

ESS ESSAY COMPETITION

2011/2012

**Moving Ahead With The Times:
Managing External Challenges And Internal Diversities
In Singapore**

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Abstract

If one looks and thinks critically about the world these days and about how Singapore can prevail against the challenges and better herself against the other strong nations that are a step-or maybe two- ahead of Singapore, one will realise a fundamental problem that is hindering her.

Singapore is technically a country with a strong economy, has quite a number of strong infrastructures set in place for future developments, has a handful of talented individuals that can contribute to our society and economy in a myriad of ways, but why hasn't it achieve the vibrancy that nations like U.K, U.S, Japan, Korea and Germany sent forth upon the uprising and development of their economy?

The fundamental problem lies in the pervasiveness and manifestation of one's culture. Culture is what ultimately sets the most brilliant country and a good country apart, just as one would say about a good musician who knows his notes to a great musician who actually feels every note being played. Culture allows talented individuals to stay rooted to the land which saw them through their years of maturity, giving every individual the assurance that the country has the resources and – most importantly- clusters of like-minded individuals so to allow bonds to form and achieve each of their own personalized success.

This is what has happened to cities like San Francisco, New York and Tokyo, where prevalence of culture has allowed creative individuals to band together and march

towards their ideals. A city like San Francisco attracts individuals, who know of the vibrancy of the city where technologically inclined people thrive, because success has been achieved before and still has been continuing, where no one will condemn or deny them the rights to success based on the potential of a simple idea of theirs.

Such examples unfortunately put Singapore in the background when one considers technological advances- U.S- engineering advances- Germany- cultural advances- Japan and U.S, despite our close proximity to emerging markets and magnificently built infrastructures. We have to seriously put our perspectives –not values- of culture under close scrutiny and wonder how to allow the myriad of talents feel truly at home.

1. The beanstalks of the global economy

1.1 US outlook

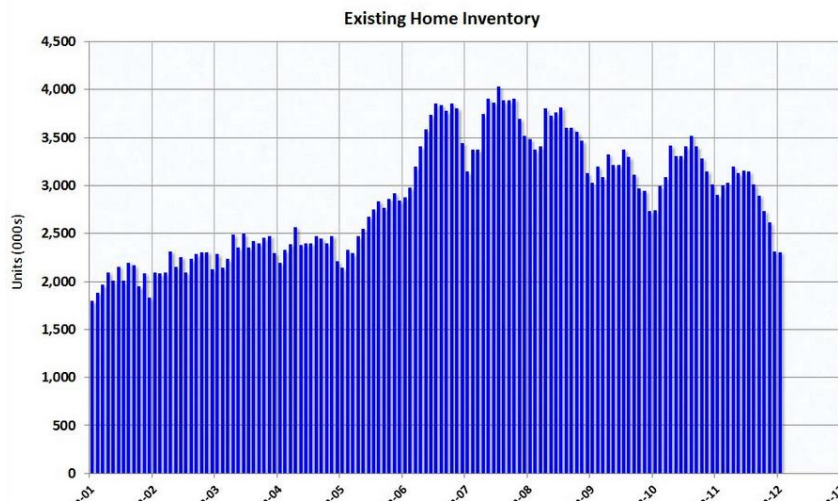
The first month of 2012 was pleasant for the U.S economy and there was a slight increase in positive market sentiments for the World.¹ U.S Non-Manufacturing Index (NMI) and Purchasing Manager Index (PMI) reported healthy gains prior to previous months ending 2011.²

Overall the U.S economy reported healthy gains as real GDP grew at an annual rate of 3%, back to pre-crisis growth rate of 2007, marking a 1.7 percent increase from 2011 while weekly jobless claims fell to 4-year low at 351,000. However it is to note that the economy is still on shaky grounds as consumer spending had a poor start for the year,

Perhaps the most important piece of information would be one pertaining to the crisis: existing home sales. Existing home sales and inventory trends have been favourable; existing home sales rose in January, indicating the 3rd rise in 4 months and housing inventory fell 0.3% from December's 6.4%, falling to near pre-crisis levels of 2005. A pick-up in the healthy buying of houses is much more important information as new home sales and construction picks up.

