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CSPS STRATEGY & POLICY JOURNAL CALL FOR PAPERS

The Centre for Strategic and Policy Studies (CSPS) was established in June 2006 with the goal of becoming Brunei Darussalam's premier think tank for national development. In addition to conducting independent policy research and analysis, CSPS aims to play an important role in disseminating new research-driven knowledge and perspectives on development issues, and promoting dialogue as a foundation for effective governance and policy making.

The CSPS Strategy and Policy Journal is an international and interdisciplinary publication devoted to the subjects of social and economic development, policy planning and sustainable development in Brunei and the region. It is our aim to publish high quality research papers and commentaries from prominent researchers and policy analysts from within the region and worldwide in a way that is accessible to both specialist and non-specialist readers.

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Productivity: The Path to Sustainable Economic Growth for Brunei

Dato Paduka Haji Ali bin Haji Apong



This is a commentary brief based on a speech delivered by Dato Paduka Haji Ali bin Haji Apong at Asia Inc's Brunei Business Forum 2012 entitled "Unlocking Productivity, Fuelling Growth" on 22 Nov 2012, Radisson Hotel, Brunei Darussalam, and also on another speech at the "FBEPS Corporate/Executive Series" on 26 October 2013, The Core, Universiti Brunei Darussalam. The paper highlights the importance of productivity in the long-term development of high-income countries. It also touches upon the role that productivity will play in the country's National Development Plan (RKN).



Keywords: *Middle income trap, Productivity, Economic Growth, Research and Innovation*

Dato Paduka Haji Ali bin Haji Apong is a Deputy Minister at the Prime Minister's Office. He is also the Chairman of the Brunei Economic Development Board and in charge of the Department of Economic Planning and Development. His previous portfolio includes serving as Permanent Secretary at the Ministry of Finance and he was also instrumental in the establishment of several finance-related organizations such as Autoriti Monetari Brunei Darussalam (AMBD), the Centre for Islamic Banking, Finance and Management (CIBFM) and the Brunei International Financial Centre (BIFC). Another one of his important achievements is the issuance of Sukuk Al-Ijarah, which is hoped to be a platform for capital markets in Brunei Darussalam. Dato Paduka Haji Ali graduated with BA (Honours) in Economics in 1983 from the University of Reading, United Kingdom. He also holds an MBA from the Imperial College of Science, Technology and Medicine, University of London, United Kingdom, and a Post Graduate Diploma in Management from the same university.

1.0 Introduction

Brunei Darussalam is a country that is blessed with a rich natural resource endowment in the form of oil and gas. This natural wealth has catapulted it into one of the richest countries in the region, if not the world.

The country has also achieved some goals in terms of its macroeconomic performance. Due to good macroeconomic and administrative policies set up by the government, the country has been enjoying relatively low rates of inflation. The exports of crude petroleum and liquefied natural gas (LNG) have benefited the economy in terms of foreign exchange reserves and sizable fiscal surpluses for most years. The country also has a high gross national saving figure of more than 50 per cent of GDP in 2009, which according to the World Bank was the third largest in the world. Consequently, the World Economic Forum has placed Brunei Darussalam first out of 148 countries in terms of the macroeconomic environment in its 2013-2014 Global Competitiveness Report, a feat that has been maintained for five successive years since 2010.

In other words, Brunei Darussalam has done remarkably well in terms of its macroeconomic stability, which includes inflation, and the fiscal and current account balance.

According to the United Nations' Millennium Development Goals (MDG) 2010 report, Brunei Darussalam has achieved most of the targets set in the eight MDG goals, perhaps an indication that our country has been successful in the inclusive development agenda.

2.0 Economic Growth

However, another equally or perhaps even more important economic variable in the development equation is economic growth. Sadly, this has not been the case for Brunei Darussalam.

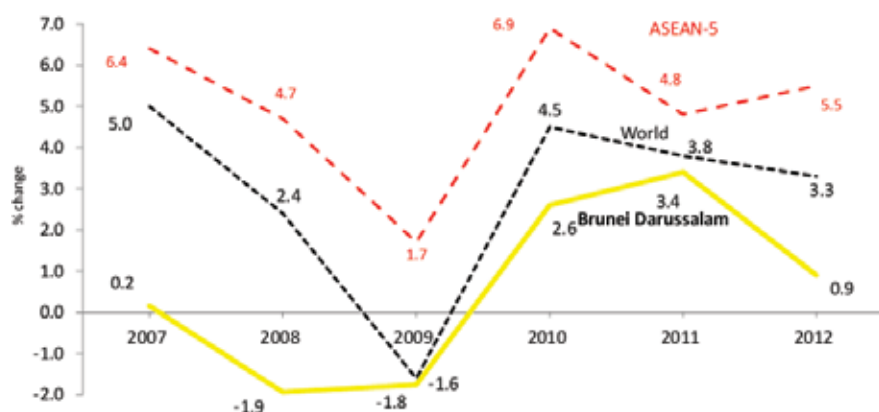
Brunei Darussalam's economy has been growing at a relatively disappointing rate compared to its neighbours. Aside from the fact that economic growth is low - with an average of 1.2 per cent per annum in the last 10 years - Brunei Darussalam's GDP has also been largely contributed by the production and export of crude oil and natural gas, which we know is not infinite in nature. The non-oil and gas sector has only managed to grow at an average rate of 3.4 per cent per annum in the last 10 years and this is not adequate in bridging the overall growth gap.

Between 2007 and 2012, Brunei Darussalam's growth performance has been consistently worse than the world average, as well as that of the ASEAN-5 economies (*Figure 1*). During the global financial crisis years of 2008 and 2009, Brunei Darussalam's economy actually contracted. This was not the case for the ASEAN-5 countries. The country's over reliance on energy demand was severely exposed by the shortfall in global credit. When the regional and global economies recovered in 2010, Brunei Darussalam's economy also bounced back but at a much modest rate.

Therefore, while other countries have enjoyed the fruits of high growth, Brunei Darussalam has been lagging behind and has missed the opportunities and potential benefits that high growth may bring, such as employment creation, the increase in income and the eventual increase in living standards.

Figure 1.

Real GDP growth rates (Brunei Darussalam vs world average and ASEAN-5)



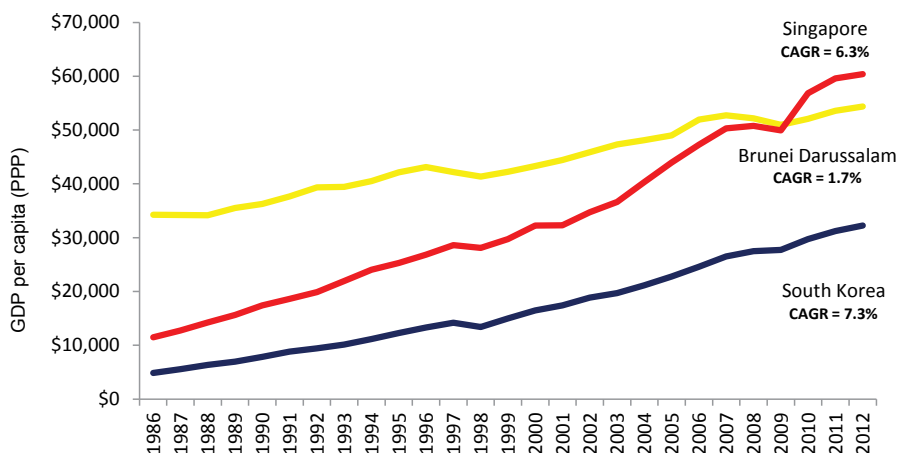
Source: IMF World Economic Outlook Database

According to the International Monetary Fund, in terms of per capita income valued at purchasing power parity, Brunei Darussalam has been placed in the top ten ever since our current GDP records have been compiled. However, this is not a reason to be resting on our laurels, particularly since other countries' per capita income trajectories have been increasing in a non-linear manner (*Figure 2*). Take South Korea for example. In 1986, its per capita income, valued at purchasing power parity was less than \$5,000. By 2012, it had grown more than six-fold to over \$32,000 or at a compound annual growth rate of 7.3 per cent. Singapore also saw its per capita income rise from over \$11,000 to more than \$60,000 or 6.3 per cent per annum. In the same period, Brunei Darussalam's per capita income also went up but at a rather moderate rate, from around \$34,000 to about

\$54,000 or just 1.7 per cent annually. In fact, of the 30 richest countries in 2012, Brunei Darussalam has the lowest per capita income growth.

Figure 2.

GDP per capita at PPP (Brunei Darussalam, Singapore and South Korea)



Source: IMF World Economic Outlook Database

If the economy continues to grow at these rates, are we going to achieve our Wawasan Goals by 2035? Would Brunei Darussalam end up amongst the world's top ten countries in terms of per capita income? In fact, according to one estimate, if the current growth trend does not improve, Brunei Darussalam would be out of the top ten by 2023. And, by 2035, Brunei Darussalam would occupy the 19th position.

The Government of His Majesty the Sultan and Yang Di-Pertuan of Brunei Darussalam recognizes the importance of improving the standard of living of every Bruneian. In order to ensure that our children would inherit a better future than that of their parents, in 2007, the government launched the national vision, Wawasan Brunei 2035.

The Wawasan Brunei 2035 comprises three main goals. By 2035, it is our wish that Brunei Darussalam would be recognized for:

- The accomplishments of its well-educated and highly skilled people;
- The quality of life;
- The dynamic and sustainable economy.

A dynamic and sustainable economy would be one that is characterised by having a vibrant export-oriented sector coupled with robust domestic demand. It is an economy that can achieve high levels of growth without trading it for alarming rates of inflation and debt. It is an economy where highly skilled jobs are created. It is an economy where no one individual in the society is left out. And perhaps most importantly, it is an economy driven by knowledge, innovation and productivity.

3.0 Productivity

In basic terms, economic growth can be generated by the combination of factor inputs i.e. capital and labour, as well as productivity. The structure of these growth contributors differs from country to country. However, according to the majority of studies, the two main drivers of growth for almost any country are capital accumulation and productivity.

The subjects of long-term growth and productivity remain central in the intellectual undertakings of many economists, from Adam Smith to Joseph Schumpeter to Robert Solow (Brue, 2000). The latter was awarded a Nobel Prize in economics for his Solow-Swan growth model. Simply put, his model explains that long-term growth is significantly related to the “Solow residual”, which comprises mainly technological progress and productivity. Other economists have picked up on his work and come up with several other theories. The main research motivation is to find out the policies and reforms that would enhance productivity both at the macro and micro levels.

Productivity is the ratio of output to input. Outputs can be GDP or physical outputs, while inputs can be capital stock, labour force, energy and intermediate inputs, i.e. raw materials. Hence, there are several productivity concepts such as labour productivity, total factor productivity and multifactor productivity. These various productivity measurements serve different purposes and are equally important. Growth in productivity simply means that more output is being produced using the same amount of input or output growing proportionately greater than growth in input.

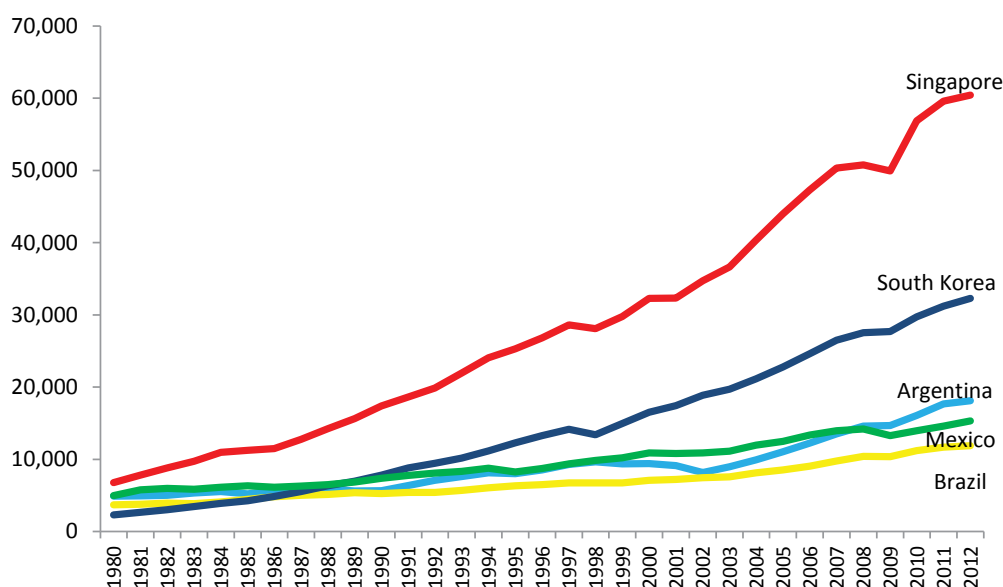
4.0 Productivity and the Middle-income Trap

Countries which record high productivity growth result in those countries enjoying high income growth, whereas countries such as the Gulf Cooperation Council (GCC) oil exporting countries tend to have low productivity growth, resulting in low income growth. What this means is that the increase in the rate of growth of productivity over a long period of time is like the compound interest rate in a bank account but on a bigger scale, as it will generate a nation's prosperity. It raises real income and hence the standard of living of the country.

Many countries have managed to overcome the low-income hurdle and successfully raised their per capita income into the middle-income range, mostly through low technology manufacturing fuelled by foreign transnational companies employing cheap domestic labour. However, they quickly lost their competitiveness due to rising production costs and overvalued currencies, symptomatic of what economists call the middle-income trap (*Figure 3*).

Figure 3.

Middle-income Trap



Source: IMF World Economic Outlook Database

It is evident from the above figure that countries like Argentina, Mexico and Brazil could be considered as falling into the middle income trap, whereas South Korea and Singapore have both managed to escape from the trap, and become high-income nations.

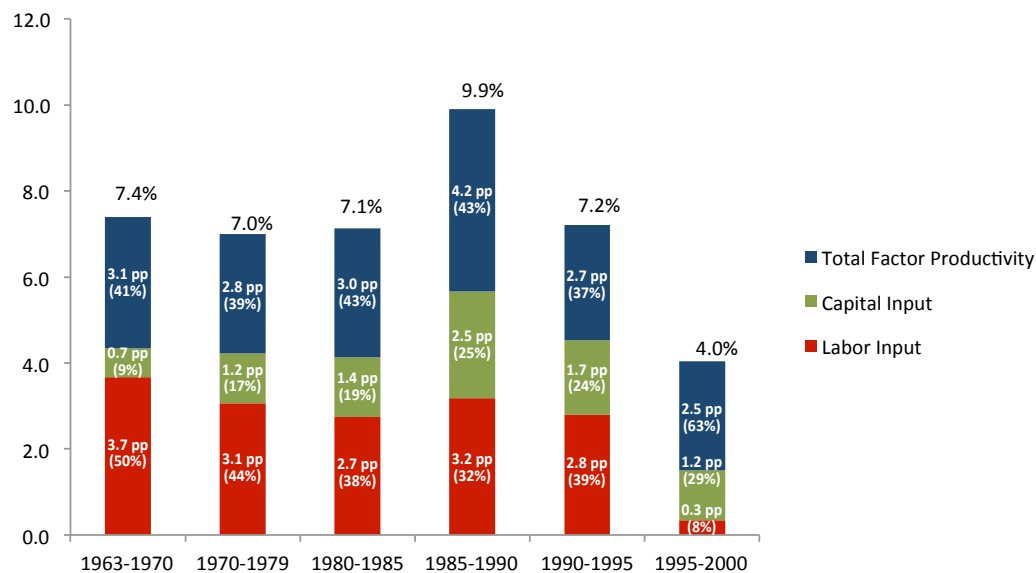
Given the exponential income growth paths of countries like South Korea and Singapore, it should come as no surprise that these two countries have been subjected to countless case studies and empirical analyses. What are their secrets? What factors contributed to these countries' economic miracle?

5.0 Productivity Contribution to Growth

One common method used by economists to disaggregate growth contributors is growth accounting. Applying this to South Korea (*Figure 4*), it was evident that productivity played a major role, especially after the country reached the middle-income country status. In the earlier stages, labour was the largest source of growth. This is perhaps not surprising as basic industrialization in South Korea was starting to find its feet.

Figure 4.

Sources of Growth (South Korea)



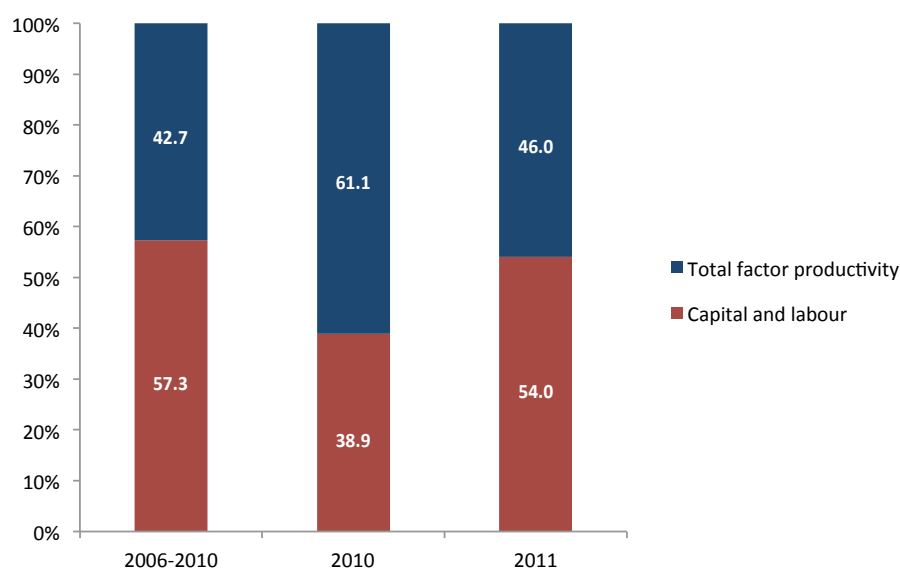
Source: Kim and Song (2012)

Between 1985 and 1990, South Korea recorded a very high average growth rate of 9.9 per cent per annum. In this period, about 43 per cent of the growth was contributed by productivity. When the South Korean economy suffered during the Asian financial crisis and its growth fell to an average of 4.0 per cent per annum between 1995 and 2000, the growth contribution of productivity was even higher, at about 63 per cent. As stated earlier, its per capita income grew six-fold in the same period. This shows the importance of productivity in the long-term development of South Korea.

In the case of Singapore (*Figure 5*), productivity contributed about 43 per cent between 2006 and 2010, when the world was facing the credit crunch and the European sovereign debt crisis. In 2011, Singapore's economy grew by about 5.2 per cent and around 46 per cent of this growth was contributed by productivity. In the previous year of 2010, the country registered an impressive growth of more than 14 per cent, out of which about 61 per cent was attributed to total factor productivity. This tiny island state which has no natural resources has managed to increase its per capita income almost 6 times in the last 30 years, all thanks to productivity.

Figure 5.

Sources of Growth (Singapore)



Sources: Malaysia's Economic Planning Unit, IMF World Economic Outlook Database and Asian Productivity Organization

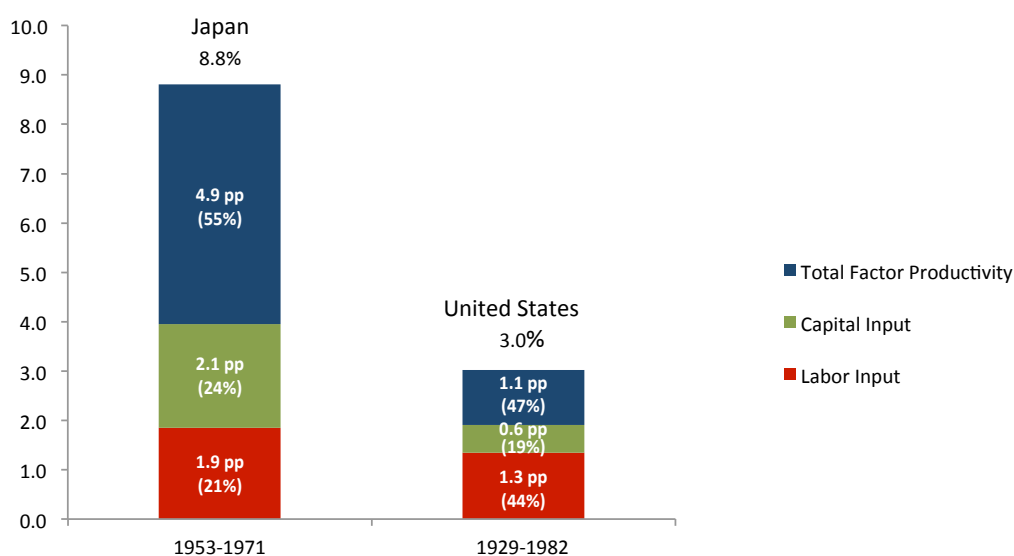
During the Budget 2010 announcement, the Singapore Government set the target of 2 to 3 per cent productivity growth over the next decade to drive 60 per cent of future GDP growth. It will also invest S\$5.5 billion over the next 5 years to increase skills, expertise and innovative capabilities of workers and businesses.

The high productivity contributions to growth in Singapore and South Korea were made possible due to the policies and structural reforms executed by their governments. Full credit must be given to the countries' economists and policy makers, who had the foresight and audacity to shift their strategies and focus more on modern manufacturing as well as high value-added services.

The two countries are not mere outliers. High-income developed economies such as the United States and Japan have also relied on productivity as the main source of their economic growth (*Figure 6*). Japan recorded an impressive average growth figure of almost nine per cent for a period of about two decades. In this period, around 55 per cent of that growth was contributed by productivity. The largest economy in the world, the United States, is another example. Between the Great Depression year of 1929 and the early phase of Reaganomics in 1982, productivity accounted for about 47 per cent of the country's growth.

Figure 6.

Sources of Growth (Japan and the United States)



Source: Kim and Song (2012)

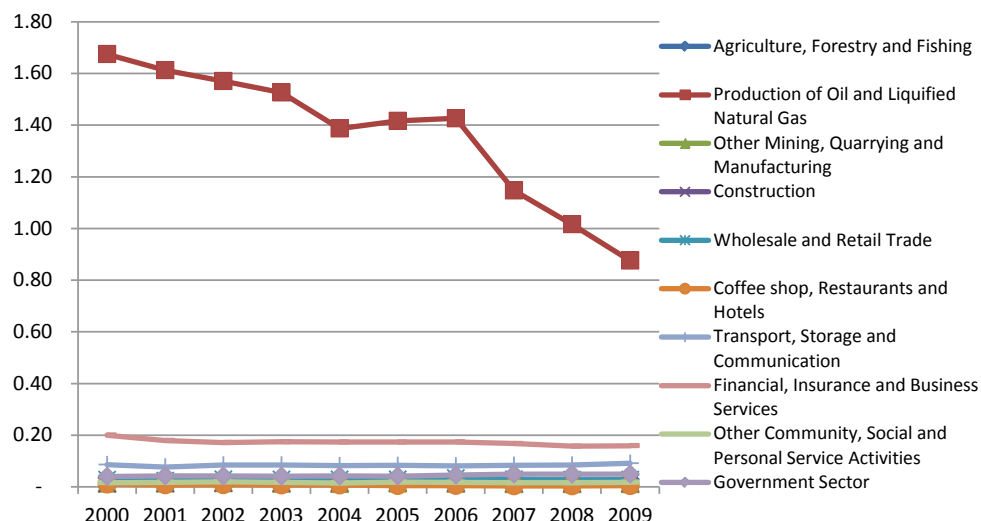
According to Brunei Darussalam's input-output table and national account statistics, the top two sectors in terms of labour productivity are Natural Gas and Crude Petroleum (*Figure 7*). However, the productivity of the oil and gas sector has been trending downwards since 2000. The second most labour productive sector is financial services. Not only has this sector's productivity been much lower than the energy industry, it has also been declining. These facts are discouraging and indicative of a country blessed, or some would say cursed, with natural resources.

Comparing the country with our regional ASEAN neighbours, the picture also looks bleak (*Figure 8*). In the last 25 years, Brunei Darussalam has been the only country in the ASEAN-6 with declining labour productivity, at a compound annual growth rate of -2.3 per cent. In

the other countries, except the Philippines, labour productivity has been growing at rather comparable rates, between 3 per cent for Indonesia and 3.7 per cent for Thailand. The Philippines has a fluctuating but rather constant labour productivity.

Figure 7.

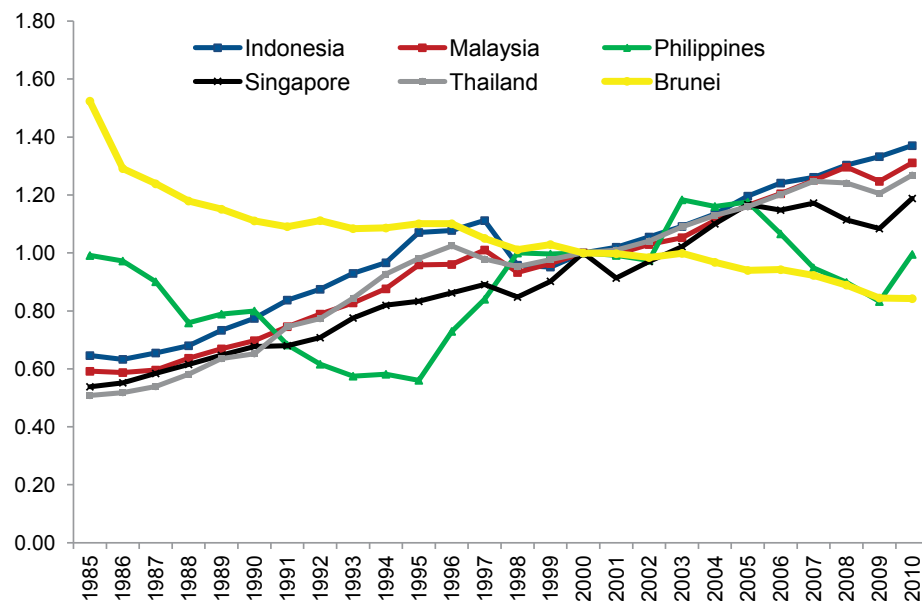
Brunei Darussalam's Labour Productivity



Source: Department of Economic Planning and Development

Figure 8.

