growth with Resilience Pyramid



These flexibility, stability, and sources of growth indicators will be used to assess the degree of “growth with resilience” of 10 East Asian countries and compare them with the US and the EU.

IV. GROWTH WITH RESILIENCE IN EAST ASIA, THE EU, AND THE US

The GWR index proposed in this study is computed from data derived from three main sources: (i) the IMF World Economic Outlook (IMF 2011), (ii) the Freedom of the World Index (Gwartney, Hall, and Lawson 2010), and (iii) the World Competitiveness Report (World Economic Forum 2008, 2009, and 2010).

A. The Growth-with-Resilience Index

The GWR index developed in this paper draws on the index proposed in Briguglio et al. (2006) but adds a component related to sources of growth based on the arguments of the Growth Commission (2008). The components of the index are shown in Table 5. Appendix 1 presents the data and gives more information about the sources.

Table 5: Components of the Growth-with-Resilience Index^a

Flexibility	Stability	Sources of Growth
Credit market regulations	Inflation	Investment/GDP
Labor market regulations	Unemployment rate	Institutions
Product market regulations	Government deficit/GDP	
Soundness of Banks	Gross government debt/GDP	

^aThe market flexibility and institutions subcomponents are outlined in Appendix 2 and Appendix 3, respectively. Sources: Gwartney, J. D., J. C. Hall, and R. Lawson. 2010. *Economic Freedom of the World 2010: Annual Report*. Fraser Institute, Vancouver; IMF. 2011. *World Economic Outlook*. Washington, DC; World Economic Forum. 2010. *The Global Competitiveness Report 2010–2011*. Geneva.

B. Rescaling the Data

The data are standardized or rescaled using the following formula to enable summation and averaging of the three components,

$$XS_i = (X_i - X_{min}) / (X_{max} - X_{min}),$$

where XS_i is the standardized observation in an array of observations of a given variable, X_i is the actual observation in an array of observations of a given variable, X_{max} is the maximum-valued observation in an array of observations of a given variable, and X_{min} is the minimum-valued observation in an array of observations of a given variable. It can be shown that XS takes a value of between 0 and 1.

C. Weighting

Equal weights (0.333) are assigned to each of the three main components.⁸ The issue of weights is very contentious and has been discussed at length in various studies (see Farrugia 2008). In practice, authors of composite indices use either use equal weights, as in this study, or else put forward ad hoc arguments to justify unequal weights. It should therefore be stated here that alternative weightings will likely produce results different from those in this study.

Following is a summary of the results.

D. Market Flexibility Component

The market flexibility component has two subcomponents, one that measures the extent to which markets operate efficiently and another relating to soundness of the banking system. Explaining why the second subcomponent was included is warranted at this point.

⁸Appendix 4 presents more information about the weightings of the subcomponents.

The market efficiency index emphasizes the importance of freely and properly operating markets for allocative efficiency. It relates, in particular, to the ability of an economy to reallocate resources quickly and effectively following an economic shock. However, Briguglio et al. (2009) argue that this fundamentally neoliberal approach should be balanced by an emphasis on the soundness of the banking system.

Thus, the GWR index proposed here views free markets and a framework of financial bank prudence as two essential aspects of a properly working market.

The results shown in Table 6 indicate that in East Asia, Hong Kong, China has the most efficient market, followed by Singapore, Malaysia, and Thailand, in that order. The US is also characterized by a highly efficient market but this is being weighed down by the weakness of banks. The EU suffers from various market inefficiencies, and the eurozone even more so. A closer look at the index suggests that market inefficiencies in Europe stem mostly from labor market regulations, particularly those relating to hiring and firing and bureaucracy costs.

The PRC has the lowest score in terms of market efficiency, ranking last among all countries. The main reason for this relates to the ownership of banks, the presence of regulations, and price controls. At the same time, confidence in banks is not as low as it is in the US and the EU.