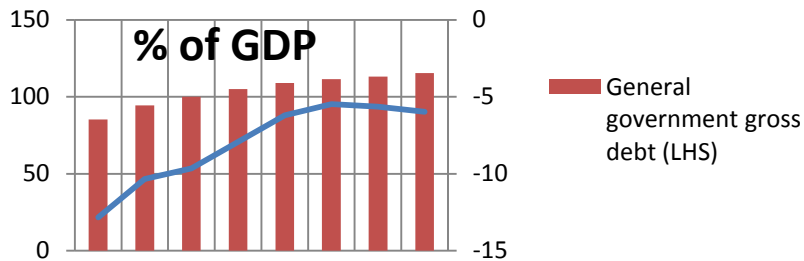
¹ Unemployment rate fell 0.2 per cent to 8.3 per cent; U.S's nonfarm employers added 243,000 jobs to payroll, with the majority of jobs coming from professional and business services and manufacturing.

² PMI for January gained 1 percentage point up 53.1 from December but slowed to 52.4 in the month of February, remaining above 50, which indicates contractions in the manufactures industries. PMI has been trending upwards for 31 months and exports and imports have been trending upwards for 4 months and 3 months respectively.



More emphasis later in the year needs to be made on Treasury bond yields as an increase in yields would lead to a quasi-Europe crisis dilemma where bonds with higher yields requires the government to repay with much higher rates that may not be fulfilled by the current spike of volume of low-yield buyers. This may require the government to use certain monetary policies to increase rates via central bank or expanding the balance sheet which causes inflation.

As of 2011, government debt reached 100% of GDP and the government continues to incur budget deficit.



	2009	2010	2011	2012	2013	2014	2015	2016
General government gross debt (% of GDP)	-12.8	-10.3	-9.6	-7.9	-6.1	-5.4	-5.6	-5.9
General government net lending/borrowing (% of GDP)	85.2	94.3	100.0	105.0	108.9	111.3	113.1	115.3

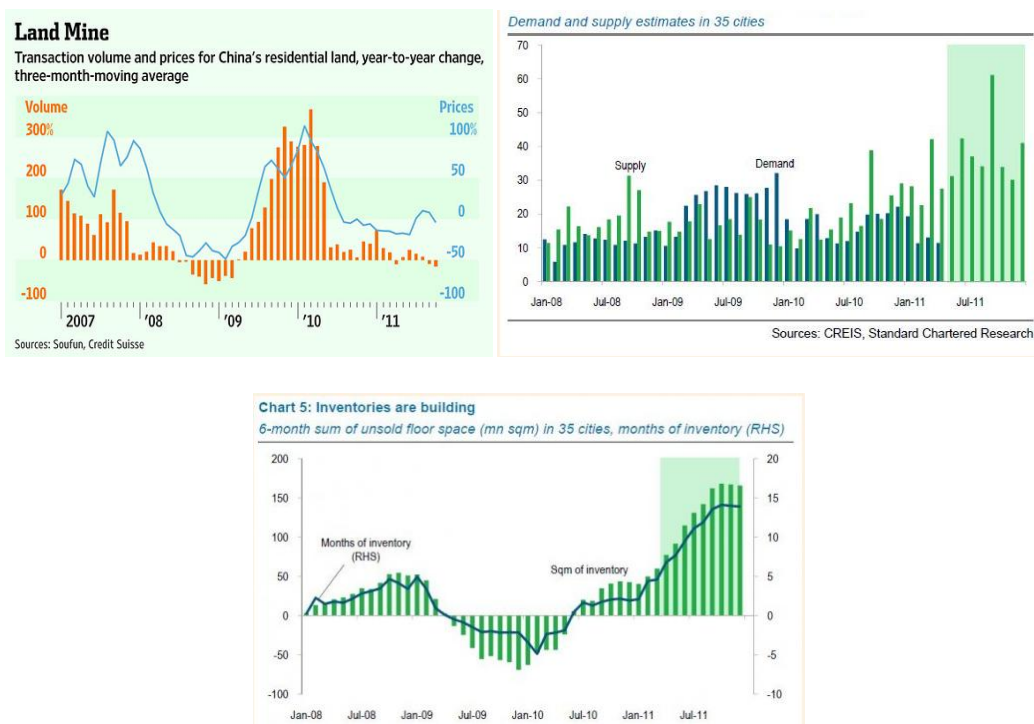
1.2 China Outlook

Even though China's economic growth has been consistent and efficiently regulated by good fiscal policy in part of its government, we must expect lesser growth in the coming year for China if the impacts from various issues are not soften.