Labour Productivity (Brunei Darussalam vs. Selected ASEAN Countries)

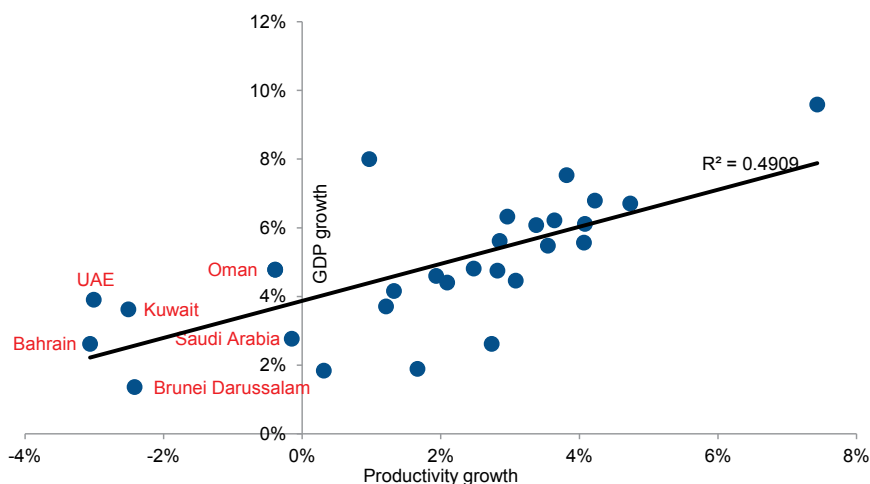


Source: CSPS (Koh Wee Chian) documents using data from APO.

The importance of productivity could also be demonstrated by using correlation analysis. Plotting a scatter plot of labour productivity growth against GDP growth would show a positive relationship (*Figure 9*).

Figure 9.

GDP Growth and Labour Productivity Growth



Source: CSPS (Koh Wee Chian) documents using data from APO.

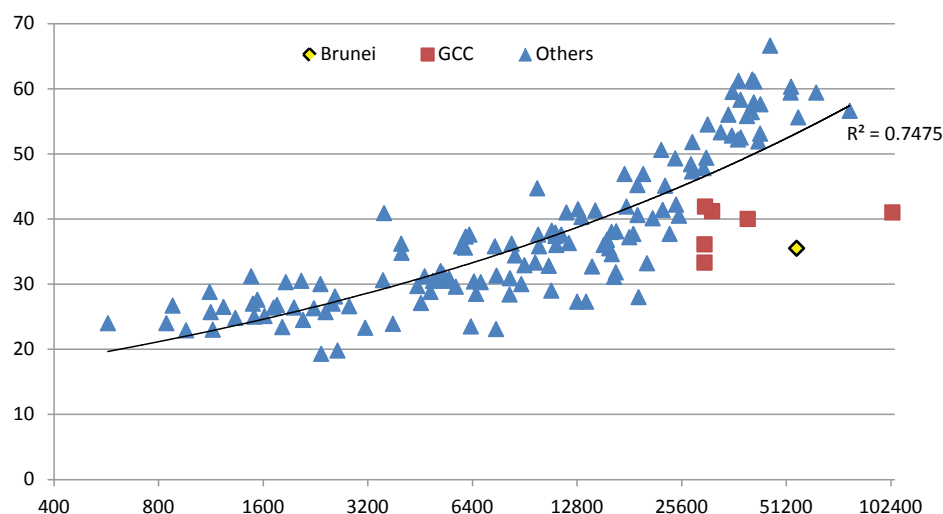
6.0 Education, Training and Innovation

Knowledge creation is one of the key dimensions to productivity. Basic and higher education are both equally important. The same goes for technical and vocational education and training. In order to increase productivity, education needs to be aligned with the skill needs of the economy.

Another main component of productivity is innovation through research and development. According to a report published by the World Bank Institute, innovation policies in developing countries must begin with “the building up of technical culture and establishing incentives to support and stimulate entrepreneurship.”

A positive result is obtained when innovation is plotted against GDP per capita (*Figure 10*). In this example, the indicator for innovation is the global innovation index scores. Brunei Darussalam, together with the GCC countries, is very much an outlier in this dataset - it is a high-income country with very low innovative accomplishments. Perhaps this is not very surprising given that the country’s wealth is principally generated from the exports of hydrocarbons.

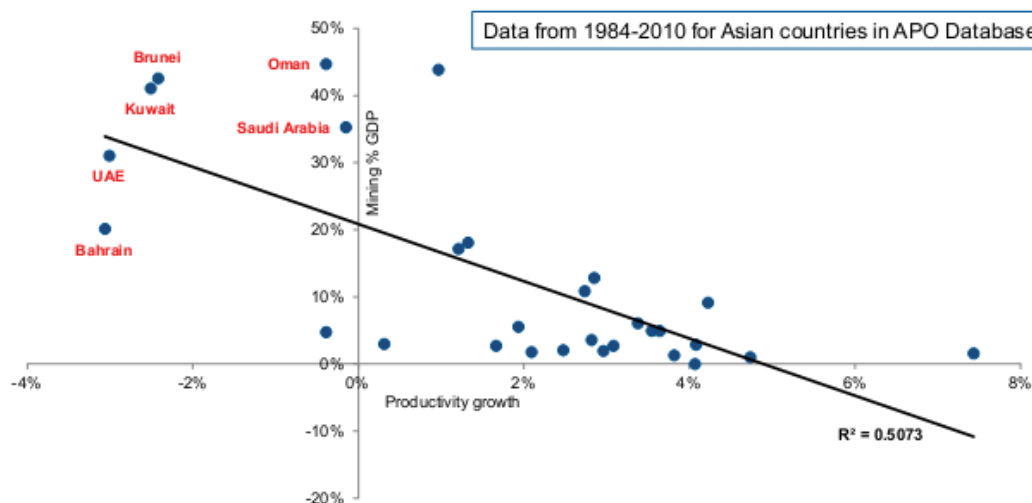
Figure 10.

GDP Per Capita at PPP and Innovation

Sources: IMF World Economic Outlook Database and Global Innovation Index 2013

It is however rather alarming to know that high dependence on mining activity is correlated with low productivity growth (Figure 11). With the exception of Qatar, the majority of mining-dependent economies have experienced declining productivity growth rates between 1984 and 2010. This is another worrying sign for Brunei Darussalam, as our oil and gas sector account for around 70 per cent of nominal GDP, higher than most oil exporting countries.

Figure 11.

Labour Productivity Growth and Mining Concentration

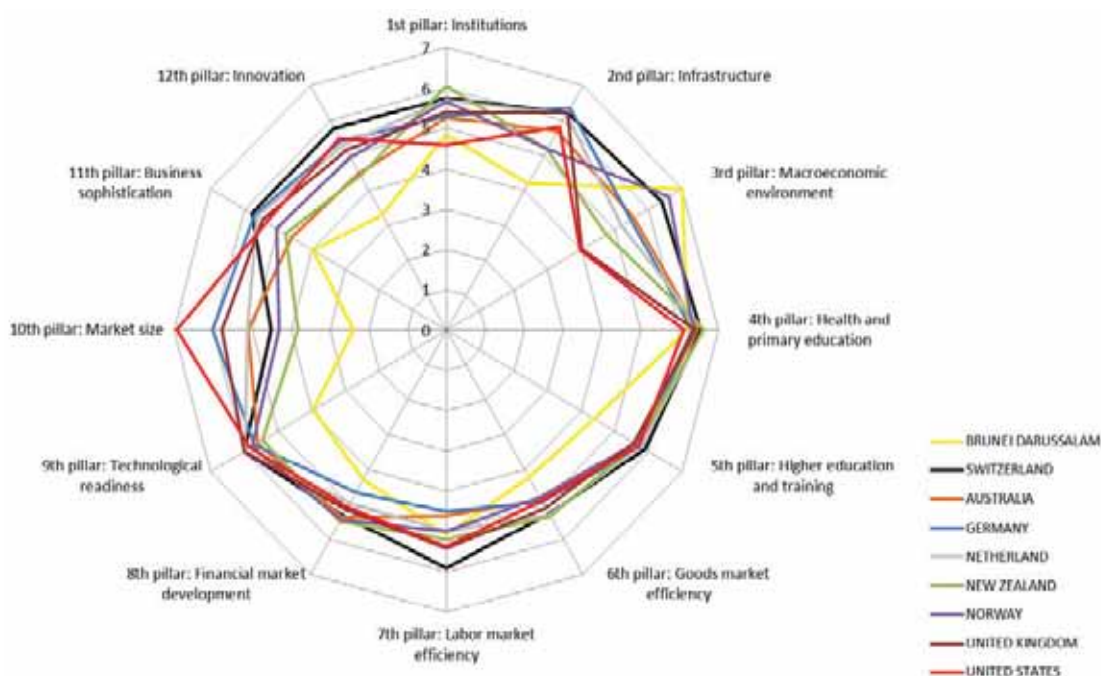
Sources: CSPS (Koh Wee Chian) documents using data from APO and UN.

The World Economic Forum's Global Competitiveness Index is one of the many indexes that highlight the significance of productivity to a country's long-term potential output growth. The Global Competitiveness Index consists of 12 pillars which include institutional quality, education, business environment and innovation.

By comparing Brunei Darussalam with a group of high-income and developed economies, it is glaringly obvious that the economy is experiencing some structural constraints (*Figure 12*). This is particularly apparent in terms of institutional capacity, infrastructure, higher education and training, financial market development, market size, business sophistication and innovation. Brunei Darussalam did perform well in two variables. The country has made some progress in terms of health and basic education and, as mentioned before, is ranked first in the world in the area of macroeconomic stability.

Figure 12.

Global Competitiveness Index 2013 (Brunei Darussalam VS Selected Developed Economies)



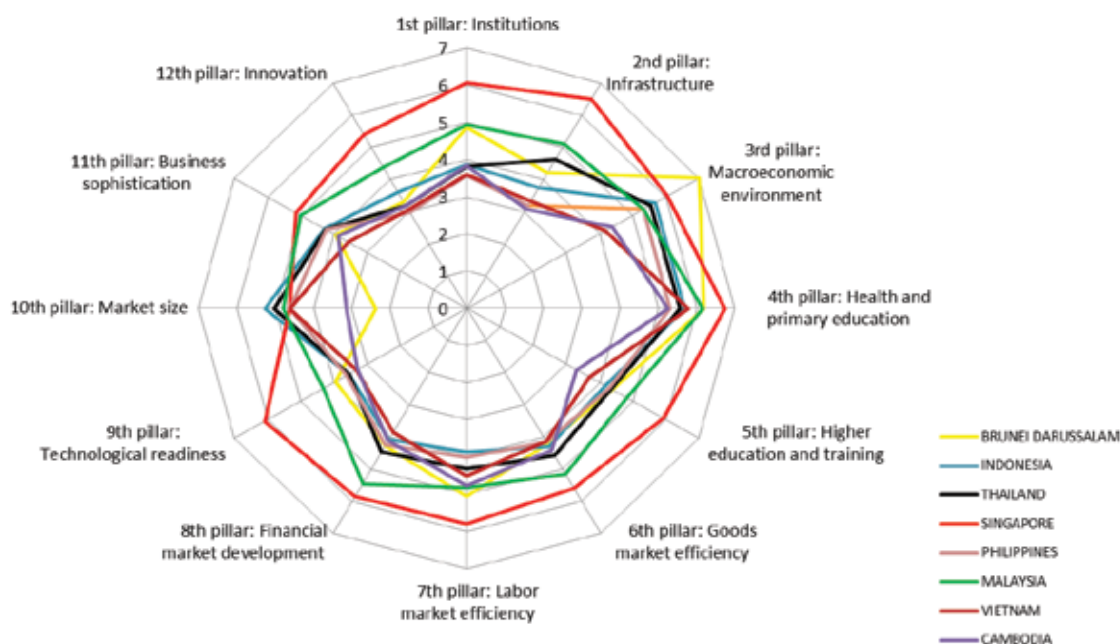
Source: World Economic Forum

In a comparison with the other ASEAN countries, the picture improves slightly (*Figure 13*). However, considering that Brunei Darussalam is the only other high-income nation in this group apart from Singapore, it would be fair to say that the country should have performed better. Malaysia, a middle-income nation, ranked higher than Brunei Darussalam in all the pillars

with the exception of macroeconomic environment, and was at par with Brunei Darussalam in health and primary education and labour market efficiency.

Figure 13.

Global Competitiveness Index 2013-2014 (Brunei Darussalam vs. Other ASEAN Economies)



Source: World Economic Forum

7.0 Productivity in Brunei Darussalam's Development Agenda

In the current National Development Plan (RKN10) book, which was officially launched on 14 April 2012, His Majesty the Sultan and Yang Di-Pertuan of Brunei Darussalam underscored the importance of productivity.

"In view of this, (slow economic growth), we have no other choice but to work even harder and to continue to increase our productivity, be it in the public, private, or independent sectors. This will not only accelerate economic growth but will also serve as a protective shield in the face of future economic crisis."

The above *titah* was preceded by His Majesty's royal address delivered on 15 July 2011 to commemorate his 65th birthday.

“Another important factor that would lead to sustainable development is the enhancement of productivity in the public and private sectors through the usage of latest technology and investment in research and development.

Through research and innovation, new ideas and thoughts can be developed. Hence, research and innovation should be the strong foundation of which to build our economy, in line with our small population size”.

In both *titahs*, His Majesty has unambiguously impressed upon us the importance of productivity in the overall national development agenda. His Majesty emphasized the significance of technology and research and development as well as innovation – all major components of continuous productivity improvement.

Due to the urgent need, RKN10 placed the utmost emphasis on productivity as depicted by its theme, “Knowledge and innovation, increase productivity, accelerate economic growth”.

Many studies have given conclusive evidence that knowledge and innovation are correlated with productivity and growth. In other words, they are among the drivers of productivity growth along with investment and competition. In turn, the driver of innovation is research and development while the driver of knowledge is education and human resource development.

And for these reasons, His Majesty has consented to a total allocation of \$250 million in RKN10 for human resource development, in addition to those funds already allocated to other agencies such as the Ministry of Education and the Public Service Department.

Through the HRD fund, the main focus would be to develop the skills and expertise of the labour force not only in the public sector but also the private sector according to the skill needs of the economy.

The government has also established the Brunei Research Council, the main objective of which is to coordinate and provide funds for research and development activities in the country. The focus is to encourage those research activities that have potential to be commercialised. A number of research clusters have been identified, such as energy, sustainable environment, health care and health sciences, ICT and automation, and food security. For this purpose, His Majesty has consented to a total allocation of \$200 million in RKN10.

8.0 Conclusion

The topic of productivity is not something that was widely discussed previously either in the corridors of power or in the market place. That has now changed. His Majesty has explicitly stressed the significance of productivity to the country's long-term prosperity.

As mentioned earlier, countless studies have shown that productivity growth accounts for up to 60 per cent of the economic growth in some successful countries like Singapore and South Korea and consequently has enabled them to escape the middle income trap phenomenon. And key to continuous productivity improvement, or avoiding the middle income trap, is knowledge and innovation, which includes effective education and training programmes, the increase in research and development activities in both pure and applied research, as well as the rise of a more progressive and globally minded entrepreneurship culture amongst the people.

Productivity is not something that is abstract, nor is it an ideal. It is something that has been empirically proven and supported by economic policy makers. It also requires the germination of ideas, complemented by a resolute workforce and sound government policies. The road to sustained economic prosperity ahead of us is without a doubt a challenging one. Therefore, the onus is on all of us to pick up the proverbial gauntlet and rise to that challenge.

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ASEAN: Review of the Recent Past and Implications for Next Stage¹

Pushpa Thambipillai



This is a commentary on current developments in ASEAN. It is particularly apt as Brunei Darussalam chairs ASEAN in 2013. In ASEAN's regional process, the role of the Chair is just as significant as the collective role of all the members in realising the goals of an ASEAN Community. The paper reviews the challenges and accomplishments of the recent past, especially of 2012 and provides some insight into the intra-regional and extra-regional issues that the Association is likely to address in the current and coming years.



Pushpa Thambipillai was a Senior Lecturer at the Faculty of Business, Economics and Policy Studies, Universiti Brunei Darussalam, where she taught courses in Politics and International Relations. She is currently an Associate Fellow at the Institute of Southeast Asian Studies (ISEAS), Singapore and an Adjunct Fellow at the East West Center, Hawaii. Her teaching and research interests include regional/international organisations and ASEAN external relations. She is a Malaysian and graduated from Universiti Sains Malaysia, Penang with a B. Soc. Sc. (Hons) and M. Soc. Sc. Her MA and PhD (Political Science/International Relations) are from the University of Hawaii.

¹ This commentary was prepared prior to the hosting of the 23rd Asean Summit 2013 by Brunei Darussalam.

1.0 Introduction

Brunei Darussalam is the ASEAN Chair in 2013 as the ten-member association moves into its 46th year of cooperation for regional peace and economic development. Unity and progress towards the group's common goals have become the priority. Just a year ago, ASEAN faced an eventful 45th year in 2012. Developments in the intra-regional sphere were periodically eclipsed by public attention on the association's extra regional issues. ASEAN appeared to be at the mercy of its own externally oriented interests even as questions were being raised about its future directions and the slow crawl towards an ASEAN Community in 2015.

This commentary reviews some of the challenges and accomplishments that ASEAN experienced in 2012 and reflects on the issues that the subsequent years may face. The immediate past also witnessed the increasing attention of the ten members' relationship with the U.S. and China and the prominence of the South China Sea issue. These are included in the discussions on: Cambodia and ASEAN chairmanship; assessment of the community building processes; dialogue partner relationships; regional institution building; developments at the Secretariat and the transition into Brunei Darussalam's role as current Chair.

2.0 The Year of Cambodia's Chairmanship

Cambodia completed its responsibilities as Chair in December 2012, steering ASEAN through several meetings and issue areas, some more contentious than others. One event though left a strong impression during 2012 and raised questions regarding ASEAN's unity and decision-making mores. Although the Chair of ASEAN is rotated amongst the members and almost every member (except Myanmar) has had its share of the spotlight, 2012 can be remembered as the year of the Cambodian chairmanship. It appeared to be more what was missed than what was achieved that stood out by the time its chairmanship concluded. As the largest and most active ASEAN member, Indonesia had successfully completed its chairmanship the previous year; thus Cambodia's chairmanship provided a contrast from various standpoints, not just in geographical size and leadership but also in its management of ASEAN's position on certain issues. Cambodia as the last of the four additional members (it joined in 1999) had previously held the Chair ten years earlier in 2002. That was prior to the Bali Concord II (2003) that set the stage for an ASEAN community and long before the grouping's Charter (2008) that set guidelines on the specifics of regional structures and processes. Under the Charter, each member would hold the chairmanship and host major meetings during a calendar year; it also confirmed the holding of two summits per year, with the later one engaging

the leaders of external partners. As the Chair for 2012, Cambodia selected the theme ‘ASEAN: One Community, One Destiny’, for the 20th and 21st summits. It successfully hosted the 20th Summit of the ten ASEAN leaders and related meetings in April 2012. It was also the occasion to observe the 45th anniversary of ASEAN².

Cambodia’s year of chairmanship also coincided with an unusually high number of troubling incidents over competing territorial claims in the South China Sea (SCS). 2012 saw in particular China and two of the four claimants,³ Vietnam and the Philippines, pitted against each other. China on the one hand grew more assertive in its claims over the Sea; the claimant parties on the other felt provoked and responded beyond polite diplomatic rebuttals. Notable (verbal) responses were the President and Foreign Secretary of the Philippines and other non-governmental groups, especially in Vietnam. It also did not help the geopolitical quagmire when the United States, refocusing its interests towards the Asia Pacific region, continued to publicly express concern over developments in the SCS. The then US Secretary of State, Hillary Clinton, on more than one occasion, reiterated that the South China Sea was an international waterway and thus its freedom of navigation was paramount to all trading nations, alluding to the fact that China should not exercise a domineering role in the SCS.

Thus the SCS continued to be a focus of contention as the foreign ministers met for their annual ministerial meeting (AMM) in July/August 2012. The ASEAN Chair, Cambodia, as a non-claimant, missed the opportunity to demonstrate its neutral stand while encouraging fruitful discussions. The AMM could not arrive at an agreeable position on the South China Sea in its annual communiqué, specifically on the issue of including reference to incidents around the Scarborough Shoal that was contested by China and the Philippines. Thus, despite the fact that the ministerial meetings had covered several other areas of regional cooperation in the first six months of that year, they were unable to issue their yearly end-of-meeting communiqué, due to disagreements over what to include/exclude, as the Chair would not agree to an acceptable version. It was the first time in ASEAN’s history since it started holding its foreign ministers’ meeting in 1968 that the AMM failed to issue a communiqué.⁴

² See the Chairman’s Statement of the 20th ASEAN Summit, Phnom Penh, 3-4 April, 2012; www.asean.org.

³ The four claimants, Brunei, Malaysia, the Philippines and Vietnam, claim various parts of the South China Sea, largely in accordance with international law stipulations and EEZ applications. China, however lays claim to most of the South China Sea, to just north of the Natuna Islands, citing historical arguments.

A vast amount of literature on the issue since it first surfaced in the 1970s is available and will not be specifically cited here.

⁴ Several media reports and critical articles are available on the particular issue. See, for example, reports in *The Straits Times*, July 14, 2012; Tan Seng Chye, “Asean failure to agree is a wake-up call”, *The Straits Times*, July 17, 2012; Kavi Chongkittavorn, “When Asean lost its united voice”, *The Straits Times*, July 18, 2012; Sabam Siagan, “The un-ASEAN way of treating unresolved issues” www.thejakartapost.com/news/2012/07/16; Rizal Sukma, “Insight: Without unity, no centrality”, www.thejakartapost.com/news/2012/07/17; SBY-wants-more-talks-after-ASEAN-failure; Tommy Koh, “ASEAN up to tackling the sixth challenge”, *The Straits Times*, 1 September 2012. Professor Koh raised six challenges. The sixth was whether ASEAN will survive from the set-back in Cambodia and remain united on the South China Sea issue.

Cambodia was accused of being influenced by its ally China in refusing to make reference to the specific incidents in the South China Sea⁵. Some Foreign Ministers, for example those of Indonesia and Singapore, expressed distress at the turn of events. Two days after the AMM, it was the Indonesian President Susilo Bambang Yudhoyono, disturbed by the regional state of affairs, who instructed his Foreign Minister, Marty Natalegawa, to consult with his ASEAN counterparts. Subsequently a short but conciliatory statement on the SCS was issued by the foreign ministers in lieu of the absent communiqué⁶.

The rest of Cambodia's tenure as Chair did not stir up as much controversy. A Regional Code of Conduct for parties in the South China Sea continued to be discussed as it failed to make any progress at the year-end Summit. That Summit fortunately was held with great skill and showmanship by Cambodia, hosting the leaders of ASEAN and its eight partners, including the freshly re-elected President Barack Obama, who had also attended the East Asia Summit (EAS) in Bali in 2011⁷.

3.0 Major Summit Outcomes of 2012

While ASEAN member states and the secretariat host over 700 regional meetings per year, it is the major meetings like the Foreign Ministers', Economic Ministers' and Heads of Government meetings that generate interest and significant outputs – galvanized from the numerous working meetings of their senior officials and other stakeholders throughout the year. For 2012, a number of declarations stand out, one of which was the much awaited ASEAN Human Rights Declaration that had seen various earlier versions and which was finally issued at the Leaders' Summit in Cambodia in November 2012. The issue of human rights has been a volatile subject in most of the member states and the framers of the 2008 ASEAN Charter had left it to another institution, the ASEAN Intergovernmental Commission on Human Rights (AICHR), to prepare a regionally acceptable document. Under the

⁵ For a detailed analysis on the issue, see Carlyle A. Thayer, "ASEAN's Code of Conduct in the South China Sea: A Litmus Test for Community-Building?" in *The Asia-Pacific Journal*, Vol. 10, Issue 34, No 4, August 20, 2012.

⁶ Subsequently, with the agreement of all the ASEAN Foreign Ministers, a short statement was issued through the Chair on 20 July 2012. It limits its discussion to the South China Sea. See 'Statement of ASEAN Foreign Ministers on ASEAN's Six-Point Principles on the South China Sea' calling for a peaceful settlement of the disputes and for a new regional code of conduct in the South China Sea. www.assean.org/documents/AFMs If all parties agree to the details, the Code may be issued in 2013.

⁷ There was much enthusiasm for the support shown by the President's presence that had also taken him on official visits to his ally Thailand and to the newly established bilateral partner, Myanmar, a crucial ASEAN member that is preparing to chair the Association in 2014. Commenting on the President's visit to Thailand, Ben Rhodes, the Deputy U.S. National Security Advisor, told reporters on Air Force One: "We felt it was important to begin this trip by visiting a U.S. ally. Allies are the cornerstone of our rebalancing effort in Asia". See www.bloomberg.com/news/2012-11-17.

circumstances where the subject matter is a closely guarded governmental prerogative, (and not even instituted as a national agency in some member states), it proved the admirable rigor of the appointed representatives that they could arrive at a collective document that could gain the support of all governments. The Declaration calls for cooperation among member states in the promotion and protection of human rights and fundamental freedoms through national, regional and international institutions. Some critics have raised doubts as regards its applicability. Nevertheless, as a political declaration with the thumbprints of the ten leaders, it can be held up as a reference point and as a document of ‘faith’ on work which is still in progress.