Table 6. **Standardized Scores of the Market Flexibility Component^a**

	Market Regulations	Soundness of Banks	Average	Rank
Indonesia	0.387	0.150	0.269	9
Malaysia	0.722	0.650	0.686	3
Philippines	0.526	0.600	0.563	5
Singapore	0.936	0.950	0.943	2
Thailand	0.688	0.650	0.669	4
Viet Nam	0.447	0.150	0.298	8
PRC	0.000	0.450	0.225	10
Hong Kong, China	1.000	1.000	1.000	1
Republic of Korea	0.470	0.150	0.310	7
Taipei, China	0.489	0.450	0.470	6
Region:				
ASEAN 6	0.584	0.473	0.528	1
East Asia 4	0.145	0.422	0.283	6
East Asia 10	0.229	0.431	0.330	5
US	0.797	0.000	0.398	4
Eurozone	0.537	0.310	0.423	2
EU	0.588	0.216	0.402	3

PRC = People's Republic of China.

ASEAN 6 = Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam; East Asia 4 = the PRC; Hong Kong, China; the Republic of Korea, and Taipei, China; East Asia 10 = comprises ASEAN 6 and East Asia 4 economies; EU = European Union; Eurozone = comprises the 17 EU members that have adopted the euro.

^a The raw data are presented in Appendix 1, Table A1.1. Note: Higher scores represent a higher degree of flexibility.

Source: Authors' calculations.

E. The Macroeconomic Stability Component

The macroeconomic stability component has four subcomponents—inflation, unemployment, the government deficit, and gross public debt.⁹ These basically indicate if an economy has room to maneuver when hit by an external shock.¹⁰ It should be noted that data for the macroeconomic component had been averaged over an eight-year period (2001–2008) to eliminate changes relating to the business cycle.

The macroeconomic stability scores of the GWR Index are shown in Table 7. Each subcomponent had been assigned equal weights. The results indicate that Hong Kong, China; the Republic of Korea; the PRC; and Taipei, China were the most stable economies, with Indonesia, the Philippines, and Viet Nam being relatively more unstable. The eurozone exhibited more instability than East Asia, considered collectively.

Table 7: Standardized Scores of the Macroeconomic Stability Component^a

	Government			Unemployment	Average	Rank
	Inflation	Deficit/GDP	Debt/GDP	Rate		
Indonesia	0.000	0.597	0.446	0.067	0.277	10
Malaysia	0.754	0.302	0.545	0.821	0.606	7
Philippines	0.410	0.576	0.359	0.000	0.336	9
Singapore	0.847	1.000	0.000	0.882	0.682	6
Thailand	0.700	0.628	0.505	1.000	0.708	5
Viet Nam	0.178	0.000	0.597	0.576	0.338	8
PRC	0.765	0.526	0.822	0.742	0.714	3
Hong Kong, China	1.000	0.492	1.000	0.546	0.760	1
Republic of Korea	0.668	0.786	0.753	0.811	0.754	2
Taipei, China	0.895	0.602	0.658	0.700	0.714	4
Region:						
ASEAN 6	0.410	0.410	0.413	0.483	0.429	5
East Asia 4	0.767	0.572	0.806	0.743	0.722	1
East Asia 10	0.699	0.572	0.731	0.693	0.674	2
USA	0.716	0.539	0.353	0.591	0.550	3
Eurozone	0.765	0.424	0.276	0.227	0.423	6
EU	0.754	0.427	0.349	0.277	0.452	4

PRC = People's Republic of China.

ASEAN 6 = Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam; East Asia 4 = the PRC; Hong Kong, China; the Republic of Korea, and Taipei, China; East Asia 10 = comprises ASEAN 6 and East Asia 4 economies; EU = European Union; Eurozone = comprises the 17 EU members that have adopted the euro.

^aThe raw data are presented in Appendix 1, Table A1.2. Note: Higher scores represent a higher degree of stability. Source: Authors' calculations.

⁹Net debt may also be considered as an indicator of indebtedness. However, the concept of net debt ushers in a number of problems. First, data on net debt across countries is often not available. Second, there are conceptual problems associated with the choice of assets to consider when differentiating between gross and net debt. Also, governments need to refinance their gross debt and therefore gross debt may really matter when one considers government insolvency.

¹⁰The current account balance could be added as this may indicate the extent to which domestic demand outpaces supply—another cause of instability. We decided to leave out the current deficit, which is related to the difference between savings and investment, so as not to assign excessive weight to the growth resources component. However, the results would not have changed markedly if the current account deficit had been introduced with equal weighting as the other instability components.