Firstly, the real estate situation in China represents a very precarious situation for the local economy. With real estate investment accounting for 13% of China's GDP, taking into account various sectors like steel that has 40% of its output in real estate, overall real estate investment accounts to up to 20%-25% of GDP.

The tables below illustrates the unsustainable constructions for the past few months which have resulted in demand at negligible levels as compared to supply and the length of time and amount of floor space that is left unsold in inventory.

Despite the decrease in real estate growth, I believe the consensus is that the decrease would instead be beneficial to international economies on a long term prospective rather than another real estate bubble as represented first by Japan and subsequently America.



Second, Even though China has been trying to redirect its output into its domestic market and even to other developing nations like Africa, China's manufacturing goods still rely heavily on the economies of America and Europe. With market sentiments on Europe still wavering, especially with the uncertain political state of Greece and the slow improvement in U.S, no other outlet for China's exports could be seen, especially when

U.S is trying to increase its manufacturing jobs such that only labour-intensive manufacturing would be left to China.

This will prove to be another hit to Singapore's economy if neither the real estate dilemma nor the trade situation improves for China as China is one of our largest importers; China imports 10.3 per cent of total Singapore exports. Already in November 2011, Chinese steel output was down -8.8% for the 6th month in a row, continuing to December which decreased further by -3.87%. And graphs also showed demands of housing at low levels since July 2011, with low transaction volume for China's residential land and record high sum of unsold floor space and lengthen period of space inventory to back the negative sentiments. For the long term, it is wise for the Chinese government to restrict credit lending and increase interest rates as only by doing so could housing prices deflate to "natural" prices for civilians who needs a space to live rather than speculative or investment purposes.

Despite the pessimistic view of China's economy in the coming year, there are still sectors to be explored to provide growth for both China and Singapore.³ Also, building of public infrastructures and subsidised housing will continue to increase as the Chinese government tries to fill the gap in GDP left void by corporations building private housing for the past few years.⁴⁵

It is only wise for the Chinese to use their current account surplus to buy more Euro bonds so to prop up market sentiments for the region even though China's main Europe trade partner- Germany – has good fiscal policy implemented to limit the damage in an event of default from Greece. By helping out, China makes an effort into stabilizing the region so Germany's main export partners – Europe nations – are able to sustain trade; being an export oriented country, German manufactures accounts for 24% of GDP and 80% of local employment.

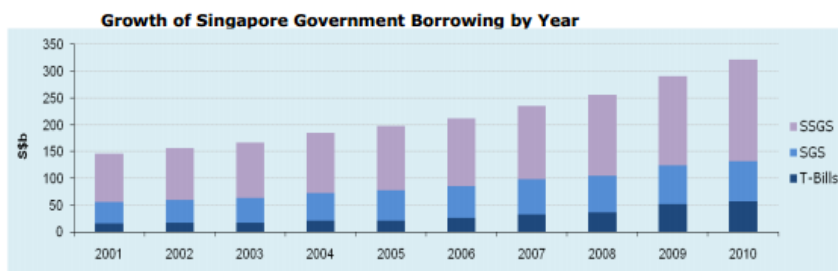
³ Household final consumption expenditure as per cent of GDP showed that despite it being one of the largest growing economies, its household consumption (35%) pales in comparison with other developing economies like Brazil (61%), Argentina (60%), and India (57%). Consumer confidence in China is also at an all-time low while Brazil and India reports an increase in consumer confidence. Despite so, China's household consumption growth bettered Brazil's, at 5.83% compared to 5.54% in 2010, while lower than India's (6.47%). This represents China's potential for increasing household consumption, which is vital to maintain its GDP, taking into account the stagnating real estate sector.

⁴ China started US\$316 billion affordable housing campaign which will start construction of seven million cheap homes this year and finish five million. Today Monday, 19 March 2012.