Another declaration at the 21st Summit that set the stage for the coming years was the Joint Declaration on the Launch of Negotiations for the Regional Comprehensive Economic Partnership (RCEP). The RCEP initiative had actually begun in 2011. It involved discussions on economic partnership between the ASEAN 10 and its six FTA partners (China, Japan, South Korea, India, Australia and New Zealand) that would eventually create a free trade area and integrate the economies of ASEAN and the Pacific area. Formal negotiations began in early 2013 and are expected to conclude by the end of 2015, guided by the ‘Principles and Objectives for Negotiating the RCEP’ as decided by the ASEAN Economic Ministers (AEM) in August 2012.

The 21st Summit also officially launched the ASEAN Institute for Peace and Reconciliation (AIPR), which had been discussed earlier at the Bali Summit in 2011, and is expected to be in operation in 2013. No further details other than the fact that it was to be a non-governmental agency were available. Another item in the statement referred to the ASEAN Security Outlook (ASO), which would also appear in 2013. Together they are expected to contribute to the understanding and management of critical issues in peace and security in an integrating ASEAN community.

4.0 The Three Pillars of Community Building

The year 2015 is etched as an important milestone in ASEAN regionalism. However there is still debate on its actual significance; does it connote a stage of arrival or is it the beginning of a process towards community building? Critics are in favour of the latter arguing that a process is more acceptable as a means towards a goal. Related to the looming date, the ASEAN Summit in November 2012, through the Chairman’s Statement stated that “the date of the

realization of the ASEAN Community would be on 31st December 2015". It did not add any further clarification, probably inferring that an extra time frame was necessary for the process to achieve its goals.⁸

Each of the three areas of regional community building programmes has thus far proceeded according to each Pillar's prescribed blueprint. The ASEAN Political-Security Community (APSC) was often in the news in 2012 for both community building initiatives as well as for troubling intra-regional bilateral relations. Some of the problems included, for instance, the ongoing 'maid' issue between Indonesia and Malaysia, with both governments having promised to censure their own foreign labour agencies that ignored established hiring regulations; in addition, employers were also taken to task for improper treatment of their workers. While inconclusive border claims affect some of the member states, for example between Cambodia and Thailand, the year did not register intra-regional violence over conflicting land or maritime borders.⁹ The APSC Roadmap adopted by the leaders in 2009 proposes to achieve its goals of intra-regional peace and political security set for 2015 irrespective of irritants that may occur sporadically at the bilateral level. As past experience has shown, ASEAN lets bilateral issues be settled by the parties concerned; it is rare that the ASEAN leaders adopt a collective stand on fellow members' issues, despite the fact that the Charter provides for such action.

The core institution of the APSC is the ASEAN Ministerial Meeting (AMM). The forty- fifth AMM in Cambodia in July 2012 saw more achievements other than the one major impasse over the communiqué that left the AMM in disarray (as pointed out earlier). The yearly meetings of the ASEAN Regional Forum, the Post Ministerial Conference with dialogue partners, the ASEAN Plus Three Foreign Ministers Meeting, the Second EAS Foreign Ministers Meeting and the Meeting of the SEANWFZ Commission kept the week-long AMM busy. In addition, the ASEAN Foreign Ministers also met with the ASEAN Inter-governmental Commission on Human Rights (AICHR) to review its proposed declaration that would later be released during the 21st Summit in November.

Security and defence cooperation was pursued on both a dyadic and group basis with exchanges of leadership visits, military exercises, both field and table-top. Intra-regional peace and stability focused on issues in the adjacent areas, specifically the maritime and land border regions that centred on transnational and non-traditional issues of terrorism, human and drug

⁸ Details on the 21st meeting and related statements are found at www.asean.org/news/item/twentyfirst-asean-summit-phnom-penh.

⁹ Since the end of 2011, when both parties were forced to accept a demilitarized zone around the Preah Vihear temple and contested land, imposed by the Security Council, there have been no reported clashes. Both parties are preparing to present their cases to the International Court of Justice in 2013.

trafficking and illegal immigration. The ASEAN Defence Ministers Meeting (ADMM) since its inception in 2006 has become an important institution for defence and security cooperation. In addition, the ADMM has included cooperation in humanitarian assistance and disaster relief in its regional agenda. The 6th ADMM met in Cambodia in May 2012 for its annual review of defence and security matters. The ministers backed the Indonesia-Thailand co-hosted 1st meeting on the 'Establishment of ASEAN Peacekeeping Centres Network' (held in June 2012 in Bangkok). The ADMM also supported the adoption of a regional Code of Conduct in the South China Sea and emphasized the importance of the freedom of navigation of the waters.¹⁰ The next ADMM and the 2nd ADMM Plus (incorporating the defence ministers from Australia, China, India, Japan, New Zealand, Russia, South Korea and the US) will be held in Brunei Darussalam in May and August 2013 respectively. The member states agreed to hold the First ADMM Plus HADR/Military Medicine Exercise in Brunei in June 2013 in conjunction with the Second ASEAN Militaries HADR (Humanitarian Assistance and Disaster Relief) Exercise¹¹. In the political-security community building attempts, there was progress in several areas under the purview of varying ministers, besides the foreign, defence, law and home ministers.

Efforts regarding the economic pillar appear stronger than the others, partly due to the consistent attempts made by the various sectors in that field and partly because of its nature: results can be visible and quantifiable. The Economic Blueprint (for 2008-2015) is monitored through the AEC Scorecard (at regular intervals), which tracks the implementation of agreements at the national level, so that both the region and member states can be assessed if they are on track for 2015. In fact, when the ASEAN 2015 target is mentioned, some observers feel it is the economic integration that is referred to. According to the Chairman's Statement at the 21st ASEAN Summit, the implementation rate of the AEC Blueprint is 74.5%. The ASEAN Economic Community (AEC) is being built on a complex foundation that includes such sectors as trade, investment, energy, transportation, agriculture and tourism. The ASEAN Economic Ministers as coordinators overview the outcomes under the rubric of the AEC Council which met for the 8th AEC and the 44th AEM in Siem Reap in August 2012. A large number of issues were addressed under the AEC's own four pillars of integration: single market and production base, competitive economic regions, narrowing the development gap and integration into the global economy via its dialogue partners (including the launch of RCEP negotiations). While it was generally acknowledged that there were many areas to 'catch-up' in view of the fast

¹⁰ See "The Joint Declaration of the ASEAN Defence Ministers on Enhancing ASEAN Unity for a Harmonised and Secure Community" Phnom Penh, May 29, 2012. From: www.asean.org.

¹¹ The ADMM-Plus has established Experts' Working Groups (EWG) in five areas of cooperation: counter- terrorism, humanitarian assistance and disaster relief, maritime security, military medicine and peacekeeping operations.

approaching 2015 deadline, it is commendable that the group agreed to prioritize the AEC measures and aim for realistic targets by 2015. Measures that needed emphasis were those that impacted markets, like non-tariff measures, investment regimes, services, customs and transportation. The AEM has also given a much needed boost by promoting interaction with the private sector, SMEs and other stakeholders in the economy. The oft heard complaints from business groups, particularly smaller enterprises, was that they had been largely ignored or sidelined in favour of public sector negotiations that often took either a national perspective or at most benefitted the bigger players. The ASEAN Integration Monitoring Office at the ASEAN Secretariat was also tasked to strengthen its monitoring. A call for increased political commitment is timely, given that there are still bottlenecks at this 'late' stage in regional integration; they impinge on ratification of agreements in customs, transport and domestic laws consistent with regional initiatives. Non-tariff barriers that obstructed commercial interactions were also another recurrent issue; it was pointed out that such measures needed to be made more transparent by practicing member states.

'Connectivity' was a major theme throughout the year as its implementation (with a major role for the private sector) strengthens the integration process at various levels through linkages in the air, land, sea and telecommunication/digital infrastructure.¹² The Master Plan on ASEAN Connectivity had been adopted at the 17th Summit in Hanoi in October 2010 to facilitate inter and intra-regional linkages and to reduce the rural-urban gap within and between member states. This would ensure that the community building process could reach out to people, be they living in the cities, highlands or in the dispersed archipelagic regions. The implementation of some of the 15 priority projects was underway with the support of dialogue partners, other external agencies and the private sector through resource mobilization and capacity building.¹³

The ASEAN Socio-Cultural Community (ASCC) is perhaps the closest to the peoples of the region as it hopes to integrate the region through people-oriented activities in culture, arts, education, environment, labour, women and youth – in line with ASEAN's One Vision, One Identity, One Community. Yet it is also the hardest to measure in its achievements as it deals with a number of broadly selected issue areas. One of its core leading areas comes from the ASEAN Ministers Responsible for Culture and the Arts. The various projects and programmes over the decades have helped in raising awareness amongst the diverse populations of the ten member states. The COCI

¹² For instance, in an effort to improve air navigation systems, the 18th ASEAN Transport Ministers' Meeting and the ASEAN Dialogue Partners Ministers Meeting was held in November in Bali, 2012. See *The Borneo Bulletin*, December 1, 2012.

¹³ The projects, among others, included: the Completion of the ASEAN Highway Network, the Singapore-Kunming Railway Link and the Easing of Visa Requirements for ASEAN Nationals.

Source: www.asean.org/asean-secretariat-news/item/asean-connectivity.

(Committee on Culture and Information) with representatives from various public agencies has been promoting intra-regional understanding and appreciation of the arts and other practices of populations of indigenous and immigrant-based cultures. Residents in the urban areas and those engaged in the education sectors may easily identify the cultural features; however, there will always be a larger segment of the Southeast Asian societies to whom ASEAN is a mere public catchword if they watch programmes on their local television at all, where subsistence livelihood is the ultimate preoccupation and not what happens beyond their borders. The ASCC has identified rural development, poverty eradication and social welfare as a means to integrate the disparate communities. However, that has to be successfully coordinated with national level programmes before a region-wide result can be expected. The Initiative on ASEAN Integration (IAI) with the support of some Dialogue Partners aims to reduce the gap between the developed and less developed members of the grouping. In an effort to promote the socio-cultural community across a wider cross section, the year saw more visible programmes involving ASEAN's youth and civil society organizations.

Perhaps one area that would be 'visible' especially to the 'common folk' at times of crises is ASEAN's collective approach during natural disasters. The ASEAN Coordinating Centre for Humanitarian Assistance on Disaster Management (AHA Centre) was set up in Jakarta in November 2011. The first meeting of the Conference of the Parties to the ASEAN Agreement on Disaster Management and Emergency Response was held in Jakarta in March 2012 to discuss the operational details. On AHA's anniversary in 2012, a Disaster Emergency Logistic System for ASEAN was launched at the Royal Malaysian Air Force (RMAF) Base in Subang, Malaysia, an initiative under the Japanese government-supported Japan-ASEAN Integrated Fund.¹⁴ The AHA coordinates with the other nationally established disaster management organizations for rapid assistance and aid delivery. The national organizations in most of the member states have in the past year strengthened their human and institutional capacities through international cooperation and training to better manage their national disaster relief. Where possible they assist their ASEAN counterparts during disasters. The Philippines and Indonesia faced severe natural disasters that received assistance from their neighbours. It has not only brought states together at the operational level but some of the ASEAN governments and peoples have also promoted the spirit of 'ASEANness' through community donations.

¹⁴ Information as given in www.asean.org/news/asean-secretariatnews (posted on December 10, 2012).

5.0 External Affairs

It was an active year for extra-ASEAN partnerships; in fact the external dimension was a major preoccupation, as the earlier section has indicated. At the broader level ASEAN-China relations were on a positive plane. At the economic, political and socio-cultural levels China's recently adopted 'soft power' approach has gained ground with various partner states. In keeping with its earlier announcement of November 2011, China inaugurated its new ambassadorial representation to ASEAN in Jakarta in September 2012¹⁵. China's resident ambassador and officials are expected to promote further the strong ties between ASEAN and China. China has already emerged as the largest ASEAN trading partner for the last two years (according to ASEAN Statistics)¹⁶. With the ASEAN China Free Trade Area (ACFTA) in force since 2010, China is expected to remain as a durable trading and investment partner. The 15th ASEAN China Summit in November 2012 further elaborated on the relationship, even giving special recognition to the 10th Anniversary of the Declaration on the Conduct of Parties in the South China Sea – an issue that continues to cause apprehension among some ASEAN members and China. At the 3rd ASEAN Maritime Forum held in Manila, it was announced that China had set up a China ASEAN Cooperation Fund with an offer of US\$474 million.¹⁷ It was reported that the fund would support joint maritime scientific research, connectivity and navigation safety.¹⁸ But tensions were again raised when China announced in early December its new maritime regulations under which it would stop and check any vessel that entered its territorial waters in the disputed South China Sea.¹⁹ However, it was not clear where the demarcations of China's waters would actually be or the legality of its operation under international law. Despite the continuity of nagging maritime territorial disputes, the ASEAN-China relationship is in for a long and inseparable ride given its strong economic linkages.

China, Japan and South Korea have become the strongest economic partners of ASEAN, through the ASEAN Plus Three (APT) and more recently through the East Asia Summit (EAS). However, the APT has appeared less significant lately as a result of various domestic concerns within the Northeast Asia partners, the interests in forging a potential regional economic arrangement amongst themselves – though still in a preliminary stage – and in the policy orientations as a result of leadership change in all three. China had already appointed its new CCP leadership in November 2011 while the presidential change saw President Xi

¹⁵ *The Straits Times*, September, 29, 2012.

¹⁶ See Table 19, "ASEAN Trade by selected partner country, 2011, as of November 2012". From: www.asean.org/news/item/external-trade-statistics

¹⁷ See www.philstar.com (October 6, 2012).

¹⁸ *The Borneo Bulletin*, December 1, 2012.

¹⁹ www.todayonline.com (December 1, 2012).

Jinping assume the leadership in early 2013. In Japan, the Liberal Democratic Party's win in December ensured that Shinzo Abe re-emerged as the Prime Minister in January 2013. Even though previous LDP-led governments have had active ties with ASEAN, it is left to be seen if any new regional policies are adopted when Japan's economic performance improves in the coming years. Premier Abe had shown mixed reactions towards the Trans Pacific Partnership (TPP) negotiations which his predecessor, Yoshiko Noda, was interested in. Abe has meanwhile indicated interest in forging good ties with China. He is quoted as saying "China is indispensable for Japan's economic growth; it is necessary for the development of Asian countries that Japan and China maintain good relations."²⁰ Nevertheless, Japan is not expected to ignore ASEAN as an ASEAN Commemorative Summit is to be jointly hosted by ASEAN and Japan in Tokyo in December 2013. In the meantime, South Korea has elected a new President, Park Geun-Hye. Although she is from the same ruling party as her predecessor, it is significant that a woman leader, the daughter of the late President Park Chung-Hee, has taken on the post for the first time, raising questions as to whether she will be more inward looking and focus on the 2 Koreas issue and her immediate neighbours (China and Japan) or pursue linkages with Southeast Asia. ASEAN will thus be keenly observing the policy directions coming from the three new leaders.

The United States engagement with the region was evident throughout the year and especially during the November Summit. In the 2012 EAS Summit in Cambodia, the United States, as in the previous year, had a prominent presence with the attendance of President Barack Obama. Thus for any detractors who had doubted the US role, the US made it clear that it was serious about its continued presence in the region and as a strong partner of ASEAN, capping it with a first presidential visit to Cambodia and to the recently established diplomatic partner, Myanmar. It was not only the presidential presence in November, there was also a meeting of the then US Defence Secretary Leon Panetta in Cambodia earlier in the month with the ten defence ministers from ASEAN²¹. It was reported that the informal meeting of the American and ASEAN ministers would boost the US military ties with ASEAN. The US is expected to participate in three ADMM Plus exercises in 2013: a humanitarian and disaster relief exercise in Brunei, a counter terrorism exercise in Indonesia, co-sponsored by the US and Indonesia, and a maritime security exercise co-chaired by Malaysia and Australia²². The then US Secretary of State Hillary Clinton's swing through the region, stopping in Brunei and Singapore among others, her third visit to Asia within the year, was supportive of the US's very visible 'tilt' or as some refer to it 'rebalance' towards the Asia Pacific. At a broad policy

²⁰ See the editorial, "Shinzo Abe brings some worthwhile change to Japan" in www.theglobeandmail.com (December 18, 2012).

²¹ *New Straits Times*, November 17, 2012.

²² See *The Borneo Bulletin*, November 17, 2012.

speech in Singapore, Clinton expounded the US's impending focus on economic interests and on economic leadership with the help of its diplomats based in more than 270 embassies and consulates worldwide so that it would not lag behind other global powers.²³

In the tussle for political, economic and 'soft' power in the Asia Pacific, the US-China part competition, part collaboration, will definitely be to the advantage of ASEAN, which will not have to choose between one or the other, and especially with widening recognition that ASEAN will remain at the core of the East Asia Summit or whatever name it adopts for a related community. The US has yet to strengthen its economic ties at the multilateral level with ASEAN (besides its FTA with Singapore) while pursuing its TPP interests.²⁴ It has made it clear that in political and military matters, especially where it relates to the South China Sea, it prefers to see a multilateral approach to solving territorial disputes and therefore supports ASEAN's collective role in seeking a negotiated solution.²⁵

Australia, an old friend of ASEAN and its first Dialogue Partner, released its White Paper, 'Australia in the Asian Century.' Stressing that friendly relations with both the US and China would be in Australia's best interests, the Paper also recommends developing stronger ties with ASEAN and the East Asia Summit.²⁶ Prime Minister Julia Gillard's predecessor, Kevin Rudd, a proponent of some form of Asia Pacific Community acknowledged the core status of ASEAN within such a structure when he delivered his insights into the new regional architecture at a conference in Singapore.²⁷ Over the years Australia has also supported efforts in addressing people smuggling and other transnational issues, and in supporting development-oriented programmes for the developing member states. Together with New Zealand, the ASEAN-Australia-New Zealand Free Trade Area (AANZFTA) that came into force in 2009 has boosted the economic linkages, while both are also parties to the proposed RCEP.

²³ Refer to Hillary Clinton's speech given at the Singapore Management University on 17 November, 2012. *The Sunday Times*, November 18, 2012, titled its report "US to refocus on economics".

²⁴ President Obama met with representatives of the TPP grouping present at the November 2012 EAS. The ASEAN members of TPP are Brunei, Singapore, Malaysia and Vietnam. It also includes Dialogue Partners Australia and New Zealand. Obama had indicated at that time that Thailand and Japan had shown interest in participating in future TPP negotiations. There is some overlap in membership between TPP and RCEP. China is absent in the former but present in the latter. For an insight into the issue see Michael Richardson, "Rival trade blocs vying to lead", *The Straits Times*, November 19, 2012; also, Yang Razali Kassim, "East Asia Summit 2012: Power game in Asia unfolds", *RSIS Commentaries*, No.217/2012, December 3, 2012.

²⁵ China insists that the South China Sea issues should not be internationalized; it would prefer to negotiate bilaterally with the claimant countries. The Indonesian Foreign Minister Marty Natalegawa had called for a 'hot line' between ASEAN member states and China so that communication would be instantly available. Secretary General Surin Pitsuwan had also called for a South China Sea hot line, but there has been no further developments on that matter.

²⁶ For a critique of the Julia Gillard government's perspective, see Sam Bateman, "Australia in the Asian Century. How much new thinking?" in *The Straits Times*, November 3, 2012; also Rory Medcalf, "Australia's place in the Asian Century" in www.thediplomat.com/2012/11/04/australias-place-in-the-asian-century.

²⁷ Rudd delivered a keynote address on the Principles of Pax Pacifica entitled, "Building the East Asia Security Order" to the Singapore Global Dialogue, 25 September, 2012. www.kevinruddmp.com/2012/09/speech-principles-of-pax-pacifica.html.

The year ended on a high note in late December with the ASEAN-India Commemorative Summit in New Delhi hosted by Prime Minister Manmohan Singh. India is an EAS member and also a potential RCEP participant. It has been widening its trade links with ASEAN through the ASEAN-India Trade in Goods Agreement of 2010, but not much progress had been achieved in negotiations in the service and investment sectors.²⁸ The leaders of ASEAN and India had earlier met at the ASEAN-India Summit in Phnom Penh and reportedly received the 'Report of the ASEAN India Eminent Persons Group' that identified the next stage in cooperation. The latest meeting provided the opportunity for the two partners to expedite their economic linkages. The current two way trade only accounts for about 3% of ASEAN's total trade. The Summit announced that the two parties would move on to a 'Strategic Partnership' and that an agreement on the service and investment sectors would be concluded by August of 2013, which could then lead to a comprehensive ASEAN-India FTA. The Commemorative Summit was held in recognition of the 20th anniversary of the sectoral partnership that began in 1992. It also signified the 10th anniversary of India's participation in the annual ASEAN+1 summit meetings. In addition, a business expo cum forum, cultural presentations and the leaders' flagging down of the ASEAN India Car Rally highlighted the connectivity aspects of people to people linkages.²⁹ Another ASEAN partner, Russia, which had held the APEC Chair for 2012, and had been preoccupied with its own domestic concerns, was a low key ASEAN partner for the year. Russian President Vladimir Putin missed the much awaited EAS opportunity in Cambodia. As in the previous year's EAS, Russia was represented by Foreign Minister Sergei Lavrov, a regular at ASEAN ministerial meetings.

The Treaty of Amity and Cooperation (TAC) has been an instrument of bilateral recognition of peaceful relationships between ASEAN and its partners. The latest to accede to the Treaty were the European Union (after a Third Protocol Amending the TAC came into force in June 2012), the United Kingdom and Brazil, the first South American country to do so, an indication of the expanding partnerships of ASEAN. ASEAN also expects that extra-regional support would be forthcoming to the Southeast Asia Nuclear Weapon-Free Zone (SEANWFZ) Treaty once the legal protocols currently being studied are in place. In keeping with its external orientation and links with relevant regional and international organizations, the ASEAN Global Dialogue at the 21st Summit provided high level interactions between the leaders of ASEAN and the Dialogue Partners with the heads of the World Bank, IMF, ADB, WTO and UNCTAD for exchanges on global economic challenges for the year ahead. The presence of an array of

²⁸ The comment was attributed to Datuk Seri Mustapa Mohamed, Malaysia's Minister of International Trade and Industry, and coordinator in the talks. See, *The Star*, November 18, 2012.

²⁹ The 8000-kilometre journey of about 30 automobiles started in Surabaya and traversed eight of the ten member states to reach New Delhi after three weeks. A similar rally first took place in 2004. See, "ASEAN Secretariat News", www.asean.org December 21, 2012.

international actors gave recognition to the significance of ASEAN and its expanding linkages with the major global economies.

6.0 Continuity and Change

The Indonesian government's continued hosting and facilitating of the work of ASEAN and the ASEAN Secretariat in Jakarta was sealed with the ASEAN Instrument of Ratification by Indonesian Foreign Minister Marty Natalegawa at the 21st ASEAN Summit. The Host Country Agreement (replacing an earlier one) was received by the then Secretary General Surin Pitsuwan. The Secretary General had also presented his review of the Secretariat and requests for an increased budget to meet the expanding areas of activities. Surin Pitsuwan completed his five year term and a new Secretary General, the Deputy Foreign Minister of Vietnam, Le Luong Minh, presides from 2013-2017. The other notable event was the passing of the Chair from Cambodia to Brunei Darussalam, which will coordinate all the meetings, summits and related activities during 2013. The symbolic gavel was handed over to the Sultan of Brunei, His Majesty Paduka Seri Beginda Sultan Haji Hassanal Bolkiah Mu'izzaddin Waddaulah Haji Hassanal Bolkiah, by Prime Minister Hun Sen, at the end of the 21st Summit. Brunei Darussalam's theme for the year is "Our People, Our Future Together". It will host the 22nd and 23rd summits in April and October 2013, while the other ministerial meetings will be dispersed along the usual time frames. Indications are that Brunei, the smallest member, is ready to take on its role, having had previous experiences in hosting the ASEAN and APEC Summits. Brunei is set to prove its skeptics wrong with its quiet confidence but with the usual pomp and royal splendor. In his acceptance speech, His Majesty Sultan Haji Hassanal Bolkiah stated that "we will continue to strengthen ASEAN's central role in Southeast Asia by encouraging consensus without compromising any member's legitimate national interests, nor in disregarding the legitimate interests of our partners."³⁰ It will showcase the vitality of a small state's foreign policy if the discussions under Brunei's chairmanship bear the marks of consensus building in forging outcomes, like in the much anticipated Code of Conduct in the South China Sea.

Indonesia, the largest and most active member of ASEAN, is expected to be busy with APEC as its Chair for 2013. Nevertheless as a 'core' member it can be counted on to play its due role in ASEAN, especially on issues related to the SCS, where it has previously hosted several 'Track I' and 'Track II' meetings. Its global links through the G20 participation will also be

³⁰ *The Borneo Bulletin*, November 21, 2012.

a positive contribution to ASEAN. On the external front, a new set of coordinating member states will lead the dialogue partner relationships, and as previously seen, the ASEAN lead country can influence the intensity of the external ties.³¹

ASEAN's goals for development and increased welfare for its people are premised on a stable and peaceful Asia Pacific environment. ASEAN will have to actively encourage the progress towards a larger East Asian community while strengthening itself as the major collective player in the Asia Pacific region or it may find itself losing ground. As further negotiations proceed on the TPP (with its open access policy) and the RCEP (that has its specific regional focus), the future direction of the political and economic forces will become more certain. ASEAN as a grouping will have to assess and reevaluate its immediate past as its target year of 2015 draws near.³² As the recent past has indicated, diverse interests may emerge as each ASEAN member state matures and reviews its national priorities. The threat to the 'ASEAN Way' and to the consensus building mechanism is bound to occur occasionally. However, again, as the events of 2012 attest, there is still adequate political will and forward-looking leadership amongst the ASEAN grouping to propel it towards its stated goals.