F. Sources-of-Growth Component

Table 8 shows the results for the sources-of-growth component. It has two subcomponents—the investment to GDP ratio and an institutions indicator.¹¹ In East Asia, the PRC; Singapore; Hong Kong, China; and Viet Nam have relatively high scores, while the Philippines and Indonesia have relatively low scores. The EU and the US have generally lower scores than East Asia, with the US exhibiting the lowest scores.

Table 8. Standardized Scores of the Sources-of-Growth Component^a

	Investment/GDP	Institutions	Average	Rank
Indonesia	0.318	0.281	0.299	9
Malaysia	0.243	0.495	0.369	7
Philippines	0.000	0.000	0.000	10
Singapore	0.294	1.000	0.647	2
Viet Nam	0.792	0.221	0.506	4
PRC	1.000	0.411	0.706	1
Hong Kong, China	0.243	0.866	0.555	3
Republic of Korea	0.551	0.281	0.416	5
Taipei,China	0.221	0.562	0.391	6
Region:				
ASEAN 6	0.413	0.368	0.390	3
East Asia 4	0.848	0.417	0.632	1
East Asia 10	0.746	0.408	0.577	2
USA	0.115	0.512	0.313	6
Eurozone	0.190	0.564	0.377	5
EU	0.168	0.585	0.377	4

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^aThe raw data are presented in Appendix 1, Table A1.3. Note: Higher scores represent greater sources of growth.

Source: Authors' calculations.

G. Growth-with-Resilience Scores

Table 9 presents the average of the three components of the GWR index. Economies with the highest scores are Hong Kong, China; Singapore; Thailand; and Malaysia. With the lowest scores are Indonesia and the Philippines.

The four high-GWR countries were highly impacted by the global recession and registered relatively high declines in real GDP in 2009 (see Table 3). In contrast, the two low-GWR countries, though affected by the global downturn, did not even register a fall in GDP during the period.

The question arises therefore as to why Hong Kong, China; Singapore; Thailand; and Malaysia have relatively high GWR scores. The answer to this

¹¹It can be argued that the index should include either savings or investment because theoretically these should tend to be equal. In practice, however they are not.

seeming contradiction is that while these economies are highly export-oriented and therefore very open, Indonesia and the Philippines are more domestically oriented.¹²

Looking at the regional scores of the GWR index, East Asia as a region registered higher scores than the US and the EU. This may explain why it had not been as deeply affected as the US and the EU by the global financial crises and the consequent recession.

Table 9. **The Growth-with-Resilience Index**

	Total Score	Rank
Indonesia	0.282	10
Malaysia	0.553	4
Philippines	0.299	9
Singapore	0.757	2
Thailand	0.571	3
Viet Nam	0.380	8
PRC	0.548	5
Hong Kong, China	0.771	1
Republic of Korea	0.493	7
Taipei,China	0.524	6
Region:		
ASEAN 6	0.446	3
East Asia 4	0.545	1
East Asia 10	0.526	2
USA	0.420	4
Eurozone	0.407	6
EU	0.410	5

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ASEAN 6 = Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam; East Asia 4 = the PRC; Hong Kong, China; the Republic of Korea, and Taipei,China; East Asia 10 = comprises ASEAN 6 and East Asia 4 economies; EU = European Union; Eurozone = comprises the 17 EU members that have adopted the euro.

Source: Authors' calculations.

V. CONCLUSION

This paper constructed a growth-with-resilience index based on three components—market flexibility, macroeconomic stability, and sources of growth—and used this to compare East Asia with the EU and the US. The main findings are the higher GWR scores for East Asia, which may explain why the impact of the 2008–2009 global recession on the region was milder.

The study also revealed East Asia to be a very heterogeneous area, with major differences in the countries' economic, political and social realities, being seemingly larger than those in the US and the EU. Therefore the East Asia average should be interpreted with some caution. Indeed, the Philippines and

¹²As a matter of fact, there is a highly correlated and statistically significant relationship between the recession impact on East Asian economies as calculated in Table 3 and export dependence as calculated in Table 2.

Indonesia in East Asia actually registered lower GWR scores than the EU or the US.

The main policy implication of this study is that the pursuit of macroeconomic stability and market flexibility would enable countries to better withstand external shocks. This ability could be reinforced by high rates of saving and investment and the development of appropriate institutions conducive to growth.