⁵ As of February 2012 inflation dropped from 4.5 per cent to 3.2 per cent; expect the Chinese government to play the balancing act by lowering the bank RRR and ensuring inflation do not exceed 4 per cent so as to fuel growth yet not overheat the economy. (chart of inflation/consumption/interest rate/savings rate/money supply) The Straits Times Saturday, March 10, 2012

1.3 Europe Outlook

In view of how the Europe crisis morphed from being largely affected by its holdings of U.S mortgage debt to the current situation of low confidence in the region due to large public and private debt which have become unsustainable for the governments to bear, Singapore enjoys relatively healthy debt borrowings even though debt is at 103% of its GDP.⁶ The growth rate of Singapore Government Borrowing illustrates the low risk threshold of its debt as it caters mostly to the funding of CPF via SSGS.

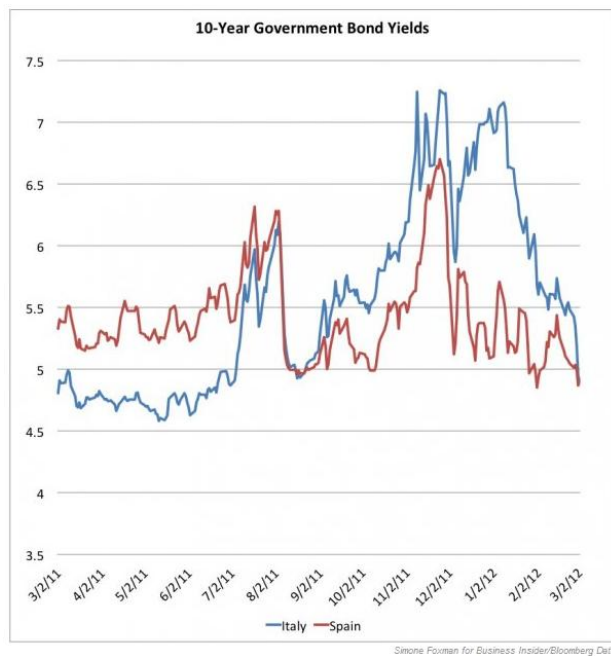


As of December 2011, the Greek government has received disbursements of up to €73 billion of funding by EA (euro-area) members and IMF. All eyes will be on Greek in regards to the restructuring of its government policies which success is needed in order to restore market confidence in Europe and to prevent the contagion from spreading to bigger economies like Spain and France. To reduce its budget deficit to 120.5% of GDP by 2020, the second bailout package was signed in February 2012 to pay for the private debt due in March. Moody's downgraded Greece to the lowest rating on its bond scale as private investors reached consensus with the Greek government to a 53.5% reduction in the nominal face value of Greek debt and to lengthen the maturity period of debt.

⁶ Debt borrowings by Singapore are considered healthy due to the following reasons: 1) Singapore does not need to rely on financing by issuing bonds, 2) the government has a balanced budget with minor surpluses due to its social efforts to help the poor, 3) the main purpose of its bond market is to develop domestic bond market and fund CPF returns via SSGS, 4) all payments and proceeds from issuance and investment returns from the proceeds are kept in the Government securities funds not expensed by the government.

Despite LTROs given to financial institutions in Europe, ECB reports record deposits at its overnight deposits which may indicate the banks' lack of confidence in the market and businesses as credit growth slowed during the course of 2011 to 2012. This has not helped the situation as unemployment rates continue to fluctuate at high levels for countries like Greece, Spain, Portugal and Ireland⁷

However the LTROs are not without any effect as bond yields from countries like Spain and Italy dropped to a more “functional” level thus allowing the governments to cope with public and private debt repayments.



⁷ As of September 2011, unemployment rates for the respective countries are at 19.9%, 23.0%, 14% and 14.6% of labour force.

With firewalls of great volume in place, the EFSF and EFSM, together with the funding from IMF and various charitable political benefits from significant trading nation e.g. Japan and China, the EA states are loaded with ammunitions to prevent the spread of the “default effect” from Greece.

2. Trade solutions for Singapore

2.1 Overview of the major trade players

The tables below show how interconnected the reliance between the triumvirate of continents actually is and any nascent or continued instabilities in any of these regions will deeply affect each of these continents one way or another.