7.0 Looking Forward

Brunei Darussalam as the 2013 Chair is expected to steer a clear course in accordance with ASEAN's priority areas and not be tied down with any particular issue or partner state. After all, the road to ASEAN community building is premised on several issue areas of intra and extra-regional cooperation in economic, socio-cultural, political and security cooperation. Brunei Darussalam's chairmanship will leave a legacy if it is able to further enhance the status of ASEAN through the three pillars of community building. In addition, Brunei, despite its small state identity, will also have to ensure sustaining the special status of ASEAN as a core player in the Asia Pacific region and in promoting its relations with its dialogue partners. Several achievements have already been recorded for the previous year; thus the process of community building will see continuation via the established structures and processes. While the year-long chairmanship will highlight Brunei's capability and stewardship, the year's two summits will further draw attention to how well it can showcase its diplomatic skill.

³¹ Prime Minister Yingluck Shinawatra commented that as the new coordinating country for ASEAN-China dialogue, Thailand would strive for continued strong ASEAN-China relations. In keeping with the practice, for the three year cycle, 2012-15, the ASEAN dialogue coordinators and the partners are: Brunei Darussalam – India; Cambodia – Japan; Indonesia – South Korea; Laos – New Zealand; Malaysia – Russia; Myanmar – U.S.; Philippines – Australia; Singapore – Canada; Thailand – China; Vietnam – EU. See, "ASEAN Secretariat News", www.asean.org December 21, 2012.

³² For an assessment of the major goals and achievements of ASEAN see Sanchita Basu Das and Termsak Chalermpananupap, "Can ASEAN keep aiming for new goals without having reached old ones?", *ISEAS Perspective*, December 17, 2012.

As is the norm, the first ASEAN summit of the year focuses on intra-regional cooperation. As a core member of BIMP-EAGA (Brunei-Indonesia-Malaysia-Philippines East ASEAN Growth Area), Brunei has the opportunity to boost further the sub-regional collaboration as it hosts the BIMP-EAGA summit in April 2013. Brunei can target EAGA to be the sub-regional agent for ASEAN's goals in narrowing the development gap, in promoting integration under the Initiative of ASEAN Integration and in facilitating the priority projects of the Master Plan on ASEAN Connectivity. In doing so, it will also be stressing the initiatives of ASEAN's other sub-regional entities. Its second Summit for the year will portray its ability to host ASEAN's external partners and display its charisma in representing ASEAN's long term interests vis-à-vis that of the big players including China and the United States.

The experience of 2012 has been instructive on the vast potentials for successes and challenges facing ASEAN. It also gave insight into the role of the Chair and the collective responsibilities of all member states and the ASEAN Secretariat in ensuring an amicable regional process. The report card for 2013 will again view the successes or stalemates in ASEAN's expressed objectives. It should not be a reflection of just one member state's chairmanship but of the entire ten-member grouping's cooperation as they jointly focus on the fast approaching 2015 target.

Focusing on Productivity to Achieve Growth and Development for Brunei

Diana Cheong

Abstract

The productivity of Brunei's economy, its public and private sector companies and its workers will determine the country's output in the years ahead. Higher productivity in Brunei's economy will help raise wages and consequently enable better standards of living. Higher productivity will also lead to the development of new and better products and services, thereby enabling firms to move to higher value chains of goods and services, and allowing Brunei to have a competitive edge in the global market. Productivity is destiny. In Brunei, this is especially true. The productivity of Brunei's economy will determine the degree of economic diversification, the achievement of Wawasan 2035 goals and the happiness of Bruneians.

This paper is written for readers from a wide range of disciplines with an interest in Brunei's economic development. I will argue that Brunei must put pro-productivity policies in place in order to achieve sustainable economic growth and development. Section 1 and 2 looks at definitions of productivity and productivity levels in Brunei – indicating seriously low productivity levels. Section 3 provides critical comparative discussion to show why Brunei needs to put pro-productivity policies in place in order to help ensure long-run economic growth. Sections 4 and 5 provide a critical analysis of why productivity is lacking in Brunei and in so doing identify the main drivers of productivity. Finally, section 6 presents a roadmap showing how Brunei can achieve higher productivity levels.

Keywords: *productivity, economic growth, development, key drivers, roadmap, Brunei*

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1.0 Productivity and Definitions

Productivity is defined as an economic concept to refer generally to the ratio of output and inputs in production¹. It is a measure of efficiency with which inputs are used in an economy to produce goods and services.

There are many different productivity measures, the choice of measurement depending upon the purpose of the measure. Basically, measurements can be categorised as single factor productivity measures which relate to a measure of output to a single measure of input or multifactor productivity measures which to relate a measure of output to a range of inputs. We usually measure productivity in terms of outputs made for each unit of input -- like labour, capital and so forth (Bititci et al., 2012).

Labour productivity, as defined by output per unit of labour input, is an example of a single factor productivity measure. Generally measured in terms of GDP divided by either the number of workers or the total salaries or the total number of hours worked, in simple terms, labour productivity refers to the efficiency of a worker in achieving the goals of his or her organisation.

However, as productivity of any economic activity depends also on other inputs and variables, it is also necessary to take into account of multifactor productivity or total factor productivity. One way of achieving this is to take into account both capital and labour inputs. Growth is here analysed in terms of the contribution from labour, capital and technological progress (Tinbergen, 1942; Solow, 1957).

A more comprehensive approach to multifactor measurement is to actually account for all possible factors that contribute towards productivity and here the more indirect and often not so obvious inputs such as company policy, regulatory reform, environment and infrastructural developments would then need to be covered in growth accounting efforts. The Global Competitive Index, as improvised by Michael Porter et al. for the World Economic Forum (2009), is the main example of the recognition of a more multifactor measurement.

Output therefore comes from mainly three sources (Gatto et al., 2011). First, more output comes from adding more inputs. In Brunei's case, if Bruneian companies add more workers, more capital or resources (like land); they will often create more output. Second, more output

¹ I would like to acknowledge the great support of my CSPS colleagues, with their constructive comments on to this paper, particularly Giuseppe Rizzo, Koh Wee Chian, Kartini Rahman, Gary Ho and Bryane Michaels.

comes from factor-specific productivity. For example, if workers in Bruneian companies work more productively, such labour productivity means they make more output (even if companies do not hire more workers or make them work longer). Third, factors that make all inputs more productive can lead to increased economic growth. The invention of the modern corporation, the widespread use of computers and air travel represent three examples of changes in technology and/or institutions which have caused Bruneian workers and machines to become more productive. We often refer to these outside changes as “total factor productivity.” The term total factor means that all factors (or things used like labour and capital) benefit.

Another useful way of looking at productivity measurements for policy analysis is to classify measurements in terms of 1) A country or national level, 2) The sectoral or industry level and 3) The agency or firm-specific level. Labour or capital productivity or both is usually used to illustrate productivity at the national level. Labour productivity especially is a frequently used measure for the purpose of cross comparisons as the data is usually readily available from official statistics. Productivity at the sectoral or industry level consists of comparing the major industrial sectors and is as such more specific. The data for calculating here is not as readily available as in some countries as it requires a comprehensive input-output table. Finally there is the measurement at the agency or firm level, consisting of comparing the ratio of output to input for each selected agency. Being the most specific and comprehensive, it is a more complex and not so common measurement relying more on success in obtaining primary data collected via surveys of a good sample of agencies.

2.0 Productivity Levels in Brunei

Currently, only labour productivity as calculated in terms of real GDP per worker can be obtained as there is a lack of relevant data. The Government has recently been shifting emphasis to this area in its efforts to diversify and has, amongst other things, commissioned a national study to calculate productivity at various levels and to formulate a roadmap to improve productivity under the Centre for Strategic and Policy Studies (CSPS), but this is still at the pilot stage. For the time being, it is necessary to note the limitations of current data for comprehensive analysis of productivity and the need for multifactor measures on sectoral and agency-specific levels for accounting growth.

Table 1.

ASEAN Labour Productivity (Real GDP per worker) Growth by Countries 2005-2011

Countries	Labour Productivity Growth %
Myanmar	9.2
Lao PDR	5.1
Cambodia	4.6
Vietnam	4.2
Indonesia	2.8
Philippines	2.7
Thailand	2.1
Malaysia	1.0
Singapore	0.4
Brunei	-2.2

Source: APO Productivity Databook 2013.

As shown in Table 1 above, Brunei's labour productivity has a long-term downward trend². Unfortunately it is the only country within ASEAN with such a trend.

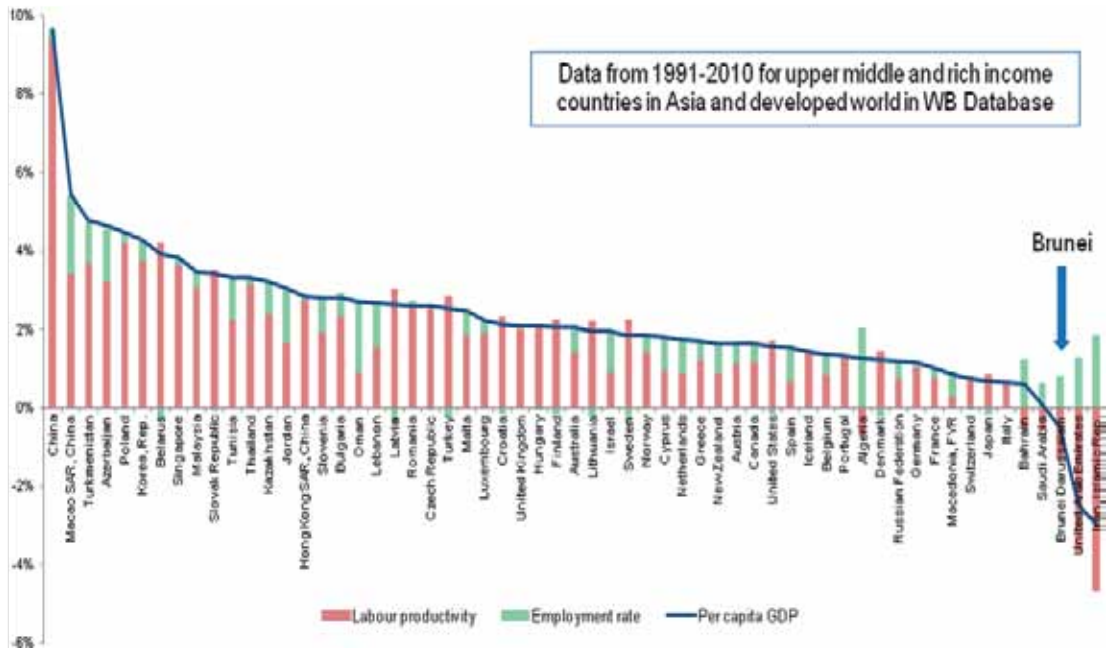
In fact, Brunei has one of the lowest GDP per capita growth and productivity growth, as shown in Figure 1 above. This phenomenon is also present in other oil-exporting countries such as Bahrain, Saudi Arabia and United Arab Emirates. The reduction of GDP per capita has been partially mitigated by the increase in the employment rate. However the employment rate, currently at 47%, is already at the same level of other developed countries, so further increases can only have a limited effect.

The situation in Brunei is worse than it seems at first glance. In other countries, changes in labour and population lead to more economic growth. Yet, Brunei exhibits lower economic growth than even under-developed countries like Azerbaijan and Oman. Figure 2 shows average GDP growth rates and population growth rates in a number of countries. This is another approach to look more critically into Brunei's productivity levels and implications. In general, the relationship lies on a curve. Brunei sits below the curve – showing far lower GDP growth (even when accounting for the growth in the oil sector) than other countries. Low productivity is to blame.

² The downward trend is obtained using data from all three sources – Asian Productivity Organisation, Brunei Darussalam Department of Economic Planning and Development and The World Bank (Source: CSPS (Koh Wee Chian) documents)

Figure 1

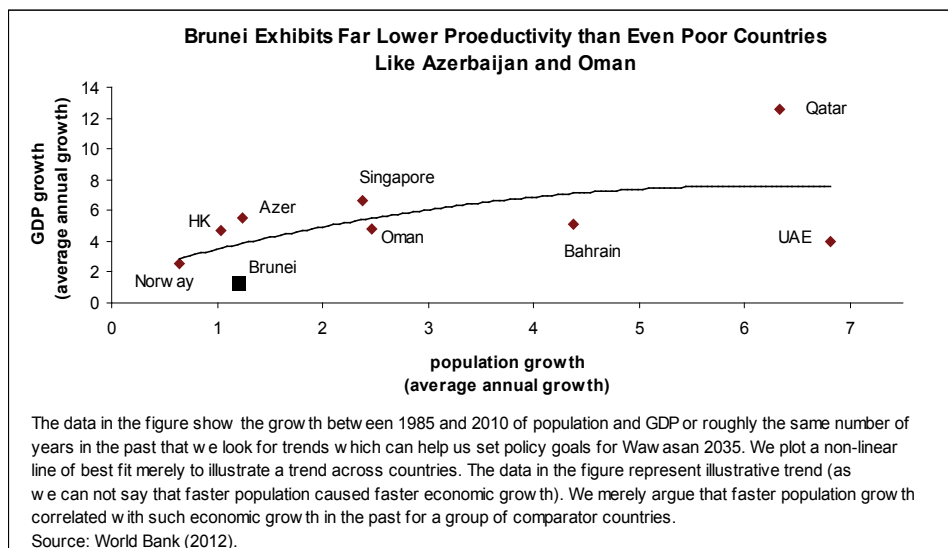
GDP per capita growth decomposition



Source: CSPS (Koh Wee Chian) documents using data from World Bank.

Figure 2

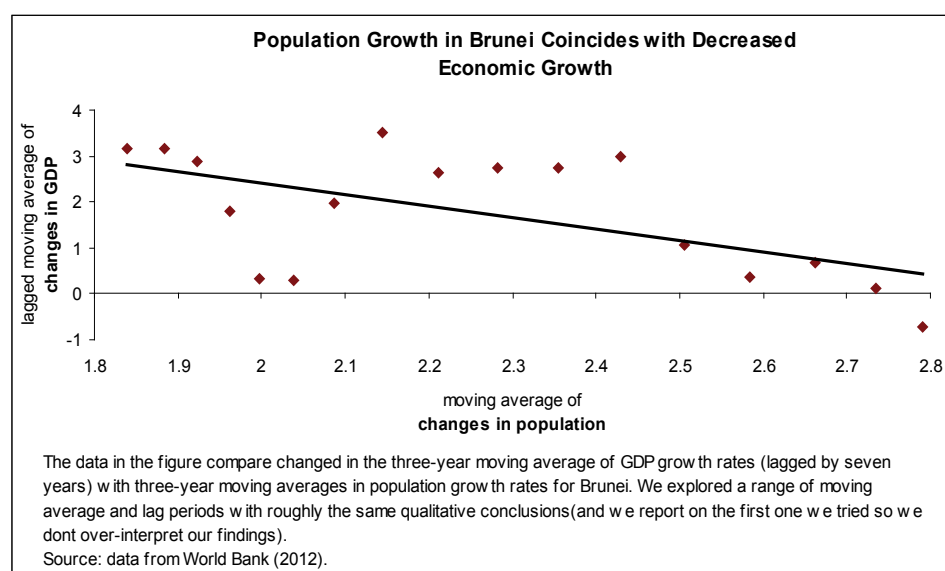
GDP and Population Growth



Not only do the data show that Brunei's productivity is exceedingly low – threatening economic development and the quality of life for Brunei's citizens, but it can also be seen in Figure 3 that over the last 15 years, periods of higher population growth have actually coincided with lower economic growth. In other words, adding more workers in Brunei's companies has – on average – resulted in lower productivity. Few other countries outside of Sub-Saharan Africa exhibit this kind of data. Lower productivity in Brunei has led to a situation where adding more workers can actually harm companies rather than help them.

Figure 3

Intertemporal Comparison of GDP and Population Growth



This is indeed alarming, but it also presents Brunei with opportunities and indicates an alternative solution towards a more sustainable growth path, that of addressing productivity growth and putting pro-productivity policies in place.

3.0 Why is Productivity so Important for Brunei's Growth?

The issues involved in Brunei's economy explain the relevance and importance of productivity as a means of accelerating growth. As outlined in the Brunei Darussalam Long-Term Development Plan (2007), Wawasan 2035 aims for the nation to be widely recognised for the:

- Accomplishment of its educated and highly skilled people as measured by the highest international standards;
- Quality of life among the top 10 in the world as measured by the United Nations Human Development Index;
- Dynamic and sustainable economy with income per capita within the top 10 in the world.

These are commendable but quite ambitious objectives particularly in view of the fact that real GDP growth rates have been declining in the past 10 years - from 2.2% in the 90s to 1.5% since year 2000. Taking into account the population growth, which has been outpacing the GDP growth rate; this has resulted in a steady decline in real GDP per capita, -0.33% since 1990. (Source: World Development Indicators, The World Bank).

The country recognizes the need to achieve economic diversification and in addition to the priority accorded to such a strategy in many national development plans, many initiatives have been undertaken to increase industrialisation, capital deepening, private sector growth and to encourage Foreign Direct Investments. It is estimated that Brunei requires a 4% per annum growth in GDP per capita based on purchasing power parity (PPP)³ in order to be within the top 10 nations in the world by 2035. With an average population growth of 2% per annum, this implies a 6% per annum GDP growth rate. Compounded with the problems of a rentier economy and possibly the resource curse hypothesis, Brunei's moves to diversify the economy away from a predominant oil and gas economy have so far lacked the success levels that it aspires to.

Brunei faces huge challenges in achieving the targeted 6% per annum growth. Per capita income growth has been negatively impacted by population growth and increase in labour force participation (labour force growth). Although there have been, as mentioned, substantial investments and efforts to diversify our economy to a higher value supply chain, attract FDI⁴, industrial growth and stimulate SMEs and Enterprise to achieve sustainable economic growth, these, it must be noted, are extensive and longer term projects which are continually challenged by many global competitors.

³ GDP per capita based on purchasing power parity (PPP) is the most often used measure since PPP takes into account relative cost of living, hence is more useful in making comparisons in living standards between countries.

⁴ For coverage of recent growth in FDI, see <http://borneobulletin.brunei-online.com.bn/index.php/2013/08/22/brunei-oasis-for-foreign-investors/>

In the meantime, an engine of growth which has not really been acknowledged until recently, that of improvements in productivity may be the essential and a more sustainable pathway towards economic growth⁵. With heavy dependence upon the oil and gas industry, and while Brunei is in the transitional phase of diversification and industrialisation, it would seem that productivity growth is perhaps the main option to increase our GDP per capita.

Productivity growth after all leads to overall economic growth. Numerous scholars debate issues like how to measure productivity – and exactly how much productivity growth translates into overall economic growth. However, no one denies the key role that productivity growth plays in overall economic growth. Jorgenson and Vu (2005) for example provide one of the longer-range empirically sound studies documenting the link between productivity growth and economic growth. Looking at GDP growth and productivity growth, they find that productivity growth, as measured by total factor productivity (or TFP), contributed roughly 20% to the overall growth in global GDP.

Higher productivity leads to increased output growth in other ways. First, highly productive companies attract more investment and better employees (Harding and Javorcik, 2011). Second, productive companies not only attract and retain talented workers – they actually help to create them (Shahidul and Shazali, 2011). Third, productive companies – when working together – create output in excess of what they could do working alone (Inkpen and Pien, 2006). Spill-overs often occur with ideas, new techniques and links between types of distribution and transportation.

Increasing productivity is even more pertinent in the face of globalisation of the world economy. Brunei's companies need to be more productive and to gain a competitive edge regionally and internationally, make the most of opportunities from globalisation and emerging markets, and attract FDI. Productivity interacts with international trade, as the most productive, lowest cost producer of any traded good will export more (Karacaovali, 2006).

It is logical that we can increase GDP per person / growth in 2 ways:

- Increase level of employment or get more people to work so that total labour input will increase
- Increase amount of output each person produces- i.e. productivity.

⁵ Productivity growth has not really been a major area of focus in the work of public and private sectors. The recent launch of the 10th National Development Plan 2012-2017 is one of the first official emphasis upon the importance of knowledge and innovation in increasing productivity towards accelerating economic growth.

To increase the level of employment, Brunei could, for example, (a) reduce the current unemployment rate, (b) stimulate more female participation through appropriate fiscal and labour market policies (c) increase employment of old people by raising the retirement age and (d) increase the working age population by encouraging more migration of labour into the country. However, given the relatively high level of employment (almost in line with other developed countries) as compared to the very low level of productivity, a focus on the latter is likely to have a marginally stronger effect on the GDP per capita level. Furthermore, given the limitations of increasing the level of employment, as Brunei's labour force is constrained by a small and slow growing population, and in view of the fact that the other stated policies to increase employment are not without complications and are not overnight solutions, boosting labour productivity is a more viable and sustainable method for increasing growth.

As international experience suggests, productivity growth is linked positively to economic growth over the long run; hence to realise the goals of Wawasan 2035, serious plans must be put together sooner rather than later. Brunei's productivity growth performance has been notably poor, but this is also an opportunity to capitalise on to yield a more sustainable growth path.

4.0 Stages of Economic Growth, Competitiveness and Productivity Growth

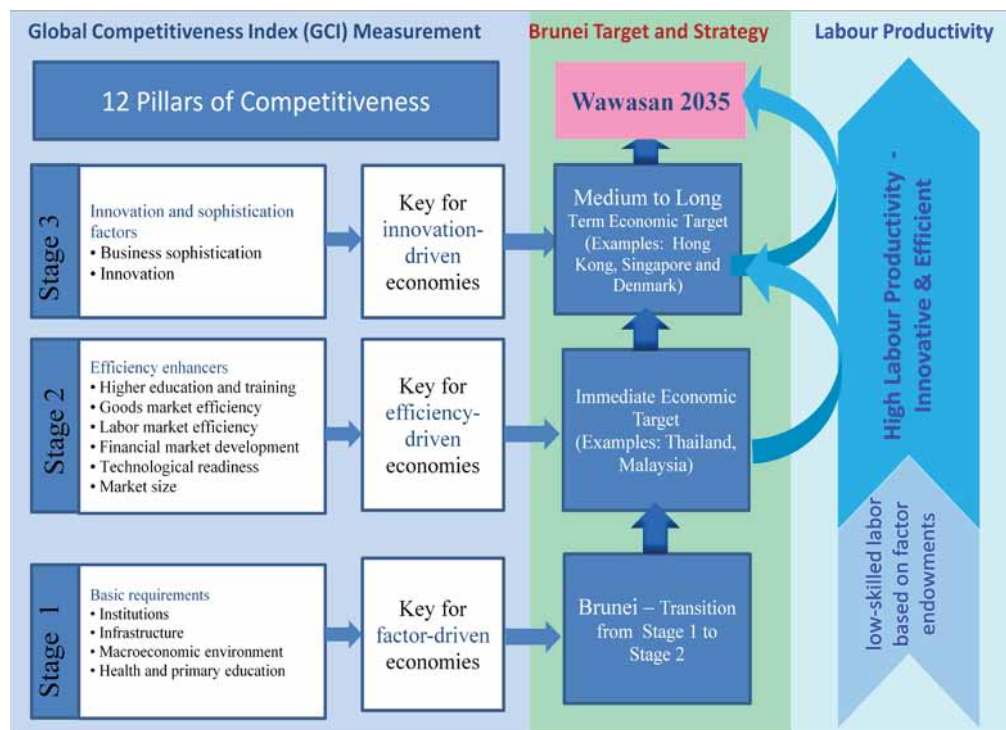
The Global Competitiveness Index (GCI), for example, has characterised societies as experiencing growth as occurring in three basic stages. As shown in Figure 4 below, Stage 1 is where societies have growth due to factor endowments, usually low cost labour or availability of natural resources, for example, where growth and development is mainly attributed to the availability of natural resources of oil gas such as Brunei and the GCC countries. In such countries, where the dominant basis of competitive advantage and source of exports is due to natural resources, labour and other remaining factors of production are not really challenged to be very productive yet.

Stage 2 is when a society cannot really depend on factor endowments alone. The government (or via FDIs) takes the initiative to invest substantially in required developmental infrastructures and the economy becomes more efficiency driven to achieve growth; examples are Malaysia, Thailand, and, perhaps to a lesser extent, Brunei.

The ideal stage is Stage 3, in which growth is powered mainly via high productivity and in which labour and other production inputs are not just efficient but innovative, a knowledge-based society; examples are USA, Japan and Singapore

Figure 4

Global Competitiveness Index (GCI) Measurement.



5.0 Priority Action Areas for Productivity

While productivity growth is obviously the main driver for future growth, structural reforms need be put forward and sequenced appropriately. So, what does it take for us to get to GCI Stage 3 from an economy that is predominantly still at Stage 1, a knowledge-based economy which is characterised especially by high productivity?

The key drivers of productivity are well documented elsewhere. The OECD, for example, lists investment, innovation, skills and knowledge, enterprise and competition as the 5 drivers of productivity. Similarly, the UK's 5 drivers of productivity have been identified as investment, innovation, skills, enterprise and competition (ONS, 2007).

In recognising the importance of establishing the drivers of productivity, most high productivity economies similarly have specific productivity agencies that promote the main components of the drivers of productivity, depending on the context of the economy in question. Some productivity agencies are comprehensive, covering all the priority areas, such as Singapore's National Council for Productivity and Continuing Education (NPCEC). The three main areas of focus for the NPCEC are to prioritise and champion productivity at sectoral, enterprise and worker levels, develop a first class national continuous education training system and to entrench a culture of productivity. Others, such as the German Centre for Innovation and Productivity, the Japan Productivity Center, the Korea Productivity Center and the Malaysia Productivity Corporation, focus on technology, innovation and enterprise. In Australia, the Australian Productivity Commission focuses solely on productivity research, whilst other agencies have been created to address productivity-related issues such as the range of specific adjustment schemes to assist the workforce towards up skilling, retraining, retrenchment and unemployment, for example, the National Workforce and Productivity Agency which was set up to support the partnership with industry to upskill the workforce.