APPENDIX 1: THE DATA

Table A1.1. Data for the Market Flexibility Component

Asian Economies:	Market Regulation ^a		Soundness of Banks ^b	
	Data	Rank	Data	Rank
Indonesia	6.08	9	4.7	8
Malaysia	7.55	3	5.7	3
Philippines	6.69	5	5.6	5
Singapore	8.50	2	6.3	2
Thailand	7.41	4	5.7	3
Viet Nam	6.34	8	4.7	8
PRC	4.37	10	5.3	6
Hong Kong, China	8.78	1	6.4	1
Republic of Korea	6.44	7	4.7	8
Taipei, China	6.53	6	5.3	6
Regions:				
ASEAN 6	6.95	3	5.3	1
East Asia 4	5.01	6	5.2	3
East Asia 10	5.38	5	5.3	2
USA	7.89	1	4.4	6
Eurozone	6.74	4	5.0	4
EU	6.97	2	4.8	5

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^aThis index ranges from 0 to 10, with higher scores indicating greater economic freedom. Data, sourced from Gwartney et al. (2010), pertains to 2008.

^bThis index ranges from 1 to 7, with higher scores indicating greater soundness. Data sourced from World Economic Forum (2010).

Sources: Gwartney, J. D., J. C. Hall, and R. Lawson. 2010. *Economic Freedom of the World 2010: Annual Report* (On-line). Available: http://www.freetheworld.com/2010/reports/world/EFW2010_BOOK.pdf; World Economic Forum. 2010. *The Global Competitiveness Report 2010–2011* (On-line). Available: http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2010-11.pdf

Table A1.2. Data for the Macroeconomic Stability Component

	Consumer Price Changes (%)		Government Debt/GDP (%)		Government Debt/GDP (%)		Unemployment Rate (%)	
	Data	Rank	Data	Rank	Data	Rank	Data	Rank
Asian Economies:								
Indonesia	9.44	10	-0.25	5	52.65	8	9.45	9
Malaysia	2.47	5	-4.40	9	43.54	6	3.44	3
Philippines	5.65	8	-0.56	4	60.63	9	9.98	10
Singapore	1.62	3	5.41	1	93.61	10	2.95	2
Thailand	2.97	6	0.18	3	47.21	7	2.02	1
Viet Nam	7.79	9	-8.65	10	38.79	5	5.39	7
PRC	2.37	4	-1.25	7	18.10	2	4.08	5
Hong Kong, China	0.20	1	-1.73	8	1.76	1	5.63	8
Republic of Korea	3.27	7	2.40	2	24.48	3	3.52	4
Taipei,China	1.17	2	-0.19	4	33.20	4	4.41	6
Regions:								
ASEAN 6	5.65	6	-0.59	1	55.68	3	6.13	4
East Asia 4	2.36	1	-0.61	3	19.55	1	4.06	1
East Asia 10	2.99	5	-0.61	2	26.45	2	4.46	2
USA	2.83	4	-1.07	4	61.23	4	5.27	3
Eurozone	2.38	2	-2.68	6	68.25	6	8.17	6
EU	2.48	3	-2.65	5	61.53	5	7.78	5

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Note: Data shown are the averages for 2001–2008. The figures for ASEAN, East Asia 4, East Asia 10, the EU, and the eurozone are weighted averages, where the weights are the GDP of the respective economies forming part of these groupings.

Source: IMF World Economic Outlook Database (On-line).

Available: <<http://www.imf.org/external/pubs/ft/weo/2011/01/weodata/index.aspx>>. Data accessed 26 August 2011.

Table A1.3. Data for the Sources-of-Growth Component

Asian Economies:	Investment (% of GDP)		Institutions^a	
	Data	Rank	Data	Rank
Indonesia	24.34	5	3.98	6
Malaysia	22.57	7	4.62	4
Philippines	16.80	10	3.14	10
Singapore	23.76	6	6.13	1
Thailand	26.42	4	3.95	8
Viet Nam	35.57	2	3.80	9
PRC	40.51	1	4.37	5
Hong Kong, China	22.56	8	5.73	2
Republic of Korea	29.85	3	3.98	6
Taipei, China	22.04	9	4.82	3
Regions:				
ASEAN 6	24.23	3	4.24	11
East Asia 4	36.90	1	4.39	4
East Asia 10	34.48	2	4.36	5
USA	19.53	6	4.67	3
Eurozone	21.30	4	4.83	2
EU	20.79	5	4.89	1

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^aThis index ranges from 1 to 7. Data sourced from World Economic Forum (2010).