In identifying the necessary priority action areas for Brunei's productivity roadmap, it is essential to analyse which drivers specifically are not as developed as required to reach required benchmarks and are therefore constraints to productivity. As Porter *et al* (ibid) have emphasized, there is no cut and paste formula that is universal for all countries:

"Each country will have its own unique strengths and weaknesses, in any given country at a particular time, a subset of microeconomic conditions will represent the most pressing barriers to reaching higher levels of productivity" (pg 48)

In analysis, it would seem that there are a number of significant constraints to labour productivity which specifically apply to Brunei, as follows:

- a. Despite high levels of spending on education, there is somehow a big gap in the type of education received and our manpower requirements⁶. We are still highly dependent upon foreign labour at all levels, unskilled, semi-skilled and professional.

⁶ See Cheong, D. & Lawrey, R. (2009), "A Study of Unemployment Issues among Registered Job Seekers in Brunei Darussalam", *CSPS Report*, and CSPS (2012), "University Graduates and Employment", *CSPS Report (forthcoming)*.

- b. Our tertiary enrolment is low, at 17%⁷, when it is well documented that countries wishing to enter stage 3 economies must achieve at least 30 to 50% higher education enrolment⁸.
- c. There is a significant skills and employment mismatch as the majority of our graduates are from Humanities and Teaching disciplines, but a diversified economy requires relevant vocational and higher level skills⁹.
- d. There is quite a large number of registered job seekers who are mainly early school drop outs who do not appear to possess adequate vocational skills for available jobs and are mainly looking for white collar jobs in an oversaturated government sector¹⁰.
- e. There is a big need to improve public sector productivity to rebalance workforce preference towards employment in the private sector¹¹.
- f. In addition to considerable mismatch, significant underemployment and possible over employment in some sectors, especially public sectors, there is overall, an urgent need to nationally track and manage talent, identify future talent requirements, close the skills gap and to improve workforce participation¹².
- g. Our education system is still geared to a formal liberal education. The prioritising and championing of workplace skills and knowledge on a continuing basis for all levels of workers is not yet in place.
- h. There is a significant level of choosiness and complacency within our workforce and we do need to cultivate the mindset and mentality of our people via better communications, consultation and campaigns¹³.

⁷ According to World Bank Databank (2010) whereby tertiary enrolment is defined as “the ratio of total enrolment, regardless of age, to the population of the age group that officially corresponds to the level of education shown. Tertiary education, whether or not to an advanced research qualification, normally requires, as a minimum condition of admission, the successful completion of education at the secondary level”. Using the UNESCO ISCED classification, we can exclude 5B programmes (Nursing, Teacher religious teacher training, Certificates / Diploma, Higher National Diploma) and include 5A and 6 programmes only (Bachelor, Master, PGCE/PGDE and Ph.D.), and the higher education enrolment is 13.9% (2011). For comparison purposes, higher education enrolment figure for United States (2010) is 73.9%, Finland (2010) 93.7%, Australia (2010) 65.9%, Japan (2010) 47.7%, United Kingdom (2009) 48.1%, Malaysia (2009) 24.2%.

⁸ The tertiary enrolment figure according to MOE is 21.5% in 2010, which refers to enrolment in UBD, ITB and UNISSA. This includes a number of non-degree diploma students. Brunei's tertiary enrolment in 2010 was 5,903 (MOE statistics) and approximately 37,600 in the age group 20-24 (JPKE 2010 forecast) – this means 15.7% enrolment. Focusing only on higher education enrolment (therefore excluding diplomas), Brunei's enrolment in 2011 was 4,681 (UNESCO statistics); adding this to those enrolled in overseas institutions, which in 2011 is 3,236 (UIS estimation), the ratio would be about 21%. In any case, 17% (World Bank) or 21.5% (MOE) is still far below the 30-50% levels required for Stage 3 Economies. Please see Trow, M. (2006), “Reflections on the Transition from Elite to Mass to Universal Access: Forms and Phases of Higher Education in Modern Societies since WW II”, International Handbook of Higher Education edited by Altbach, P. & Forest, J., Springer.).

⁹ “University Graduates and Employment” (2012), *CSPS Report (forthcoming)* *ibid*

¹⁰ Cheong, D. & Lawrey, R. (2009), *Ibid*

¹¹ Cheong, D. & Lawrey, R. (2009), *Ibid*

¹² In recognition of this gap, the Government has for example recently set up a National Committee on Human Resource Development which is chaired by the Deputy Minister, Ministry of Education.

¹³ *We need to work on changing mindsets of all towards embracing a productivity culture: e.g. ‘Go to work’ and for all workers to be instilled with values of Leadership, Innovation & Integrity.* There has been a number of government speeches and calls for workers and youths to work on changing their mentality and mindset. For e.g.: <http://www.bt.com.bn/news-national/2013/04/12/minister-challenges-youths-role-development>, 12th April 2013) and <http://www.brudirect.com/national/national/national-local/2057-youths-encouraged-to-start-own-business-to-curb-unemployment>, 26th June 2013).

- i. Our work processes for efficiency and ensuring quality and standards so that our products are more valuable, receive certification and become more competitive – automation, technology, standards and work environment including regulatory provisions, are still comparatively undeveloped.
- j. Continuous support for private sector SME development and enterprise, incubation centres, assisting with knowhow and consultancy so that our people are not over reliant upon the Government and are productive entrepreneurs in all forms of work activity needs to be more prioritised and synchronised ¹⁴.
- k. Research and policy recommendations plus R&D to advise policy making on how and what will drive productivity for all economic sectors are lacking and require more persistent encouragement and funding.
- l. Comprehensive and longitudinal measurements of sectoral and agency-specific productivity to provide detailed and regular benchmarks in order to lead the way to individual productivity roadmaps for each economic sector and for each agency have not yet been conducted.
- m. Policies specifically to tackle the challenges of the productivity drive, such as for e.g. “Specific Adjustment Schemes” and for more efficient allocation of industries on a holistic and national level¹⁵ have not yet been formulated in an integrated manner.
- n. Productivity is still a newly considered national strategy and there is as yet, a need to formulate a comprehensive National Productivity Roadmap to get started. The Roadmap must be converted into a set of policy measures which can be implemented. Policy will not just cover steps to improve productivity, but also to provide measures and recommendations to address the impact, negative and positive, of policies implemented.

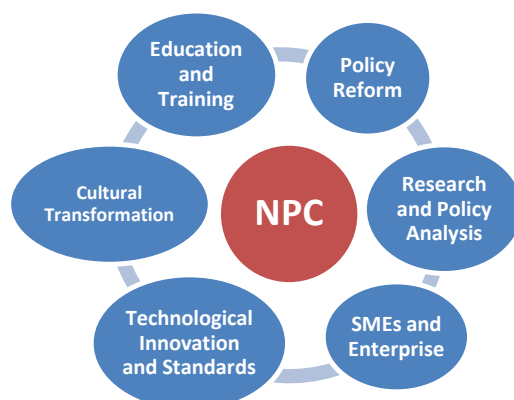
From the constraints outlined above, six priority action areas can be identified as requiring special attention for improving productivity at the agency, sectoral and workers/national level, as shown in Figure 5.

¹⁴ Of recent years, a number of agencies (especially government initiated ones) have, via various programmes, provided funding and training to stimulate SMEs and Entrepreneurship. The Brunei Economic Development Board, for example, runs the iCentre, which is an ICT incubation centre that focuses on nurturing ICT entrepreneurs, offering various financing schemes such as the Start-Up Brunei Scheme, Micro-Credit Scheme, Local Enterprise Application and Products Programme and the Youth Skills Development programme. The Ministry of Culture, Youth and Sport for example, runs a Youth Development Centre, which offers 3 to 12 months skills training programme and a job placement programme to about 200 unemployed youths each year. However, as with other priority action areas for productivity, these efforts are ad hoc, dispersed and would benefit with national coordination. As such, their impact on overall national productivity is not as far reaching and only visible to the recipients of the programmes.

¹⁵ Sometimes productivity gains are associated with a reduction of the workforce, so we need policies to tackle this challenge, such as introducing financial assistance schemes to assist in the transition, and helping workers adjust, train and find other work (move to expanding sectors). Also important are better employment policies (e.g. better incentives, remuneration and work conditions) and civil service employment reforms to address current public sector challenges. Productivity also involves more efficient structuring and allocation of industries, and policy reforms are required to facilitate this (e.g. the necessary changes in division of work and allocation of resources between /within industries, more specialised production within industries and increased use of up to date technologies).

Figure 5

Priority Action Areas



6.0 Productivity Roadmap for Brunei

The current practice in Brunei at the moment is a number of agencies or ministries which addresses priority areas that are incidental to productivity but not specifically and strategically. There is a lack of integration and possible duplication between the tasks undertaken. Elsewhere, countries with good productivity levels have a central body, a national strategy, or, at least a well defined plan specifically geared to improve their productivity levels. There is extensive funding for identified priority action areas.

It has for example been outlined that continuous education and training for all is a key driver of productivity and one that requires considerable investment and attention in Brunei. The Ministry of Education has of course provided substantial education and training for Bruneians, to the extent that education is provided free to all up to tertiary levels. The point here is that the objective to educate, as with most other public systems of education, is not specifically to increase the productivity of the country but to provide an overall learning experience. Education and training for productivity requires more specific programmes and orientation, towards less formal education and on the job training. Employers must have strong commitment to providing continuous upgrading of skills and training to employees. This is a task which can be better performed under a central and specifically built body.

A central body with the highest leadership, one that is able to supervise and gather the contributions and support of all relevant government and private bodies that impact on productivity, a National Productivity Committee (NPC), should be set up to implement the productivity roadmap for Brunei.

Similarly in terms of research and consultancy, there needs to be a more specific orientation towards productivity as there is a big gap here. Again, a higher authority with political clout such as the NPC can address this problem more adequately. Considerable funding and support must be provided towards obtaining and analysing the data that is needed to push Bruneian companies toward higher productivity in three ways (Cocca and Alberti, 2010). First, we must collect continuous statistics about productivity at the firm level, sector level and across the entire economy. Second, these statistics must be analysed meaningfully as the data are required to advise firms and agencies locally and internationally as to how productivity can be improved. These data help with the benchmarking and comparative assessments which push companies to improve. Imagine if unproductive Brunei car repair shops or markets could compare their annual productivity with their peers. Companies with lower scores would know they need to improve – and know which companies they need to copy in order to improve. Third, governments work in organisations like Asian Productivity Organisation (APO) and the World Bank to develop cross-country data and policies. A sophisticated national research and data file on productivity would put us on a higher rating in such international organisations, and help to encourage FDI activities.

Policy reform - prioritising and championing productivity at all levels - is therefore logically axiomatic for the productivity drive in Brunei. In addition to setting up of policies and programmes, including the funding required for continuous education and training, research and consultancy, technological facilitation and enterprise development, policy reform is also required for more efficient allocation and structuring of industries and economic activities to encourage better division of work and allocation of resources between and within industries, more specialised production within industries and increased use of up to date technologies.

Based on international best practices and the gaps that exist in Brunei, this paper would also argue very strongly that all the priority action areas listed in Figure 7 above are required and need to be comprehensively planned as strategic productivity programmes under the NPC if we are going to be serious about driving productivity on a nationwide scale. As Porter et al. (ibid) have argued:

“Many changes across a broad no of policy areas will be required to enter a new stage of development. If the barriers are not addressed, productivity will not occur... (Productivity)... require wholesale transformation of many interdependent aspects of competition, not just marginal improvements in individual policy areas” (pg. 51)

Such changes of course cannot happen on their own; the Government needs to intervene with the appropriate policies and programmes. Productivity growth efforts require drivers from all parts of the economy, from structural change in industry, changes in work and technology, skills and knowledge, through to change in attitudes, culture and the social structure. It is not just a matter of changing the individual worker, but is multifaceted and has multiple ramifications upon the wider social structure, requiring a holistic and integrated approach. As such, it is pertinent that Brunei's NPC will be a high level council that is empowered as the national policy-making body with supervisory powers. Further, the NPC should function as a One-Stop Shop which not only has the authority to make the policy, but it also is the implementing body for the programmes to address the identified priority action areas, with its own manpower and funding.

This central body would benefit from the highest leadership, most likely under the Prime Minister's Office as it will need to be the lead agency to set the way for the various programmes or priority action areas to be implemented in a consistent, synchronised albeit multidisciplinary manner.

The role of the government not just in spearheading but in continuously overseeing the productivity drive must not be understated. Only government can make groups of companies (or an entire national business system) more productive. Companies may find ways to become more productive individually (Bahri et al., 2011). In Brunei at present, companies have the entire responsibility for increasing their own productivity. Yet, in highly productive economies, government policy helps boost the productivity of labour and capital of all companies over time. In more technical language, government policy increases inter-temporal, inter-company total factor productivity in three ways. First, government creates incentives for companies to invest in productivity-promoting techniques. In the Brunei context, this might consist of subsidies, restrictions on free competition and other policies which make companies more profitable if they make pro-productivity investments. Second, government helps fund productivity-related research and training. In almost all OECD countries, government gives subsidies to universities to conduct research on productivity. In other cases, government funded activities (like the original US investments which led to the development of the internet) helped to raise productivity across all companies, sectors and (without exaggerating) across the world. Third, productivity-enhancing investments are often "public goods" in nature. Consider Toyota's large investments in the 1980s to make cars more efficiently through "flexible manufacturing" and "quality circles". Toyota made millions of dollars worth of investments to discover and refine these new production techniques. Yet, other Japanese and foreign companies could observe

and copy these techniques for free. If government does not invest in productivity-enhancing activities, companies will have little incentive to do so.

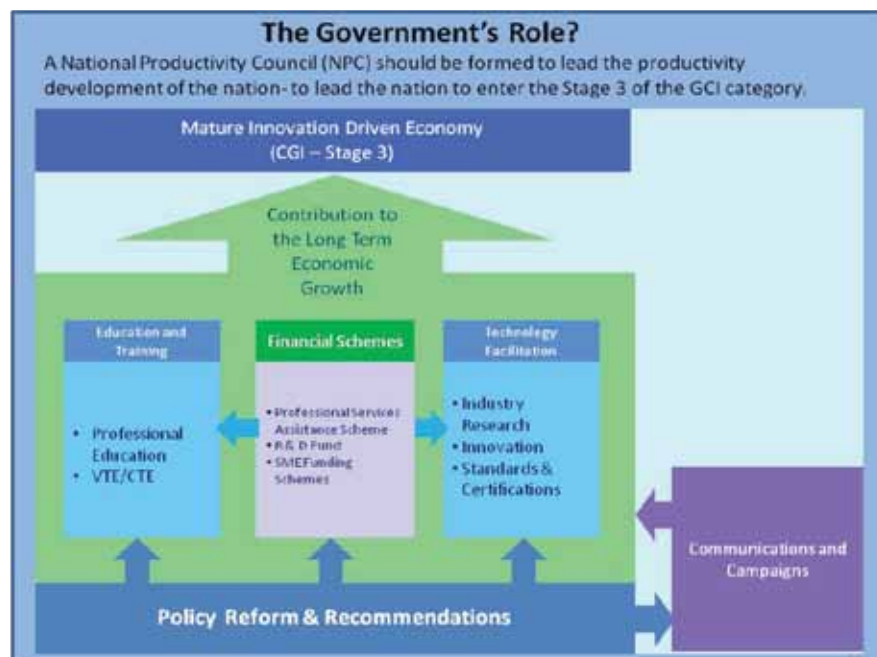
Whilst it is essentially a Top Down campaign, at least in the initial stages, all involved in the productivity drive must be involved for it to be meaningful and consensus building. There must therefore be a tripartite partnership between the government, employers and employees and the need to have the involvement of both the public and the private sector as this is a nationwide drive. There is no doubt that public support can only be forthcoming if people are involved and participate so that they understand the importance of the productivity drive. As indicated before, there is a need for mindset change, the government must educate and inform the public about the benefits of reforms so that they can understand why it is in the national interest.

Working Groups or Special Taskforces should be formed to formulate and implement programmes and activities under the strategic trusts and policies set out by the National Productivity Council. The Working Groups can be distinguished in their specialisation in the identified priority action areas of:

- Policy Reform
- Funding & Programmes
- Research & Consultancy
- Communication & Campaigns
- Education & Training
- Technology, Innovation, Standards, SMEs and Enterprise

As illustrated in Figure 6, supporting the productivity drive overall are the policy reforms and recommendations for the more efficient allocation of resources to the economic growth clusters and the establishment of infrastructures for productivity drivers. Specific financial funding schemes are required to help increase the competitiveness of Brunei's labour productivity and to assist in programmes required for the transitions from Stage 1 to Stage 3, in particular via research & consultancy and technological facilitation. professional education, VTE and continuous education training for manpower needs and upskilling will also be emphasised. Continuous Communications and Campaigns will be mounted to socialise and encourage the national productivity culture. This then, is the proposed strategy for a National Productivity Council to be formed to lead the productivity development of the nation for Brunei to enter Stage 3 in the GCI category to meet Wawasan 2035 targets.

Figure 6

Summary of Overall Approach**7.0 Conclusion**

Non-oil output made by Brunei's labour force and capital stock falls far short of other countries. With a Business as Usual attitude, agencies in both the public and private sector will not and cannot make the investments and reforms needed to increase their productivity. Brunei needs to put in place a productivity roadmap and set up the required infrastructures to established identified productivity drivers. With negative productivity growth rates, low growth levels and while waiting for longer term diversification projects to develop, it may be the only option for the country to achieve Wawasan 2035 aspirations. In this paper, I have presented data and arguments for Brunei to urgently put in place pro-productivity policies, ultimately to set up a National Productivity Council with senior leadership. I have shown that productivity in Brunei is low (though we need more data in order to say just how low). I have shown how higher firm-level, sector-level and nationwide productivity can help raise the non-oil economic output in the country towards meeting economic growth.

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Creative Industries as a New Growth Cluster for Brunei

Sasha Lennon and Sophiana Chua Abdullah

Abstract

Brunei's policy objective of economic diversification is underpinned by the Sultanate's desire to grow a dynamic and sustainable 21st Century knowledge economy. Recent government initiatives demonstrate that the diversification process is already underway. Brunei can build on its achievements to date by identifying and developing new industries including an eclectic group known as the 'creative industries'. This paper highlights the creative industries' contribution to economic development while promoting social inclusion and cultural diversity. It considers the potential for creative industries in Brunei showing they are at varying stages of development across the different creative segments. This is illustrated by examples of Brunei's creative enterprises. The paper concludes by arguing for further research and data collection to better understand Brunei's creative industries' potential and to deliver appropriate infrastructure, services and support programmes so that a vibrant social, cultural and economic environment can flourish.

Keywords: creative economy, creative industries, cultural industries, entrepreneurship, urban amenity, creative city, economic development, diversification, policy, government

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1.0 Introduction

Brunei's policy objective of economic diversification is underpinned by the Sultanate's desire to grow a dynamic 21st Century knowledge economy.¹ The most effective way to achieve this is to capitalise on the country's strategic comparative advantage to grow a sustainable petrochemicals and energy sector. Government initiatives and project developments demonstrate that this diversification process is well underway. Significant achievements have been realised in downstream processing, as evident from the success of the Brunei Methanol Company (BMC). Officially opened in 2010 following project investment of US\$0.5 billion, the BMC has an annual production capacity of 850,000 MT and current direct employment of 190 staff, 98% of whom are locals. Over the long-term Brunei can build on its diversification achievements to date by identifying and developing new industries for growth and development. Among these is an eclectic group known as the 'creative industries'.

The creative industries include, but are not limited to, those economic activities that are characterised by new forms of cultural production. Leveraging cultural roots and assets but focusing on generating an income, creative industries "*turn creative ideas into commercial outcomes*" (Telesis Consulting et al., 2007, 4). They include traditional cultural sectors like the visual and performing arts and those which utilise creative (human) capital to generate wealth in sectors including film and television, broadcasting, computer animation, web design and music. They also include the 'commercial-creative' sectors of architecture, industrial design, fashion, writing and publishing. While all industries embody some degree of creativity, the creative industries are different in that 'creativity' is their primary source of value.

The creative industries are characterised by a diverse mix of individuals and enterprises which, by virtue of their innovative nature, contribute to economic development, not only in the form of income and employment creation, but also through the promotion of social inclusion, cultural diversity and human development. Central to this notion is the concept of the 'creative city' and the role that creativity plays as a foundation for quality of life and economic performance and vice versa - what the authors call a 'dynamic cycle of creativity and prosperity'. As this paper demonstrates, anecdotal evidence shows that despite being relatively small in number, Brunei has an existing base of creative industries talent and enterprises, all at varying stages of development. Statistical data on Brunei's creative sector is still limited, but with further research and data collection to better understand Brunei's creative industries' potential, the

¹ The Organisation for Economic Cooperation and Development (OECD) defines a 'knowledge economy' as one which is "directly based on the production, distribution and use of knowledge and information" (OECD, 1996, 7).

Sultanate will be better placed to identify and deliver appropriate support and encouragement so that creative industries and a creative economy can flourish in Brunei. With a supportive policy environment already in place, Brunei is well placed to grow its creative industries' capabilities.

2.0 Brunei's Policy Drivers

Wawasan 2035 is the overarching national strategy document that outlines the aspirational state of Brunei in 2035. It sets out a vision for Brunei to be recognised for: its well educated and highly skilled people, as measured by the highest international standards; a quality of life that is among the top 10 nations in the world; and a dynamic and sustainable economy with income per capita within the top 10 countries in the world. To realise its vision, Wawasan 2035 recognises the need for an integrated approach which focuses on, among other things: strategies to enhance opportunities for local small and medium sized enterprises (SMEs); an education programme that will prepare youth for employment and achievement in a world that is increasingly competitive and knowledge-based; an economic strategy that will create new employment for the people of Brunei and expand business opportunities through the promotion of foreign and domestic investment in a range of industries; and efficient government institutions that will serve to nurture and facilitate new and emerging enterprises in a diversity of industry sectors.

Wawasan 2035 rightly acknowledges that it is not the role of Government to drive Brunei's economic diversification. The Government's primary role is to put in place the necessary preconditions so industry is well placed to compete and prosper on the global stage. These preconditions or 'enablers' of economic development include: efficient and effective physical infrastructure; a skilled and flexible workforce; appropriately located and serviced employment land; connectedness between businesses, government agencies, labour and research and learning institutions; a supportive governance structure; and an urban form and function that provides the highest quality living environment.

3.0 Creative Industries Defined

Definitions of the creative industries vary from country to country. The United Nations (2008) explains that the term *"is of relatively recent origin, emerging in Australia in 1994 with the*

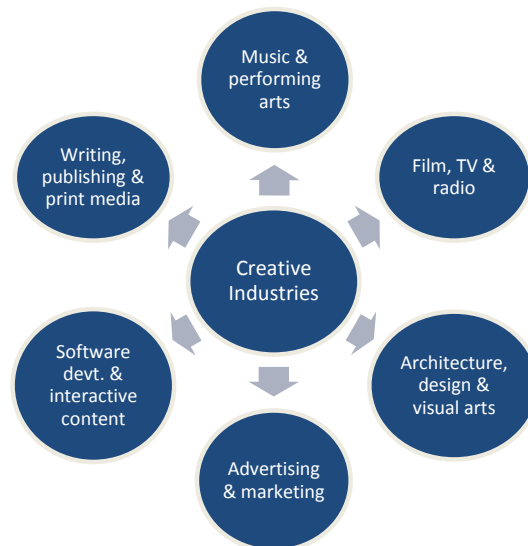
launching of the report, Creative Nation. It was given wider exposure by policy-makers in the United Kingdom in 1997, when the Government, through the Department of Culture, Media and Sport, set up the Creative Industries Task Force". Official definitions vary, usually because of differences in the terminology used by statistical agencies to quantify industry employment and output. The Queensland Government, which paved the way for creative industries policy development in Australia, contends that "*creative industries are centered on activities originating from innovation and ideas*" (Queensland Government, Department of State Development, 2004). Highly reliant on creative talent, their economic value lies in their intellectual property.

The United Nations (2008) defines the 'creative economy' as one which: can foster income generation, job creation and export earnings while promoting social inclusion, cultural diversity and human development; embraces economic, cultural and social aspects interacting with technology, intellectual property and tourism objectives; is a set of knowledge-based economic activities with a development dimension and cross-cutting linkages at macro and micro levels to the overall economy; and is a feasible development option calling for innovative, multidisciplinary policy responses and inter-ministerial action.

At the heart of the creative economy are the creative industries. Generally speaking, the creative industries consist of: music and the performing arts; film, television and radio; advertising and marketing; software development and interactive content; writing, publishing and print media; and architecture, design and visual arts (Centre for International Economics, June 2009). This common grouping is applied in countries such as Australia and is similar to classifications used elsewhere, as demonstrated for example in New York (Center for an Urban Future, December 2005), Hong Kong (Hong Kong Central Policy Unit, 2003) and Singapore (Singapore Department of Statistics, 2003).

The official categorisations of creative industries, as used by statistical agencies, universities and government departments throughout the world are valid and useful for the purpose of quantification and analysis. But policy-makers need to understand that 'creativity' extends beyond rigid industry groupings. As Hartley (2005) notes, the creative industries depend on "*some decidedly anti-industrial folk*". Rather than being separate sectors of the economy, creative industries are a pervasive input to many, if not all industries. Creative industries and creative entrepreneurs provide inputs that are central to businesses across many industries, from manufacturing and construction to business services, retailing and entertainment. Representing what is in effect, a 'creative services economy', creative enterprises add value to production through design, technical performance, packaging and branding.

Figure 1.

The Six Creative Industries Segments

Source: ARC Centre of Excellence for Creative Industries and Innovation

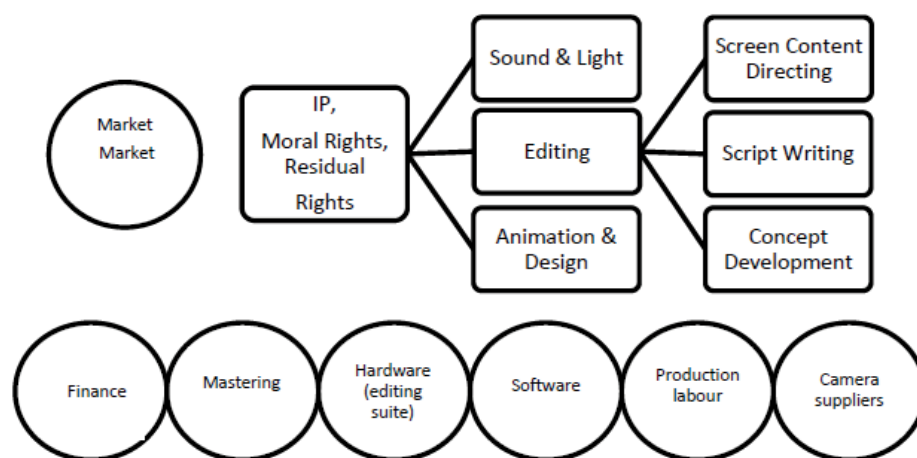
Today's 'post-industrial' form of economic organisation, where production chains that were once controlled by a few horizontally integrated corporations have become 'unbundled', has provided opportunities for the creative practitioner, whose imagination and ideas are sought by firms and organisations who value the edge it gives them in the marketplace. In the unbundled and fluid production chains of the early 21st Century, creative practitioners operate outside as well as within the framework of the enterprise and industry. With the assistance of new information technologies, a creative citizens' culture (and economy) has emerged, blurring the distinction between producer and consumer and between work and play (Leadbeater and Oakley, 1999).

"Technology plays a key role in the creative economy for content production and distribution" (United Nations, 2008, 8). For many creatives, their work is spread globally and is not tied to just one location, making the internet and e-commerce the most efficient tool to source contractors and to make and maintain contact with clients. Input suppliers too, are often a mix of local and global enterprises and individuals. This is perhaps most evident in sectors like journalism, film production and interactive software design, where bloggers and freelancers are working as independent service providers to a multiplicity of clients, earning an income at multiple points in the production chain, that is the system of organisations, enterprises, individuals, capital, equipment, technology, information and other resources involved in moving a product or service from the supplier through to the customer.

Figure 2 illustrates a conceptual model of an Australian film production company's interaction with the music video and documentary-making production/supply chain. It relies on the authors' interpretation of information obtained through personal discussions with the creative enterprise. The boxes in the chart represent the different points in the production chain where the firm earns income. For some projects it will earn income at one or two points in this chain, while for others it may earn income at all points along the chain. The circles at the bottom of the illustration represent the firm's key production inputs. This reinforces the importance of one of the fundamentals of creative industries success, that is, entrepreneurship.

Figure 2.

A Conceptual Creative Enterprise Production Chain Dynamic



Source: Lennon, S., personal communication various industry sources, 2010

4.0 Creative Industries Policy: A Short History

While the arts and cultural policy is, for the most part, 'institution'-based, creative industries are enterprise and industry-based. They are often micro-businesses, small to medium sized enterprises or sole operators - the 'creative entrepreneurs' who work (or 'create') alone. They are what Leadbeater and Oakley (1999) called a 'new breed of Independents'. Creative industries can also be very large, helping to drive employment creation, exports and economic growth (ARC Centre of Excellence for Creative Industries and Innovation, April 2010). The film, television, software development and interactive media sectors in countries such as Australia are evidence of this (Centre for International Economics, June 2009).

The development of the creative industries has been government (policy)-led rather than industry-led. The conceptualisation of the creative industries was, in large part, a response to the perceived limitations of cultural policy in facilitating new economic development opportunities. This is because the creative industries represent an eclectic grouping of interrelated, unrelated, collaborative and competing individuals and enterprises which, as Cunningham (2002, 1) notes, *“can claim to capture significant ‘new economy’ enterprise dynamics that such terms as ‘the arts’ and ‘cultural industries’ do not.”*

The evolutionary process which generated the creative industries concept began to take shape in the 1930s and ‘40s with the Frankfurt school of thought’s ‘Culture Industry’ concept. This was used by its proponents as an expression of contempt for popular culture (newspapers, movies, magazines, etc.) and the way in which capitalist forces, particularly in the United States, consumerised culture for the mass market. It was contended that ‘culture’ and ‘industry’ were supposed to be opposites but in modern capitalist society, the two had collapsed together, hence the term ‘Culture Industry’ (Hesmondhalgh, 2002, 15).

In the 1970s, the term ‘cultural industries’ gained prominence in public policy. The concept was used to persuade governments to support arts and culture for the economic benefits they deliver to communities. During this period, popular commercial industries like film and television typically sat under the ‘cultural policy’ umbrella (Hartley, 2005). The development of the cultural industries was also facilitated by a global economic transition away from once prosperous but now declining industries like manufacturing towards the more prosperous service sectors (Hesmondhalgh, 2002, 9).

Hesmondhalgh prefers the term ‘cultural industries’. He categorises ‘core’ cultural industries as those that *“deal with the industrial production and circulation of texts”*: advertising and marketing; broadcasting; film industries; the internet industry; music; print and electronic publishing; and video and computer games. He refers to theatre as a ‘peripheral’ cultural industry because it involves semi-industrial or non-industrial methods to reproduce texts or symbols, so too visual art because there is no reproduction in the exhibition of paintings, photographs and sculptures.

Hesmondhalgh’s categorisations are debatable and one might argue that since the time of his writing (2002), multi-media art exhibitions for example have become far more dependent on the use and application of intellectual property at the exhibition stage. In other words, creative value is added at this point in the production chain. Theatre too, could be argued to have

become more ‘industrial’ in its methods of production, as evident from often restaged musical spectacles like ‘Mama Mia’ or ‘We Will Rock You’, for example. In any case, it is reasonable to conclude that creative industries’ supply-chain dynamics are complex.

By the 1990s, the concept of the cultural industries was broadened to the ‘creative industries’. Cunningham (2002, 2) explains that the creative industries concept was effectively invented to overcome what was too narrow an articulation of policy towards the arts and culture and, perhaps more importantly, recognition of a need to develop a stronger policy nexus between cultural policy and economic development outcomes. The continued transition in developed economies towards new and emerging service sectors of growth facilitated the emergence of the creative industries.

Cunningham (2002, 6) suggests that there are undoubted continuities and interrelationships between cultural and creative industries. However, while the creative industries represent what is a marked shift away from the government subsidised ‘arts’ to new and more diverse applications of creativity, the creative industries can be distinguished for their propensity to take advantage of, and become part of, the new ‘knowledge economy’. The United Nations (2008) defined the creative economy as *“an evolving concept based on creative assets generating economic growth and development”*. Put simply, the creative industries are fundamentally commercial in nature. Evidence for the importance of entrepreneurship and the economic contribution of the creative industries from around the world illustrates this important distinction.

5.0 The Economic Contribution of the Creative Industries Worldwide

The potential of the creative industries as a driver of economic development cannot be understated. Australia is arguably a world leader in research and policy development for the creative industries. Data produced by the Australian Research Council Centre of Excellence for Creative Industries and Innovation (April 2010) shows the creative industries contributed over \$30 billion towards Australia’s Gross Domestic Product (GDP) in 2007/08, which is more than industries such as agriculture, hospitality & accommodation and communications. Over the 11 years to 2008 creative industries grew at a rate of 5.8% per annum compared to an average of 3.4% for all industries.

In Hong Kong, the creative industries contributed an added value to GDP of more than

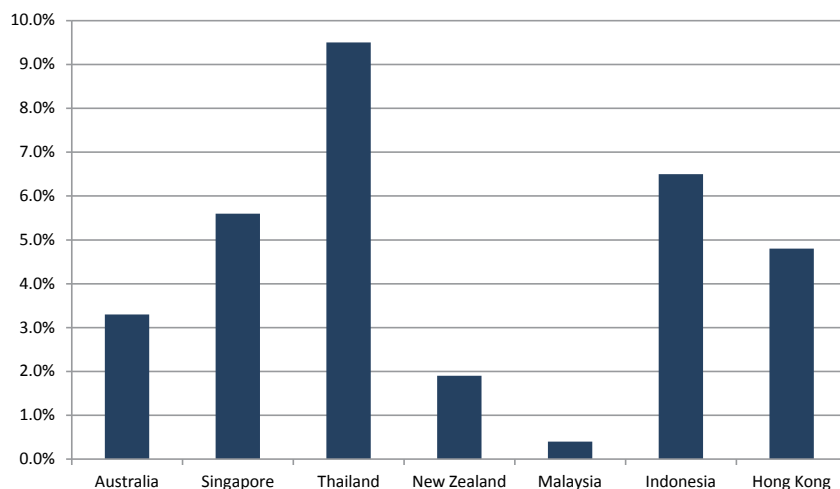
\$62 billion annually, accounting for 4 per cent of GDP (Hong Kong Information Services Department, 2011). In 2009 the creative industries accounted for 188,250 jobs or 5.4% of employment in Hong Kong (Hong Kong Government, 2010).

In Singapore, the government has invested more than US\$120 million to facilitate its goal of raising the share of creative industries to 6% of GDP. In 2003 the creative industries contributed around \$3 billion or 2 per cent of total GDP and 4 per cent of Singapore's total employment. The creative industries sector with the highest contribution to national wealth and employment in Singapore is the IT & Software Services sector, which accounted for 38 per cent of the creative industries' contribution to GDP and 31 per cent of creative industries employment in 2000. By 2008, Singapore's creative industries accounted for 5.6% of GDP and employed more than 172,000 people (Synovate Business Consulting Analysis, 2009).

Thailand provides another example of an emerging economy that is investing in policies and programmes to nurture and grow its creative industries. The Thai Government has allocated around US\$500 million to a "Creative Thailand" strategy, and it has a stated policy objective for the country to become the creative hub of South East Asia. According to a study commissioned by Thailand's Fiscal Policy Institute (December 2009), in 2008 Thailand's creative industries contributed US\$32 billion or 9.5% of GDP, with the value-added component of that accounting for 2.9% of GDP. In 2008, 875,500 workers (2.4% of Thailand's workers) were employed in the creative industries.

Figure 3.

Creative Industries' Contribution to GDP, Selected Countries, 2008



Source: Lennon, S. using data sourced from Thailand Fiscal Policy Institute (2009) and Synovate Business Consulting (2009)

According to the United Nations' *Creative Economy Report 2010: A Feasible Development Option* (2011), global trade in creative goods and services is robust, growing at 14% even as world commerce declined by 12% in 2008 as a result of the global financial crisis. Global trade in creative goods and services such as arts and craft, audiovisuals, books, film, music and new media more than doubled from 2002 to 2008, reaching nearly \$600 billion.

In countries such as Australia, the UK, the US, Singapore and Hong Kong, creative industries' growth has averaged between 5% and 10% per annum over the past ten years. Hence, if regional and world markets can be captured there is substantial room for creative industries growth in Brunei.

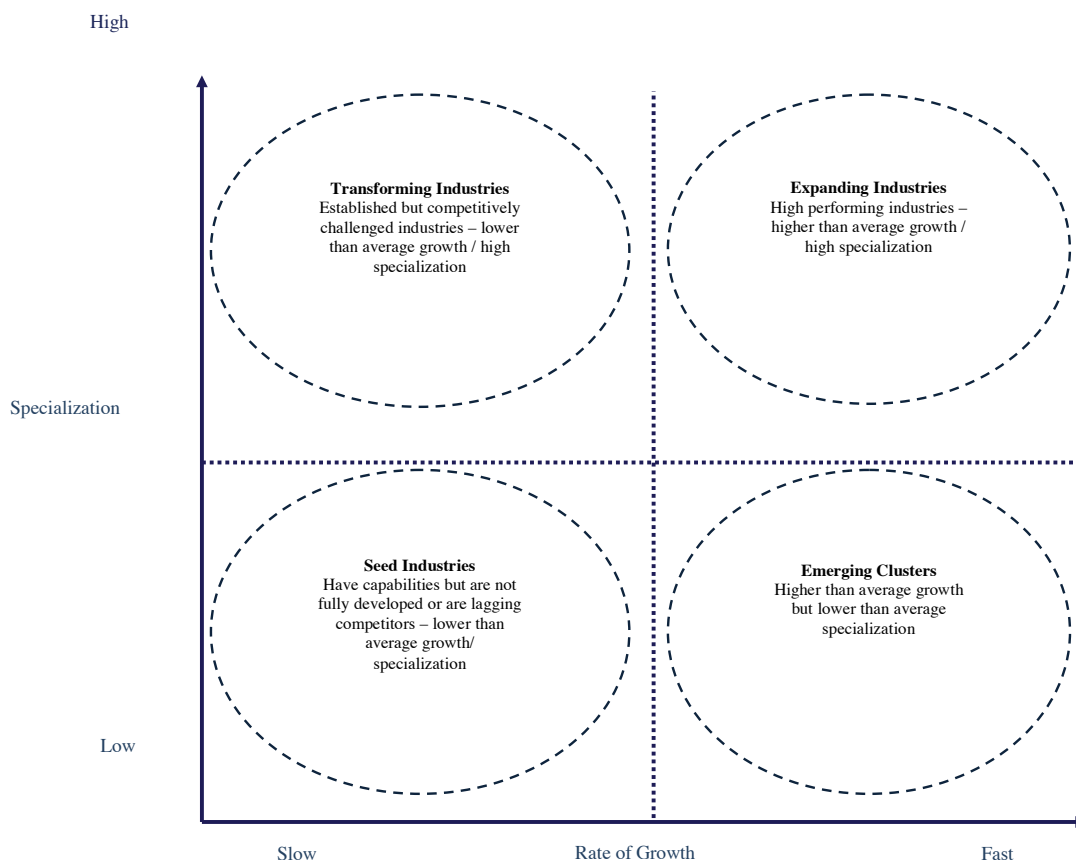
6.0 The Potential for Creative Industries in Brunei

The following industry overview encapsulates the recent and expected performance of industry in Brunei using the concept of a 'growth-share matrix'. In order to present an understanding of Brunei's industry sectors, how they are performing and where they sit in their economic life cycle, each industry is evaluated by considering its relative size, growth and employment share. Stages in the lifecycle are illustrated in the growth-share matrix (Figure 4) as follows:

- **Expanding Stage:** If in the top right quadrant (high average annual growth/higher than average concentration – as defined by the industry's location quotient²). This is indicative of a strong, adaptive industry sector.
- **Emerging Stage:** If in the lower right quadrant (high average annual growth/below average concentration), this is indicative of an emerging, growing industry that may need some assistance to mature.
- **Transforming Stage:** If in the upper left quadrant (lower than average annual growth/above average concentration), this indicates the industry is at risk (overall) and needing to increase innovation and productivity to compete with other regions/nations.
- **Seed or Transitioning Stage:** If in the lower left quadrant (lower than average annual growth/lower than average concentration), this indicates that the industry is neither developed nor growing in Brunei. It could also mean that the 'seed' industry has some potential for growth.

² A location quotient (LQ) is an index or ratio which is derived by comparing the proportion of jobs by industry sector in Brunei with the proportion of jobs in the same industry sector in the wider region. A location quotient greater than 1.0 indicates a relatively high representation of jobs in that industry sector, in other words, a quantum of those jobs is generated by external (export or non- local) demand. A location quotient less than 1.0 implies that the sector in question is a net importer.

Figure 4.

Industry Growth-Share Matrix Concept

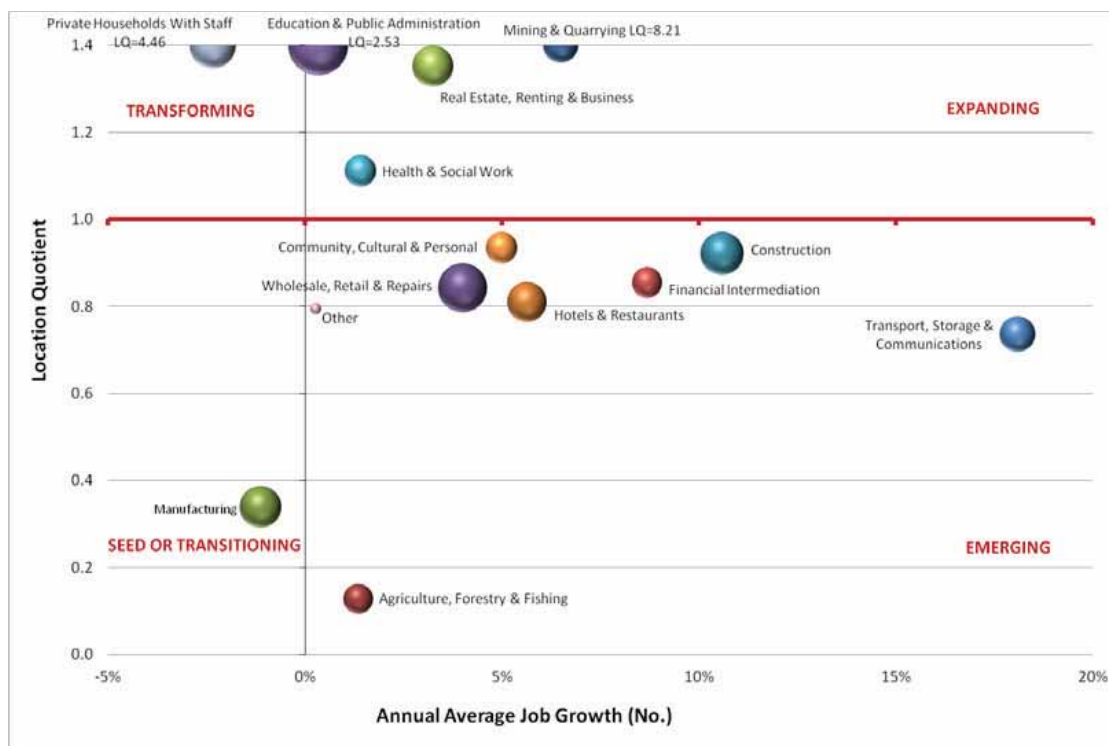
Source: S. Lennon

Figure 5 presents a growth-share matrix, highlighting how each of Brunei's industry sectors (as defined by the Department of Planning and Economic Development industry classifications) differs from the wider region (in this case, Malaysia) and where they are positioned in their economic lifecycle. The Sultanate's dominant industry - which is growing and demonstrates a high level of specialisation in Brunei, driving the nation's economic prosperity - is the Petrochemicals and Energy sector (represented by Mining and Quarrying in the standard industry definitions).

Brunei's creative industries (a sector which sits within the Department of Economic Planning and Development's definition of 'Community, Cultural and Personal Services' and which is difficult to quantify without further primary research) is most likely in the seed to expanding stage of development. Although it is yet to be fully developed in Brunei, it has potential for growth.

Figure 5.

Industry Growth-Share Matrix, Brunei



Source: Department of Economic Planning and Development (JPKE) with interpretations by the authors

7.0 Creative Industries in Brunei – A Snapshot

In Brunei, creative industries are at varying stages of development in the different categories. In the TV and radio industry, RTB or Radio Television Brunei is the state broadcaster, with the first radio broadcast made in 1957 and television's first appearance in 1975. RTB currently has five local TV channels and five radio channels, covering almost everything from local and world news to entertainment music, sports and movies and dramas, both local and international. There is an encouraging increase in the number of local production houses, covering the full works from concept, scripting, storyboarding to production and post-production. Many work closely with RTB to produce high quality content and programmes. In the film industry, Brunei's first feature film 'Yasmine' by Origin Films is expected to be released in the near future.

In advertising and marketing, local companies compete to offer packages ranging from advertising, branding, commercials, web design and poster design to commercial film-making.

In writing, publishing and print media, Brunei has a rich history of writers and a number of literature clubs like Astrawani and Rakis to boost the Malay language and literature by producing literary works and carrying out scriptwriting for RTB.

In the software and interactive content development industry, there is a growing presence, especially in the areas of 3D comic art and apps for mobile phones and the social media space. For example, a local company, Infindo, developed over 90 apps, all made in Brunei. In particular, their apps for Formula One and World Cup 2010, which provided live results and video streaming, were amongst the top 20 most downloadable apps in Europe and the second most downloadable in the world, respectively.

The support for this industry is also encouraging. There are a number of national level competitions like the ThinkBig ICT Business Plan, Brunei ICT Awards, Asia Pacific ICT Awards, LiveWire and HSBC Young Entrepreneur Challenge, with organisations such as the iCentre providing networking and incubation facilities.

In architecture, a glance at the skyline of Brunei reveals great works of Islamic architecture such as the Sultan Omar Ali Saifuddien Mosque, Jame' Asr Hassanil Bolkiah Mosque, Istana Nurul Iman, the Legislative Council Building, Yayasan and the water village, Kampung Ayer.

In the design and visual arts scene, we have the Brunei Art Forum and avenues like Warisan Waterfront Gallery to bring together artists, painters, sculptors and photographers. Many have received exposure beyond the national borders.

While Brunei does not have the full range of what the performing arts entail, there is a steady rise in the display of talents, especially in the music industry. First, traditional instruments like guling tangan and hadra continue to dominate many important events from weddings to state functions. Brunei also has many singers and songwriters covering different genres from traditional Malay songs to rock, rock ballads and R&B, in both English and Malay. Many artists have won accolades, both locally and internationally, and have recorded albums with international labels. Wu Chun, for example, a Brunei actor and singer, wows fans in China, Hong Kong, Taiwan and Malaysia. Other genres, like classical and jazz, have not quite taken off in Brunei. While there is an impressive pool of musicians mastering instruments like the piano, violin, clarinet, cello and double bass, these talents are yet to be fully harnessed to create a philharmonic orchestra.

In summary, Brunei has the ingredients – writers, filmmakers, artists, musicians and designers – to have a vibrant and successful creative industries sector. It is now a question of how to put all these seemingly disparate elements together to grow the Sultanate’s creative economy. An important starting point is to ensure Brunei has the necessary preconditions in place to encourage creativity and the diffusion of ideas.

8.0 The ‘Creative City’ and the Dynamic Cycle of Creativity and Prosperity

Each of the preconditions for prosperity - efficient and effective physical infrastructure; a skilled and flexible workforce; appropriately located and serviced employment land; connectedness between businesses, government agencies, labour and research and learning institutions; a supportive governance structure; and an urban form and function that provides the highest quality living environment - represents challenges of varying degree for Brunei’s economic diversification and development, particularly in emerging ‘knowledge-based’ industries such as the creative industries.

Perhaps one of the greatest challenges, in an era when globally oriented and well connected cities are the primary drivers of economic activity, is the development of liveable and connected cities. A high quality urban environment is an essential economic asset in a modern advanced economy and there is a strong correlation world-wide between the intensity of ‘urbanisation’ and economic growth. Increasingly, it is the cities with the strongest agglomeration economies that outperform the rest in terms of labour productivity and economic prosperity.

The Bandar Seri Begawan CBD has significant potential to be the economic powerhouse for Brunei’s future diversified economy. By concentrating commercial activity and growth into nodes such as the capital’s downtown area, a more environmentally sustainable urban form can be created. This concept of a diverse, vibrant and economically productive urban core is consistent with Brunei’s ambition to become a dynamic and sustainable knowledge economy.

Richard Florida (2002), in researching the power of place and its role in supporting economic development, identified that people balance a host of considerations in deciding where to work and live. What we want today is different from what our parents wanted and even from what many of us once thought we wanted. People today expect more from the places they live in. It is transforming these requirements and expectations from current and future residents into tangible outcomes that will assist in delivering the Brunei ‘value proposition’ and what it

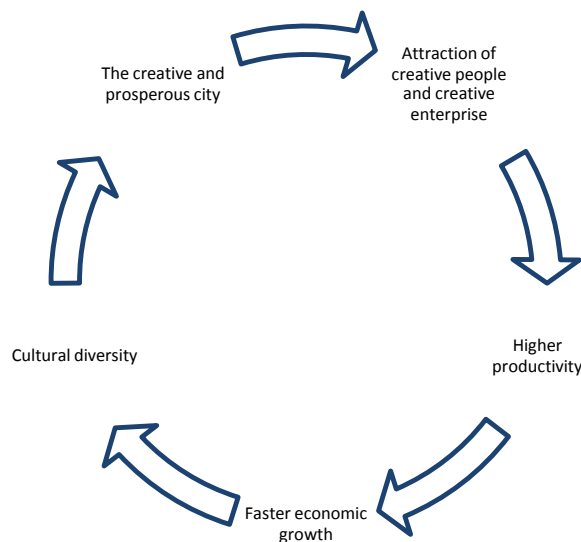
should be striving for as a destination for investment in new industries. Brunei must articulate its positioning and provide the workforce of tomorrow with the infrastructure and amenity that will attract knowledge workers and knowledge-based industries, to encourage Brunei's skilled youth to want to stay and work in the Sultanate rather than overseas.

To attract the creative professionals and knowledge workers - what Florida calls the 'creative class' - Brunei needs to put in place the preconditions for an attractive 'people environment' as well as an attractive business investment environment. Florida argues creative people value and rely on those elements of an economy that support and encourage their creativity and the diffusion of ideas. They place a premium on an area's lifestyle attributes like its recreation and leisure facilities, the quality of its public transport and pedestrian amenities, its 'green space' and its cultural infrastructure.

The Bandar Seri Begawan Development Master Plan responds to this. The Master Plan charts a course for future development in the capital city by embracing and promoting the principle of a highly liveable city celebrating Brunei's environment and encouraging sustainable and diversified economic development. This is consistent with the concept of the 'creative city'. Vibrant cosmopolitan centres have proven to be attractive to the 'creative class' as well as the broader 'entrepreneurial class' as a location to work, live and invest in. International measures of liveability show a strong correlation with economic vitality and demand for living in the centre, which further enhances the vibrancy of the downtown area.