Sources: IMF World Economic Outlook Database (On-line). Available:

<http://www.imf.org/external/pubs/ft/weo/2011/01/weodata/index.aspx>. Data accessed 26 August 2011;
World Economic Forum. 2010. *The Global Competitiveness Report 2010–2011* (On-line). Available:
http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2010-11.pdf

APPENDIX 2: SUBCOMPONENTS OF MARKET FLEXIBILITY

Market Regulations

The market regulations index produced by Gwartney et al. (2010) as part of the Freedom of the World Index has three main headings: (i) credit market regulations, (ii) labor market regulations, and (iii) product market regulations.

Each heading has the following components:

- (i) Credit market regulations
 - a. ownership of banks
 - b. foreign bank competition
 - c. private sector credit
 - d. interest rate controls
- (ii) Labor market regulations
 - a. hiring regulations and minimum wage
 - b. hiring and firing regulations
 - c. centralized collective bargaining
 - d. regulations on hours
 - e. mandated cost of worker dismissal
 - f. conscription
- (iii) Product market regulations
 - a. price controls
 - b. administrative requirements
 - c. bureaucracy costs
 - d. costs of starting a business
 - e. extra payments or bribes
 - f. licensing restrictions
 - g. cost of tax compliance.

Data used in the GWR index refer to 2008. Results do not change significantly though if a chain-linked index over 9 years (since 2000) is used. The chain-linked index produced by Gwartney et al. (2010) does not cover all the countries, thus 2008 scores were used in this paper.

Soundness of Banks

The soundness of banks index was developed by the World Economic Forum as part of the eighth pillar, financial market development, of its global competitiveness index (World Economic Forum 2010). It is formulated from experts' responses to the following question: "How would you assess the soundness of banks in your country?" Scores range from 1 (insolvent and may require a government bailout) to 7 (generally healthy with sound balance sheets).

APPENDIX 3: SUBCOMPONENTS OF INSTITUTIONS

The institutions index developed by the World Economic Forum as the first pillar of its global competitiveness index (with a weight of 15% of the GCI) is very wide-ranging in its coverage and relates to public and private institutions (the former being weight 3 times as much as the latter) (World Economic Forum 2010). The elements of the institutions index are summarized below.

- (i) Public institutions
 - a. property rights
 - i. property rights
 - ii. intellectual property protection
 - b. Ethics and corruption
 - i. diversion of public funds
 - ii. public trust of politicians
 - iii. irregular payments and bribes
 - c. Undue influence
 - i. judicial independence
 - ii. favoritism in decisions of government officials
 - d. Government inefficiency
 - i. wastefulness of government spending
 - ii. burden of government regulation
 - iii. efficiency of legal framework in settling disputes
 - iv. efficiency of legal framework in challenging regulations
 - v. transparency of government policymaking
 - e. Security
 - i. business costs of terrorism
 - ii. business costs of crime and violence
 - iii. organized crime
 - iv. reliability of police services
- (ii) Private institutions
 - a. Corporate ethics
 - i. ethical behavior of firms
 - b. Accountability
 - i. strength of auditing and reporting standards
 - ii. efficacy of corporate boards
 - iii. protection of minority shareholders' interests
 - iv. strength of investor protection

APPENDIX 4: THE WEIGHTING SCHEMETable A4.1. **Weights of GWR Index Subcomponents**

Component	Weight (%)
Markets (Flexibility)	33.30
Credit market regulations	5.55
Labor market regulations	5.55
Product market regulations	5.55
Soundness of Banks	16.65
Stability (Room for Maneuver)	33.30
Inflation	6.66
Unemployment rate	6.66
Government deficit/GDP	6.66
Government gross debt/GDP	6.66
Current account balance/GDP	6.66
Sources of Growth	33.30
Investment/GDP	16.65
Institutions	16.65

Source: Authors' representation.

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