Figure 6 .

The Dynamic Cycle of Creativity and Prosperity



Source: Lennon, S.

A city or nation that is effectively drawing in new skills, enterprises and income and traps and recirculates that income locally through consumption and production multipliers is more likely to generate a rich pool of jobs, including the ‘creatives’, and a high quality of life. In turn, this strengthens the country’s appeal as a place in which to invest and as a place where creatives and knowledge workers choose to live. This further enhances the country’s effectiveness as a producer and an exporter, representing a dynamic cycle of creativity and economic prosperity.

If policymakers are not in tune with the urban planning and city-building needs and expectations of the greater populace, entrepreneurial architects and urban designers can inform and advise them. Otherwise, there is a real risk of disconnect between what cities are and what people want and need. As Marcus Westbury (2008) argues about governments that fail to respond to community needs, *“a flagrant disregard for community and cultural consequences has led to buildings, cities, suburbs and communities that are ludicrously profitable and culturally barren”*.

Over the past decade or more, urban planners, urban designers, architects and government policy-makers have become increasingly aware of and placed greater emphasis on the important role that creativity and ideas generation play as foundations for quality of life and economic performance. Charles Landry, who writes extensively on the concept of ‘creative cities’, argues that people *“want places to meet, talk, mix, exchange, interact and play”*. He adds, *“the city should feel creative and imaginative, a place with a ‘can do’ mentality that is ‘entrepreneurial’”* (Landry, April 2010). Following the work of Landry and others, it is now widely understood that new ideas will increasingly underpin almost all forms of economic development in a city’s engagement with the new economy.

9.0 Conclusion

Brunei has one of the highest per capita incomes in Asia and one of the highest rates of macroeconomic stability in the world, with the World Economic Forum’s “Global Competitiveness Report 2009-10” ranking Brunei first out of 134 countries in terms of its macroeconomic stability (Oxford Business Group, 2010). This makes Brunei unique, giving the Sultanate considerable appeal in the eyes of foreign investors who seek above many things to minimise investment risk. But as the Government advances policies and programmes to diversify the economy, it needs to look for other attributes or preconditions to attract new industries such as the creative industries.

At present, available data on the quantum and dynamics of the creative industries in Brunei is limited and the Sultanate's creative industries policy is in the very early phases of development, perhaps in part because of this information deficit. This paper sheds some light on Brunei's creative industries potential by looking at evidence from overseas and available data on Brunei. It has also provided some examples of successful creative enterprises already established in Brunei. Clearly, Brunei has the ingredients – writers, filmmakers, artists, musicians and designers – to have a vibrant and successful creative industries sector. The challenge for policymakers is how to put all these seemingly disparate elements together to grow the Sultanate's creative economy.

An important starting point is to ensure Brunei has the necessary preconditions in place to encourage creativity and the diffusion of ideas. If Brunei can identify its existing stock of creative industries (no matter how small), if it can identify local, regional and international market opportunities, if it can nurture an environment for creative industries to develop and if it can identify those creative industries segments that present genuine potential to capture regional market share, then there is scope for this segment of the knowledge economy to contribute to Brunei's economic growth over the long term.

In order to make informed policy decisions, it will be necessary to define, map and classify Brunei's creative industries. Given current data limitations, this will require a mix of desk-based and primary research to determine the scope and scale of Brunei's creative individuals and enterprises, where they are located, their primary activities, their markets, their income and employment and their supply chain relationships.

For some segments, like Brunei's traditional arts and handicrafts, these dynamics might be very small in scale and uncomplicated in nature. For others, such as the software development and interactive content segment, Brunei might display emerging capabilities from a very small base but with emerging or established international supply chain links. The 'commercial creatives', that is, the architects and urban designers, might well be at a more advanced and mature stage of development in Brunei. But these are educated guesses. Only a full audit to map the Sultanate's creative industries will confirm existing capabilities and help identify opportunities for their growth and development in Brunei.

As demonstrated in studies referred to in this paper, in Singapore, Hong Kong, Thailand, the UK and Australia, creative industries' growth has averaged between 5% and 10% per annum over the past ten years, suggesting that if world markets can be captured, there is substantial room for creative industries growth in Brunei.

Once Brunei does articulate and measure its creative industries, it will be the role of the relevant agencies to use this information to help frame appropriate policies to nurture the nation's creativity. The Government's primary role in this regard is to put in place the preconditions for industry to compete and prosper on the global stage. If the Brunei Government can facilitate education and training to provide its population with the appropriate mix of creative and entrepreneurial skills, if it can foster SME growth and development and if it can offer an urban form and function that provides a quality living and investment environment, a vibrant creative economy is a very real prospect for Brunei.

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Do Oil Price Shocks Matter? Evidence from an Oil-Exporting Economy

Lutfi Abdul Razak

Abstract

This paper looks at the oil price-macroeconomy relationship of a major oil exporter by analysing the direct impact of oil price shocks on inflation and industrial production indexes for Norway, using quarterly data for the period 1960-1999. The variables are tested for cointegration allowing for a structural break, and different transformations of oil price shocks are used in order to account for possible non-linear relationships. The main results suggest that oil prices have permanent effects on inflation and short run effects on industrial production growth rates. As expected, the effect of an oil price shock on industrial production growth rates is positive; however, it is only short-lived and is corrected for in real terms after just over a year by increases in inflation. Caution is warranted regarding the external validity of the results obtained here for other oil-exporting countries, especially without prior replication of the econometric analysis. Nevertheless, important policy implications can still be drawn from successful economies such as Norway, in terms of the Petroleum Fund and the centralized wage bargaining framework in particular. Whilst the recent establishment and implementation of the Sustainability Fund Act serves to protect and manage the size of Brunei's financial reserves, it is also argued that much more needs to be done to study in-depth the effect of labour market policies on the rest of the economy.

Keywords: *oil-exporting countries, oil price shocks, industrial production, inflation, Norway, Brunei*

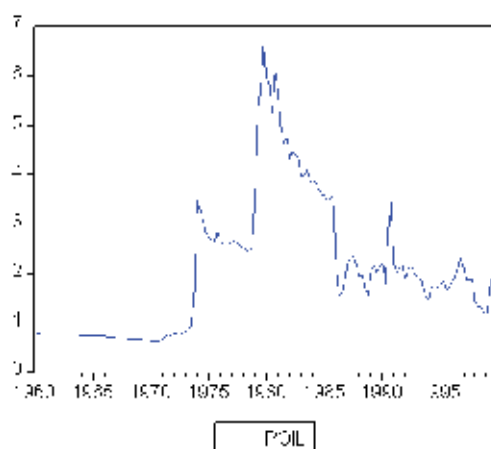
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1.0 Introduction

Oil price shocks have been a significant feature of the world economy since the 1970s. Firstly in 1973-1974, the oil embargo imposed by the Organization of Petroleum Exporting Countries (OPEC) greatly increased the barrel price of crude oil from US\$3.40 to US\$13.40. In 1978-1979, after the Iranian revolution disrupted oil supplies, the price of oil rose from US\$20 to US\$30. A third oil price shock followed Iraq's invasion of Kuwait in 1990, when prices went up from US\$16 to US\$26 and in 1999 prices went up from US\$12 to US\$24. Since then, oil prices have quadrupled and reached record-breaking levels. The real price of oil for 1960 – 1999 is given in Figure 1 below.

Figure 1

Real Price of Oil. Nominal US Dollar Price of Crude Petroleum Deflated by the US Producer Price Index.



Source: International Financial Statistics, International Monetary Fund

The transmission mechanisms through which oil prices have an impact on real economic activity include both supply and demand channels. An oil price shock can lead to higher aggregate demand since the price rise redistributes income between the countries that are net exporters and net importers, and is commonly associated with a terms-of-trade benefit for oil-exporting countries and a loss for oil-importing countries. Furthermore, oil price changes also entail demand-side effects on consumption and investment. Consumption is affected indirectly through its positive relation with disposable income; oil price rises reduces consumers' spending power. Investment may also be affected if the oil price shock encourages producers to substitute less energy-intensive capital for more energy-intensive capital. The magnitude of this effect on investment is in turn stronger the more the shock is perceived to be long-lasting.

However, oil price increases reduce aggregate supply since higher energy prices mean that firms purchase less energy; consequently, the productivity of any given amount of capital and labour declines and potential output falls. Thus, the overall outcome of an oil price shock on real economic activity is not clear and the main purpose of this paper is to assess which of these opposing effects, positive or negative, is stronger. For this reason, the theoretical literature has been of a general equilibrium nature, with different authors assigning different weights to the supply and demand channels.

On the other hand, the link between oil prices and inflation should be clearer. There should be a positive and direct link between oil prices and inflation through its effect on production costs. However, the extent of the impact may vary between countries due to differences in the underlying macroeconomic infrastructure.

This paper closely follows the methodology employed by Cuñado & Pérez de Gracia (2003) who studied the oil price-macroeconomy relationship for 15 European countries: Germany, Belgium, Austria, Spain, Finland, France, Ireland, Italy, Luxembourg, Portugal, UK, Netherlands, Denmark, Greece and Sweden. Although it was acknowledged that an oil price shock might have a differential impact on countries due to their relative position as an oil importer or oil exporter (Cuñado & Pérez de Gracia 2003, p. 138), no specific analysis or reference was made. In fact, the major focus in the existing oil price literature (e.g. Hamilton 1983, 1996; Mork 1989) has been on oil-consuming countries in the OECD area.

The literature on oil-exporting countries or resource-abundant economies tends to focus on the “Dutch Disease” and “Resource Curse” strands, which are not the primary subjects of analyses here. The “Dutch Disease” effect postulates that an exogenous unexpected increase in foreign exchange revenues from a natural resource will lead to an appreciation of the real exchange rate as well as a fall in output and employment of the non-resource traded goods sector, often manufacturing. The “Resource Curse” theory tends to refer to political economy considerations where massive windfalls from the resource create incentives for rent-seeking activities. The analysis here, though not entirely unrelated, purely looks at the effect of oil price shocks on the growth of industrial production and inflation. From an empirical perspective, considerable research finds that oil price shocks have affected output and inflation (Hamilton 1983, 1996, 2003; Mork 1989; Hooker 1996, 2002). Although Bernanke, Gertler & Watson (1997) argue that the most important part of the effects of oil price shocks in the US stems from a tightening of monetary policy; they still find an overall negative oil price effect.

Norway, being a major oil exporter, is likely to gain substantially from high oil prices and in this respect deviates fundamentally from most other OECD economies. Moreover, as an industrialised small open economy, Norway is very dependent upon trade with other OECD countries. Thus, the country may potentially face adverse trade impulses from oil price shocks. These effects are also likely to be significant: contrary to other major oil exporters (notably the OPEC countries) where non-oil exports have been of minor importance, Norwegian non-oil exports have accounted for 25-30% of GDP since the beginning of the 1980s. In addition, with a fixed exchange rate regime, higher interest rates abroad transmit to the Norwegian economy¹. Eika & Magnussen (2000), in their analysis of the Norwegian economy, utilise two large-scale macroeconomic forecasting models and found that during the period of high oil prices between 1979 and 1986, the level of real GDP increased by more than 1.5% on average and by 1% in the following seven years, higher than that predicted under a smooth real oil price path. The analysis presented here will attempt to uncover whether there is a causal relationship between exogenous oil price shocks and growth as well as inflation. Due to the structure of the Norwegian economy, the results obtained here are expected to differ from the other European countries studied by Cuñado & Pérez de Gracia (2003).

It should be apparent from the above discussion that Brunei shares a few traits with Norway. As a very small and open economy (Bhaskaran 2007, p. 3), which also operates under a fixed exchange regime², one would be tempted to extrapolate that the effects of oil prices felt by Norway on growth and inflation would be similar to that felt by Brunei. However, with a much less industrialized economy and a much smaller domestic market, as well as differences in institutional structures, caution should be exercised before making such interpretations. Nevertheless, the analysis outlined here at the very least should generate useful insights regarding the transmission of oil price shocks to growth and inflation.

The paper proceeds as follows. In the second section, a discussion of the data will be provided in particular different proxies for the oil price shock variable that will be used in the empirical analysis. The third section covers the empirical estimation of the oil price changes on both inflation and industrial production growth rates for Norway. The fourth section considers the policy implications of the findings here, as well as a comment on the external validity of this study to other oil-exporting economies, with particular reference to Brunei. The final section concludes and evaluates the findings.

¹ In December 1992 however, the Central Bank of Norway (Norges Bank) abandoned the fixed exchange rate regime in favour of a floating exchange rate (managed float) due to the heavy speculation against the Norwegian currency in the early 1990s, which had cost the Norwegian central bank around two billion kroner in defensive purchases of the NOK through usage of foreign currency reserves for a relatively short period of time. Thus, a proxy for oil price shocks which also takes account of exchange rate fluctuations needs to be used to examine whether such influences matter. The proxy used in this paper will be introduced in the next section.

² Brunei has maintained a Currency Interchangeability Agreement with Singapore since 1967, managed at a 1:1 ratio.

2.0 Data Description

In this paper, four possible proxies for oil price shocks are presented and analysed: inter-annual changes of oil prices (Δoil), oil price increases (Δoil^+), net oil price increases ($NOPI$) and scaled oil price increases (SOP). In addition, national oil price shocks ($e \times \Delta oil$) will be used as well. National oil prices have been influenced by oil price controls, high and varying taxes on petroleum products, exchange rate fluctuations and national price index variations. Such considerations justify the use of the world price of crude oil both in dollars and converted into the Norway *kroner* by means of the market exchange rate. The joint analysis of these proxies will filter out other variables such as exchange rate fluctuations. All data have been obtained from the International Financial Statistics, International Monetary Fund.

The first oil price shock proxy is the change in real oil prices, defined to be the first difference of the logarithm of the producer price index for crude petroleum or from the domestic first purchase price and is calculated as:

$$\Delta oil_t = \ln(poil_t) - \ln(poil_{t-4}) \quad (1)$$

where $poil_t$ is the real oil price in period t , which is the nominal oil price deflated by the US producer price index in period t .

Secondly, a variable that will consider only oil price increases as oil price shocks, calculated as:

$$\Delta oil_t^+ = \max[0, \Delta oil_t] \quad (2)$$

where Δoil_t^+ is the maximum of (a) zero and (b) the difference between the real oil price level and Δoil_t .

The third proxy is the variable proposed by Hamilton (1996): net oil price increase ($NOPI$), which is the maximum of (a) zero and (b) the difference between the log level of the crude oil price for quarter t and the maximum value for the level achieved during the previous four quarters:

$$NOPI_t = \max[0, \ln(poil_t) - \ln(\max(poil_{t-1}, poil_{t-2}, poil_{t-3}, poil_{t-4}))] \quad (3)$$

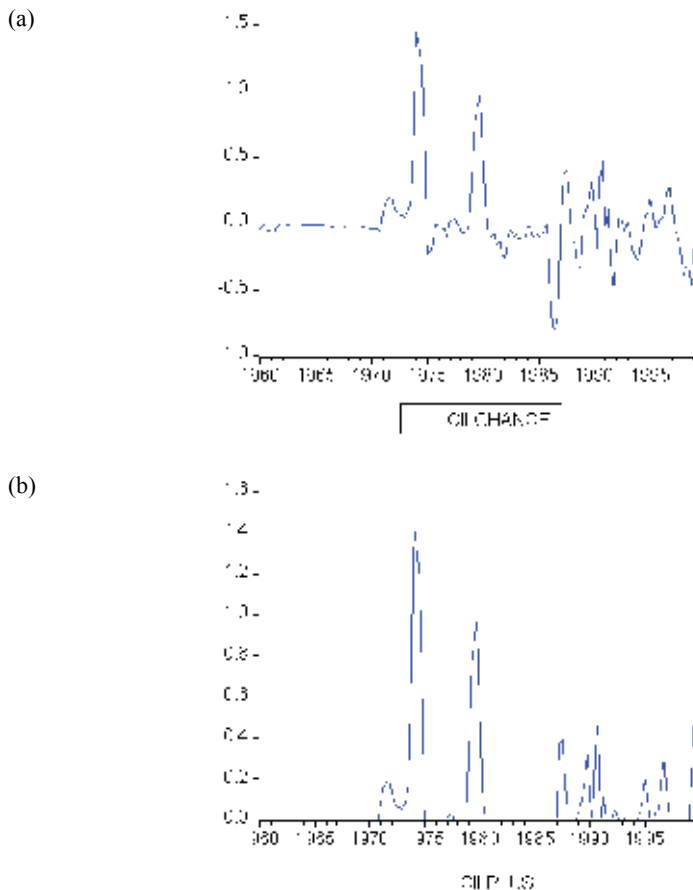
Thus, if oil prices are lower than they have been at some point during the most recent years, no oil shock is said to have occurred.

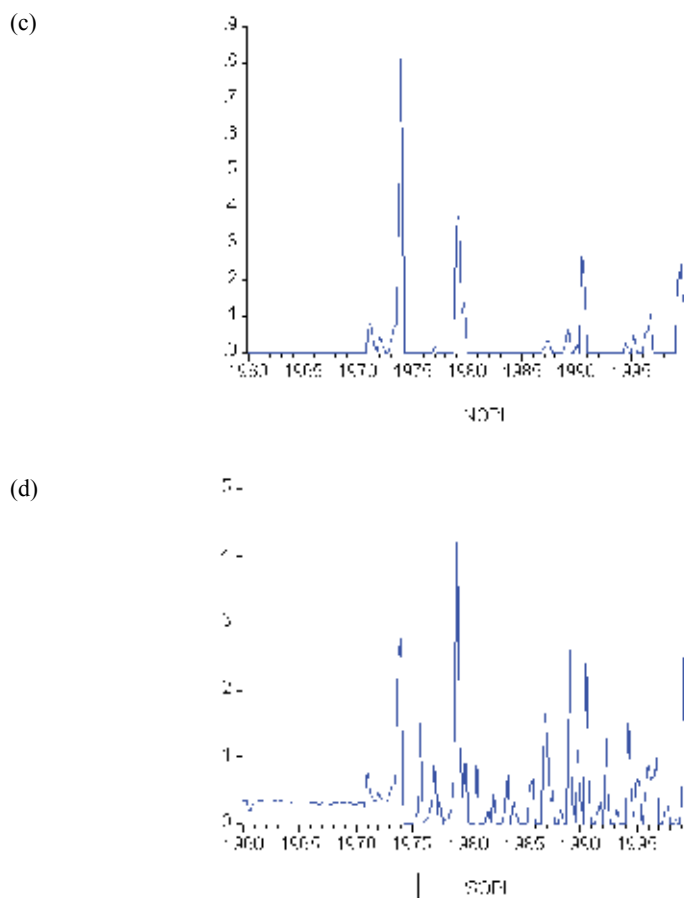
Finally, Lee, Ni & Ratti (1995) focus on volatility, arguing that an oil price shock is likely to have a greater impact in an environment where oil prices have been stable than in an environment where oil price movement has been frequent and erratic because oil price changes in a volatile environment are likely to be soon reversed. A *GARCH*(1,1) model is estimated in order to construct this fourth oil price shock proxy, for scaled oil price increases (*SOPI*):

$$\begin{aligned}\Delta oil_t &= \alpha + \sum_{j=1}^k \beta_j \Delta oil_{t-j} + \varepsilon_t \quad \varepsilon_t | \psi_t \sim N(0, h_t) \\ h_t &= \gamma_0 + \gamma_1 \varepsilon_{t-1}^2 + \gamma_2 h_{t-1} \\ SOPI_t &= \max(0, \hat{\varepsilon} / \sqrt{\hat{h}_t})\end{aligned}\quad (4)$$

Figure 2

The Four Alternative Measures of Oil Price Shocks: (a) Oil Price Changes (Δoil); (b) Positive Oil Price Changes (Δoil^+); (c) & (d) are NOPI and SOPI as Defined by Equations (3) & (4).





Source: International Financial Statistics, International Monetary Fund (Author's own calculations)

The four alternative measures of oil price shocks are plotted in Figure 2 above and it can be seen from these figures that these proxies are very different from one another.

In addition, the national oil price shock is calculated as:

$$e\Delta oil = \text{exchange rate} \times \frac{US\ CPI}{NORWAY\ CPI} \times \Delta oil \quad (5)$$

where e is the real exchange rate multiplied by the change in real oil prices.

The correlation coefficients calculated in Table 1 for each of these oil variables support the case that oil price shock proxies are significantly different from each other. However, with a correlation coefficient of 0.97, it does not appear that there is any significant difference between the world price of crude oil price shocks (Δoil) and the national oil price shocks ($e \times \Delta oil$). This suggests that for the case of Norway, exchange rate fluctuations have closely followed world oil price fluctuations. Nonetheless, for the sake of completeness this variable will still be included in the empirical analysis.

Table 1

Correlation Coefficients between Oil Price Shock Proxies.

	Δoil^+	$e \times \Delta oil$	$NOPI$	$SOPI$
Δoil	0.90	0.97	0.58	0.34
Δoil^+		0.94	0.64	0.32
$e \times \Delta oil$			0.58	0.33
$NOPI$				0.66

Source: Author's own calculations

3.0 Empirical Analysis

In this section, the oil price–macroeconomy relationship for Norway is examined by means of estimating the impact of oil price shocks on the industrial production index (IPI) and inflation rates, calculated from consumer price indexes (CPI), during the period 1960–1999. Firstly, the main variables of interest are subject to unit root and cointegration tests. Secondly, the relationship of oil prices with IPI growth rates and inflation rates are tested for Granger causality. Lastly, a trivariate VAR relationship is estimated in order to test whether the effect of oil prices on economic activity occurs through changes in inflation rates or through an additional mechanism.

3.1 Unit Root and Cointegration Analysis

The standard first-step procedure of empirical time series analysis is to test for the existence of a unit root. A unit root test enables us to determine whether a time series variable is non-stationary. Here, the Phillips-Perron (PP) (1988) and Augmented Dickey Fuller (ADF) unit root tests have been carried out for all the variables, in levels and first differences. The results in Table 2 suggest that all the variables exhibit a unit root.

However, these tests may be misleading as the sample period includes structural breaks such as the oil market collapse of 1985. Perron (1989) showed that if a series is stationary around a deterministic time trend which has undergone a permanent shift some time during the period under consideration, failure to take account of this change in slope would be mistaken by the usual ADF test as a persistent innovation to a stochastic (non-stationary) trend³.

³ That is, a unit root test which does not take account of the break will have a (very) low power. There is a similar loss of power if there has been a shift in the intercept (possibly in conjunction with the slope of the deterministic trend).

Table 2

Unit Root Tests. Phillips-Perron (PP) and Augmented Dickey Fuller (ADF) Unit Root Tests in Levels and First Differences.

	<i>p</i>		<i>poil</i>		<i>IPI</i>	
	PP	ADF	PP	ADF	PP	ADF
Levels	-2.12	-1.85	0.27	-0.40	-0.67	-0.91
First difference	-13.00**	-10.88**	-10.85**	-10.81**	-28.46**	-3.40**

Source: Author's own calculations, where ** indicates significance at the 5% level.

If the break(s) in the series are known then it is relatively simple to adjust the ADF test by including (composite) dummy variables to ensure there are as many deterministic regressors as there are deterministic components in the data generating process. As shown in Table 3, a simple correlation calculation suggests that the relationship between IPI growth and oil prices strengthened after 1985. However, it is unlikely that the date of the break will be known *a priori*, as was initially assumed by Perron (1989). Therefore, in such situations it becomes necessary to test various methods that have been developed in the literature⁴.

Table 3

IPI Growth and Oil Price Correlation Coefficients for 1961-1999, 1961-1985 and 1985-1999.

1961-1999	1961-1985	1986-1999
0.15	0.12	0.16

Source: Author's own calculations

Here, the procedure as set out by Perron (1994) is followed. The test of the model is that the null of y_t is non-stationary based on $H_0 : \psi^* = 0$ against the alternative $H_1 : \psi^* < 0$ and the t-statistics for these tests depend on the break date T_b and the lag length p^5 . For the change in the intercept (crash) model, the following regression model is used to test the null that y_t is non-stationary:

⁴ Perron (1994) considers breaks in the intercept and/or trend using additive and innovative outlier approaches, while Zivot & Andrews (1992) and Banerjee, Lumsdaine & Stock (1992) consider innovative outlier models and develop a recursive, rolling or sequential approach. As Perron (1994) pointed out, Zivot & Andrews (1992) and Banerjee et al. (1992) test the joint hypothesis of a null of a unit root and no break in the series, while his approach is a test of a unit root hypotheses *per se*, where the change in slope is allowed under both the null and alternative hypotheses.

⁵ In the 'crash' model, Perron (1994) chooses T_b so as to minimize the value of the t-statistic for testing $\gamma = 0$ (for sudden crashes).

$$\Delta y_t = \psi * y_{t-1} + \sum_{i=1}^{p-1} \psi_i \Delta y_{t-i} + \mu + \beta t + \gamma DU_t + \delta D(T_b)_t + \varepsilon_t \quad (6)$$

$$\varepsilon_t \sim IID(0, \sigma^2)$$

where $DU_t = 1$ if $t > T_b$ and 0 otherwise

$D(T_b)_t = 1$ if $t = T_b + 1$ and 0 otherwise

Table 4

Perron (1994) Unit Root Test with a Structural Break.

	p	$poil$	IPI
Norway	-2.65** (1986Q3)	-2.70** (1986Q1)	-4.39** (1986Q3)

Source: Author's own calculations, where ** indicates significance at the 5% level.

As shown in Table 4, the Perron (1994) test for a unit root is still significant in the presence of a structural break for all variables at the 5% level. This tells us that these variables are indeed non-stationary.

As all the variables exhibit a unit root, bivariate cointegration is tested for using the Engle & Granger (1987) – EG - and Gregory & Hansen (1996) – GH - approach. If two time series y_t and x_t are both non-stationary or $I(1)$, then in general any linear combination of the two series will also be non-stationary or $I(1)$ ⁶. If however, there exists a vector β , such that the disturbance term from the regression is $I(0)$, then the variables are said to be cointegrated⁷. This implies that the long run relationship between y_t and x_t can be estimated by the static model:

$$y_t = \beta x_t + \varepsilon_t \quad (7)$$

Engle & Granger (1987) advocated ADF tests of the following kind:

$$\Delta \hat{\varepsilon}_t = \mu + \delta t + \psi_i * \hat{\varepsilon}_{t-1} + \sum_{i=1}^{p-1} \psi_i \Delta \hat{\varepsilon}_{t-i} + \omega_t \quad (8)$$

where $\hat{\varepsilon}_t$ are obtained from the static model above.

⁶ In this case, IPI growth and inflation rates are regressed on oil prices.

⁷ Two or more time series are cointegrated if they share a common stochastic drift.

The question of the inclusion of trend and/or constant terms in the test regression equation depends on whether a constant or trend term appears in the long run relationship, i.e. deterministic components can be added to either (7) or (8), but not to both. It is important to include a constant if the alternative hypothesis of cointegration allows a non-zero mean for $\hat{\varepsilon}_t$, while in theory a trend should be included if the alternative hypothesis allows a non-zero deterministic trend for $\hat{\varepsilon}_t$. The null hypothesis of a unit root and thus no cointegration ($H_0: \psi^*=0$) is based on a t-test with a non-normal distribution. However, the standard DF distribution would tend to over-reject the null; thus MacKinnon (1991) critical values are used instead. However, as with the case of testing for unit roots when there has been a structural break(s), the EG approach will tend to under-reject the null of no cointegration if there is a cointegration relationship that has changed at some (unknown) time during the sample period. That is, a cointegration test that does not take account of the break in the long run relationship will have low power.

Gregory & Hansen (1996) extended the EG model to allow for a single break in the cointegration relationship by rewriting equation (7) with the β vector separated into the intercept and slope parameters (α, β):

$$y_t = \alpha_1 + \alpha_2 \varphi_{tk} + \lambda t + \beta_1 x_t + \beta_2 x_t \varphi_{tk} + e_t \quad (9)$$

where structural change is included through the dummy variable:

$$\varphi_{tk} = \begin{cases} 0 & \text{if } t \leq k \\ 1 & \text{if } t > k \end{cases}$$

and k is the unknown date of the (potential) structural break⁸.

Table 5

Cointegration Tests.

Engle & Granger (1987) approach		Gregory & Hansen (1996) approach	
p	ΔIPI	p	ΔIPI
-2.00	2.76	-7.45** (1986Q3)	-4.27 (1986Q3)

Source: Author's own calculations, where ** indicates that the null hypothesis is rejected at 5% significance level.

⁸ Since k is unknown, the ADF test involving e_t with the largest negative value of the ADF τ -value across all possible break points taken as the relevant statistic for testing the null hypothesis.

Table 5 shows the results of the cointegration tests with the EG and GH approaches. Under the EG approach, no long run relationship is found between either oil prices and IPI, or oil prices and inflation rates⁹. However, when the test for cointegration allowed for structural breaks by means of the methodology of Gregory & Hansen (1996)¹⁰, a cointegrating relationship is found to exist between oil prices and inflation rates, but there is no evidence of cointegration between oil prices and IPI growth rates¹¹.

3.2 Bivariate Granger Causality Tests

Correlation does not necessarily imply causation. Many statistical techniques can be used to yield correlations between variables, but these relationships may actually turn out to be spurious or meaningless. Further econometric analysis is required to tease out causal relationships from simple correlations. A variable y is said to be Granger caused by x if x helps in the prediction of y , or equivalently if the coefficients on the lagged values of x 's are statistically significant¹².

Since cointegration does not exist between oil prices and IPI, the following formulation is used to test the Granger causality from oil prices to IPI growth rates:

$$\Delta IPI_t = \alpha_0 + \sum_{i=1}^k \alpha_{1i} \Delta IPI_{t-i} + \sum_{i=1}^k \alpha_{2i} \Delta oil_{t-i} + \varepsilon_t \quad (10)$$

Failure to reject the null hypothesis $\alpha_{21} = \alpha_{22} = \dots = \alpha_{2k} = 0$ implies that oil prices do not Granger cause IPI growth rates. Table 6 shows the result of these causality tests.

Table 6

Granger Causality Tests for Inter-Annual IPI Growth Rates.

Δoil	$e \times \Delta oil$	Δoil^+	$NOPI$	$SOPi$
0.83	0.79	0.49	0.51	2.39*

Source: Author's own calculations, where * indicates that the null hypothesis is rejected at 10% significance level.

⁹ The result in the table is the case when only the intercept is included. The same qualitative result is found when both the intercept and trend or only the trend is included.

¹⁰ The critical values are taken from Table 1 in Gregory & Hansen (1996).

¹¹ This finding is consistent with Cuñado & Pérez de Gracia (2003).

¹² Note that two-way causation is frequently the case; x Granger causes y , and y Granger causes x .

According to the results presented in Table 6, oil prices do not Granger cause IPI growth rates, except in the case when the *SOPI* variable is used. These results suggest that oil price increases have a significant impact on IPI growth rates if they occur in periods of low volatility.

Since cointegration exists between inflation rates and oil prices, an error correction term is required in testing Granger causality as shown below:

$$\Delta\pi_t = \alpha_0 + \sum_{i=1}^k \alpha_{1i} \Delta\pi_{t-i} + \sum_{i=1}^k \alpha_{2i} \Delta oil_{t-i} - \gamma z_{t-1} + \varepsilon_t \quad (11)$$

in which γ denotes the speed of adjustment and z are the residuals of the long run relationship between inflation and oil prices.

Failure to reject the null hypothesis $\alpha_{21} = \alpha_{22} = \dots = \alpha_{2k} = 0$ and $\gamma = 0$ implies that oil prices do not Granger cause inflation rates. Table 7 shows the results of these causality tests.

Table 7

Granger Causality Tests for Inflation Rates.

Δoil	$e \times \Delta oil$	Δoil^+	<i>NOPI</i>	<i>SOPI</i>
8.04**	2.44*	6.26**	9.04**	9.64**

Source: Author's own calculations, where * and ** indicate that the null hypothesis is rejected at 10% and 5% respectively.

In this case, oil prices cause inflation rates even when a linear relationship is considered. However, the impact of oil prices is less pronounced when oil price shocks are measured in the national currency. This suggests that the mechanism through which higher oil prices lead to inflation is not through exchange rate fluctuations.

Lee, Ni & Ratti (1995) and Hamilton (1996, 2003) find evidence that oil prices have asymmetric and non-linear effects on economic activity. Therefore, in order to test for asymmetries, real oil price increases (as well as *NOPI* or *SOPI* to test for robustness) and decreases are entered as separate variables in the bivariate estimation equations of IPI:

$$\Delta IPI_t = \beta_0 + \sum_{j=1}^k \beta_j \Delta IPI_{t-j} + \sum_{j=1}^k \gamma_j^+ \Delta oil_{t-j}^+ + \sum_{j=1}^k \gamma_j^- \Delta oil_{t-j}^- + \varepsilon_t \quad (12)$$

$$\Delta IPI_t = \beta_0 + \sum_{j=1}^k \beta_j \Delta IPI_{t-j} + \sum_{j=1}^k \gamma_j^+ \Delta NOPI_{t-j} + \sum_{j=1}^k \gamma_j^- \Delta oil_{t-j}^- + \varepsilon_t \quad (13)$$

$$\Delta IPI_t = \beta_0 + \sum_{j=1}^k \beta_j \Delta IPI_{t-j} + \sum_{j=1}^k \gamma_j^+ SOPI + \sum_{j=1}^k \gamma_j^- \Delta oil_{t-j} + \varepsilon_t \quad (14)$$

Based on these three equations, the following null hypothesis is tested:

$$\sum_{j=1}^k \gamma_j^+ = \sum_{j=1}^k \gamma_j^- \quad (15)$$

Table 8

Asymmetric Effects Given by Equations (12), (13) & (14) Respectively.

ΔIPI		
$\Delta oil^+ = \Delta oil^+$	$NOPI = \Delta oil^+$	$SOPI = \Delta oil^+$
1.77	1.02	2.19*

Source: Author's own calculations, where * indicates that the null hypothesis is rejected at 10% significance level.

As observed in Table 8, there is insufficient evidence that oil price changes have an asymmetric effect on IPI growth rates. This suggests that oil price increases have a similar effect in magnitude on IPI growth as oil price decreases. However, the significance of the *SOPI* variable suggests that oil price increases are likely to have a larger impact on growth during periods of low volatility.

3.3 Trivariate VAR Relationship

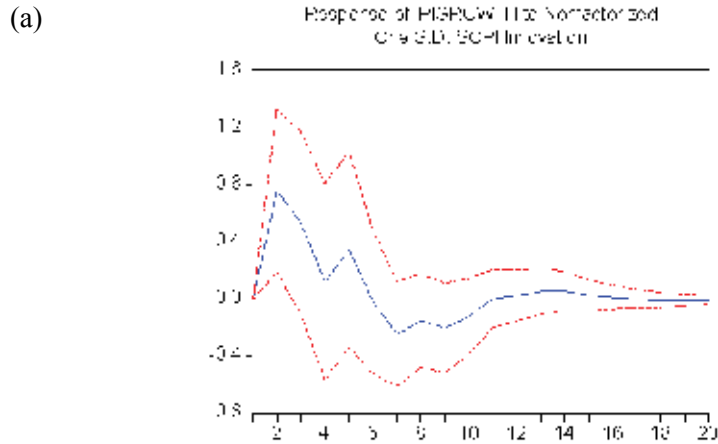
A trivariate VAR model is estimated in order to test whether the effect of oil prices on economic activity is through changes in inflation rates or through an additional mechanism. As in Cuñado & Pérez de Gracia (2003), an impulse response function is estimated based on:

$$\Delta IPI_t = \alpha_0 + \sum_{i=1}^k \alpha_{1i} \Delta IPI_{t-i} + \sum_{i=1}^k \alpha_{2i} \Delta \pi_{t-i} + \sum_{i=1}^k \alpha_{3i} SOPI_{t-i} + \varepsilon_t \quad (16)$$

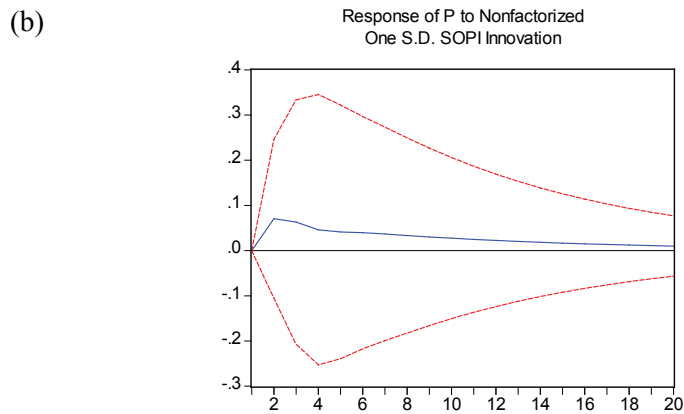
Conversely, the impulse response function for the effect of oil price shocks on inflation is based on the following equation:

$$\Delta \pi_{t-i} = \alpha_0 + \sum_{j=1}^k \alpha_{1j} \Delta IPI_{t-j} + \sum_{j=1}^k \alpha_{2j} \Delta \pi_{t-j} + \sum_{j=1}^k \alpha_{3j} SOPI_{t-j} + \varepsilon_t \quad (17)$$

Figure 3

Responses to SOPI (Trivariate VAR).

Source: Author's own calculations.



Source: Author's own calculations.

The results presented in Figure 3a show that a one standard deviation shock on *SOPI* has a large effect on IPI growth rates in the short run, but this dissipates to an insignificant effect in the long run when inflation rate changes are included in the model. On the other hand, the results as presented in Figure 3b show that a one standard deviation shock on *SOPI* has a small, but significant and lasting, effect on inflation rates.

This suggests that the economic activity-oil price relationship can be explained by the impact of oil prices on inflation rates¹³. This is in stark contrast to the results obtained by Cuñado & Pérez de Gracia (2003), who find that a one standard deviation shock on *NOPI* has a significant

¹³ Similar qualitative results are obtained when other proxies for oil price shocks are used instead.

negative effect on IPI growth rates for 15 European countries, which holds true even when inflation rate changes are included in the model. Furthermore, they find that significant differences exist in the impact on each of the analyzed countries, most of which were net oil importers in the analysis period. Thus, it should not be a surprise that the result obtained for Norway, a major net oil exporter, is different.

4.0 Policy Implications

At first, the revenue gains from unexpected oil price shocks may be perceived to be a boon to oil-exporting economies. However, the preceding analysis for Norway indicates that oil price increases can only deliver a temporary boost to industrial production growth rates and permanent effects on inflation, with the direction of causality accounted for. Nominal increases in production growth are dissipated in real terms by rises in inflation. This means that oil price increases do not, by themselves, directly provide real gains to industrial production. The main policy implication of the above suggests that Norway should not be reliant on direct revenue from oil, which is known to be a volatile source of income, to drive economic growth forward. This however, is not known to be a major problem for Norway, as it already possesses many favourable conditions such as an educated labour force, a well-developed industrial sector and sound macroeconomic infrastructure, even prior to the discovery and extraction of oil in the North Sea in the 1970s, to achieve sustainable advantage. Therefore, the contribution of oil to the success of the Norwegian economy is indirect, which is through the successful management and utilization of oil rents.

Do the results here translate to other oil-exporting countries? Is it true that oil price increases provide no real gains in production or economic activity? The empirical observation that many resource-abundant, and in particular, oil-exporting countries have tended to experience slow long-term growth has been observed by many authors in the “Dutch Disease” literature¹⁴. However, it is worth noting that there can be significant variation across countries, as cross-country regressions and analyses in many studies tend to drop or ignore country-specific factors and influences¹⁵. Thus, careful consideration should be taken in the interpretation or extrapolation of results for policy recommendations. A similar procedure needs to be replicated in order to correctly assess the external validity of the results obtained in this paper – whether the main results are transferable to other

¹⁴ For example, Mahadi (2011) finds evidence of a causal link that runs from real oil prices to real exchange rates for Oman, Qatar and Saudi Arabia. This is supportive, but not quite conclusive of the “Dutch Disease” effect for GCC economies. For completeness, studies such as these need to make more explicit the final and causal link between the real exchange rate and output as well as on the non-resource trade goods sector, in particular manufacturing.

¹⁵ For example, Cuñado & Pérez de Gracia (2003) find that significant differences exist among the impact on each of the analysed countries, in particular Luxembourg. Further, Mahadi (2011) does not find a causal relationship between the real oil price and real exchange rate for other oil-exporting countries such as Bahrain, Kuwait and UAE.

economies in different settings. Nevertheless, there are still several lessons that can be learnt from successful economies such as Norway, which should be of benefit to other resource-abundant or oil-exporting economies as long as local conditions and factors are assessed thoroughly in conjunction.

In a recent paper, Røed Larsen (2006) provides a thorough examination and discussion of the mechanisms that allowed Norway to escape the “Dutch Disease” and “Resource Curse” effects, which include deliberate macroeconomic policy, the arrangement of political and economic institutions, a strong judicial system and social norms. Although, both the curse and the disease originate from a sudden increase in resource wealth, they have differing effects. Table 9 simplifies and distinguishes between the two.

Røed Larsen (2006) came to the conclusion that oil was the engine of growth in the 1970s simply because growth accelerated only after the discovery and extraction of oil, but does not explicitly test for the transmission mechanism. Though it is likely that oil may have been the initial source of growth, the result gathered from this paper is that oil by itself cannot sustainably be the sole or main engine for growth.

Table 9

Effects of a “Resource Curse” and a “Dutch Disease”

		Resource Curse	
		No	Yes
Dutch Disease	No	Overall growth and diverse export base	Stagnant growth and diverse export base
	Yes	Overall growth, but strongly contracted manufacturing	Stagnant growth and strongly contracted manufacturing

Source: Røed Larsen (2006)

Nevertheless, as described in Røed Larsen’s (2006) paper, two features of the Norwegian economy stand out: the Petroleum Fund and the centralized wage formation system. Both serve as important lessons for other oil-exporting countries, including Brunei.

The Norway Petroleum Fund¹⁶, created in 1990, was specifically designed as a fiscal policy tool to protect its economy from excessive demand and the ensuing increase in domestic wages and prices. Further, it also serves to prevent nominal currency appreciation since the fund is

¹⁶ The Government Pension Fund of Norway comprises two entirely separate sovereign wealth funds owned by the Government of Norway: the Government Pension Fund – Global (formerly the Government Petroleum Fund) and the Government Pension Fund – Norway (formerly the National Insurance Scheme Fund). The Petroleum Fund here refers to the Global division.

kept in foreign currencies. The oil revenue fund is an increasingly popular tool in managing oil wealth among oil-exporting countries, including Brunei. However, Brunei may find it difficult to compete with the Norway Petroleum Fund and other bigger international investment funds to the same extent due to scale and cost-based reasons¹⁷. According to the Sovereign Wealth Fund (SWF) Institute¹⁸, the value of assets for Norway's Government Pension Fund – Global¹⁹ currently stands at \$664.3 billion, whereas the value of assets for the Brunei Investment Agency²⁰ is only \$30 billion. However, the Sustainability Fund, only recently established by the Government of Brunei in 2008 is more similar in investment scope and function to the Norway Petroleum Fund. The Sustainability Fund, which consists of the following Trust Sub-Funds: the Fiscal Stabilisation Reserve Fund (FSRF), the Retirement Fund (RF); and the Strategic Development Capital (SDC) Fund, has been commended as a significant step in the right direction towards ensuring macroeconomic and financial stability²¹.

Furthermore, Røed Larsen (2006) also highlighted the importance of the Norwegian approach towards labour market policies. In Norway, a neutral agency computes productivity increases in the manufacturing sector, and institutionalized these findings as ceilings of general wage increases. This centralized wage system ensures that the manufacturing sector remains the wage leader, and in turn made it possible to limit wage increases to all other sectors from an expanding resource sector. Crucially, this prevented the booming resource sector from creating intense inflationary pressures on the rest of the economy. This was made feasible because the labour market consisted of large coalitions of employers and employees that were able to consider aggregate interests of the economy, and not just special interests²². Other studies have also documented the success of Norway's approach to labour market policies. For example,

¹⁷ For example, Latzko (1999) finds that since the elasticity of fund costs with respect to fund assets is significantly less than one for all categories of fund size, there are scale economies in administering mutual funds. The argument is that since many fund expenses are fixed costs, asset growth should reduce the ratio of fund expenses to average net assets. Theoretically, this general result should also extend to Sovereign Wealth Funds, but may not universally apply necessarily.

¹⁸ See SWF Institute (2012a) for the updated fund size and ranking based on official figures or from other publicly available sources. However, according to the Linaburg-Maduell Transparency Index, the Brunei Investment Agency has a rating of 1, which means that the quoted asset valuation may not be completely accurate. In contrast, the Norway figure corresponds to a Transparency Index of 10, which means its operations and asset valuations are likely to be accurate.

¹⁹ According to the SWF Institute (2012b), the purpose of the Government Pension Fund – Global is to “facilitate government savings necessary to meet the rapid rise in public pension expenditures in the coming years, and to support a long-term management of petroleum revenues. The fund invests a large portion of assets in fixed income and equities. Up to 5% has been allocated to international real estate. They currently do not invest in private equity”.

²⁰ According to the SWF Institute (2012c), the Brunei Investment Agency (BIA) is the “main agency that holds and manages the Government of Brunei's General Reserve Fund, and their external assets. It has holdings in corporations, funds, hedge funds, commodities, fixed income, real estate and currencies”.

²¹ As noted in Bahrum (2009), the functions of the trust sub-funds are as follows: the FSRF serves to eliminate or reduce oil revenue deficits; should they occur (any depreciation in the government's oil revenue will be compensated for by transferring a predetermined amount to the FSRF from the main consolidated funds); the Retirement Fund (RF) covers the fund liabilities caused by paying benefits on pensions and allowances as well as covering contributions by the government under the Employees Trust Funds (TAP) and any pension schemes introduced by the government; and the SDC Funds is to provide risk capital for strategic local development which contributes to economic growth and diversification of government revenue.

²² In addition, Røed Larsen (2006) noted that Norway also stimulates female participation in the labour market and enhances information coordination in the labour market through the establishment of vacancy and competence agencies.

Thomas (1998) finds that the centralized wage bargaining framework has stimulated private sector employment and Kahn (1998) finds that it has contributed to reduced wage inequality.

However, there is no consensus in the academic literature regarding the effect of labour market institutions on economic performance²³. The recommendation for the centralization of a wage system as practiced in Norway²⁴ to other oil-exporting countries such as Brunei is above and beyond the scope of this paper, but serves as a useful example and point of reference. In any case, a comprehensive evaluation of labour market policies from a macroeconomic perspective is vital, rather than as separate and seemingly unrelated issues²⁵. The creation of a flexible and functional labour market for Brunei, as discussed by Abdul Razak (2011)²⁶, is seen to play a key role in achieving long-term growth goals.

5.0 Limitations and Concluding Remarks

This paper sets out to analyse the direct impact of oil price shocks on industrial production and inflation growth, through the employment of modern econometric techniques as utilized by Cuñado & Pérez de Gracia (2003). Does it matter for an oil-exporting economy? Do the results differ substantially from non-net oil exporters? The evidence derived from Norway for the period between 1960 and 1999 shows that oil price increases can only deliver a transitory boost to industrial production growth rates, which is corrected for after just over a year, and small but permanent effects on inflation. This implies that, for Norway, nominal increases in industrial production growth as a result of unexpected oil price shocks are nullified in real terms by permanent rises in inflation. These results obtained for Norway, a net oil exporter, differs from those obtained for net oil importers studied by Cuñado & Pérez de Gracia (2003).

The main insight to be generated from this paper is regarding the econometric analysis that can be utilized to uncover the transmission of oil price shocks on industrial production and inflation

²³ See Thomas (2002) and Freeman (2007) for recent relevant discussions in the literature. However, Freeman (2007) notes that although economic theory does not provide clear guidance on the effect of labour market institutions on economic performance, he does identify three mechanisms: by altering incentives, by facilitating efficient bargaining, and by increasing information, communication and trust. He also argues for increased use of micro-data, simulations and experiments to illuminate how labour institutions operate and affect outcomes.

²⁴ Hunnes, Møen & Salvanes (2009) document stylized facts about the wage structure and labour mobility patterns in Norway between 1980 and 1997.

²⁵ Koh (2011) models the future labour market in Brunei and finds improving labour productivity to be the most promising policy avenue. Much more in-depth discussion and deliberation are required on these pertinent issues.

²⁶ Abdul Razak (2011) highlighted that the correction of structural rigidities and an unbalanced incentive structure between productive and non-productive sectors of the economy are necessary conditions which would precede industrial expansion and private-sector driven growth in Brunei. Concurrently, the skills base of the working population needs to be developed in order to produce a competitive and educated labour force, which can be achieved either through education policy or through immigration policy.

growth. Whilst some of the findings itself here can be considered to be interesting, it should be noted that this paper is merely a small contribution to the literature on oil-exporting countries, looking at Norway in particular, from which it is hoped to stimulate debate, discussion and further studies. Therefore, it should not be taken as the definitive study for oil-exporting countries and it is reminded that caution should be exercised in the extrapolation of the results. The literature on oil-exporting countries is burgeoning and very much in flux. For example, a lot of progress has been made recently by authors such as Esfahani, Mohaddes & Paseran (2012) to formulate an empirical growth model for major oil exporters²⁷.

Further work could be done to test the internal validity of this study. Firstly, this could involve a modification of the model employed to generate results that are more robust to different volatility specifications of oil price shocks, or to analyse the merits of different volatility specifications and decide on one specific measure. Secondly, one could study the possible existence of multiple structural breaks and incorporate it within the econometric specification²⁸. Finally, one could also examine a different time frame, to see whether the results gathered in the current paper still hold. This could involve exploring what has happened since 2000.

The only certain way to test for external validity is to replicate the current study on other oil-exporting countries, including Brunei. It is acknowledged that there are many country-specific factors that differ between Norway and Brunei, such as in terms of monetary policy and exchange rate arrangements. Thus the relevant transmission mechanism from oil price changes to industrial production and inflation growth may also differ. Furthermore, one could also study whether Brunei suffers from the Dutch Disease or the Resource Curse, and their transmission mechanisms. However, it is acknowledged that there may be a lack of readily available data for Brunei which makes it difficult to accurately inform policy analysis.

Nevertheless, lessons can still be learnt from the successful management and utilization of volatile oil rents in Norway. In Norway, the Petroleum Fund serves to control and manage the *size* of oil rents and financial reserves, whereas the centralized wage bargaining framework serves to manage the *distribution* of rents towards the most productive sectors of the economy, as well as to control inflationary pressures. Whilst the recent establishment and implementation of the Sustainability Fund Act serves to protect and manage the size of Brunei's financial

²⁷ Esfahani, Mohaddes & Paseran (2012) derive the conditions under which income from a resource can have a lasting impact on growth and per capita income. They provide small quarterly models for eight major oil exporting economies, six OPEC member countries (Iran, Kuwait, Libya, Nigeria, Saudi Arabia and Venezuela) as well as two OECD countries (Mexico and Norway). Tests show that the long-run implications of oil exports for real output are supported and the estimated shares of capital are generally in line with the estimates provided in the literature.

²⁸ For example, Røed Larsen (2005) shows that there is a negative structural break around 1997. This, however, should not affect the current paper since the study only looks at the situation until 1999.

reserves, it also highlighted that much more needs to be done to study the role of labour market policies which can affect the allocation and distribution of huge oil windfalls.

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