Table 7: China's Top Trade Partners, 2010 (\$ billion)

Rank	Country/region	Volume	% change over 2009
1	United States	385.3	29.2
2	Japan	297.8	30.2
3	Hong Kong	230.6	31.8
4	South Korea	207.2	32.6
5	Taiwan	145.4	36.9
6	Germany	142.4	34.9
7	Australia	88.1	46.5
8	Malaysia	74.2	42.8
9	Brazil	62.5	47.5
10	India	61.8	42.4

Source: PRC General Administration of Customs, *China's Customs Statistics*

Table 8: China's Top Export Destinations, 2010 (\$ billion)

Rank	Country/region	Volume	% change over 2009
1	United States	283.3	28.3
2	Hong Kong	218.3	31.3
3	Japan	121.1	23.7
4	South Korea	68.8	28.1
5	Germany	68.0	36.3
6	The Netherlands	49.7	35.5
7	India	40.9	38.0
8	United Kingdom	38.8	24.0
9	Singapore	32.3	7.6
10	Italy	31.1	53.8

Source: PRC General Administration of Customs, *China's Customs Statistics*

Table 9: China's Top Import Suppliers, 2010 (\$ billion)

Rank	Country/region	Volume	% change over 2009
1	Japan	178.7	35.0
2	South Korea	138.4	35.0
3	Taiwan	115.7	35.0
4	United States	102.0	31.7
5	Germany	74.3	33.4
6	Australia	60.9	54.1
7	Malaysia	50.4	55.9
8	Brazil	38.1	34.7
9	Thailand	33.2	33.3
10	Saudi Arabia	32.8	39.2

Source: PRC General Administration of Customs, *China's Customs Statistics*

October 2011

European Union (27)

The Major Importers

The Major Exporters

Source: IMF (DoTS)

Rk	Imports	Millions of euro	%	Rk	Exports	Millions of euro	%
	World (excl. Intra EU27)	8,657,440			World (excl. Intra EU27)	8,319,550	
1	USA	1,456,509.6	16.8%	1	EU27	1,218,705.1	14.6%
2	EU27	1,423,170.6	16.4%	2	China	1,168,239.8	14.0%
3	China	964,218.6	11.1%	3	USA	943,999.2	11.3%
4	Japan	506,092.0	5.8%	4	Japan	541,122.8	6.5%
5	Canada	321,360.9	3.7%	5	South Korea	340,609.7	4.1%
6	South Korea	310,450.2	3.6%	6	Canada	291,067.0	3.5%
7	Hong Kong	305,159.9	3.5%	7	Hong Kong	287,764.1	3.5%
8	India	261,852.7	3.0%	8	Russia	280,496.1	3.4%
9	Mexico	245,490.8	2.8%	9	Singapore	256,055.4	3.1%
10	Singapore	220,533.4	2.5%	10	Mexico	224,901.4	2.7%

October 2011

United States

MERCHANDISE TRADE

	Value	Annual percentage change		
	2010	2005-2010	2009	2010
Merchandise exports, f.o.b. (million US\$)	1 278 263	7	-18	21
Merchandise imports, c.i.f. (million US\$)	1 969 184	3	-26	23
Share in world total exports	8.39			
Share in world total imports	12.78			
Breakdown in economy's total exports				
By main commodity group (ITS)				
Agricultural products	11.2			5.9
Fuels and mining products	10.0			20.7
Manufactures	73.8			69.5
By main destination				
1. Canada	19.4			19.4
2. European Union (27)	18.8			16.6
3. Mexico	12.7			14.2
4. China	7.2			11.8
5. Japan	4.7			6.3

COMMERCIAL SERVICES TRADE

	Value	Annual percentage change		
	2010	2005-2010	2009	2010
Commercial services exports (million US\$)	518 335	8	-7	9
Commercial services imports (million US\$)	358 074	6	-8	7
Share in world total exports	14.04			
Share in world total imports	10.20			
Breakdown in economy's total exports				
By principal services item				
Transportation	13.7			21.5
Travel	25.6			22.9
Other commercial services	60.7			55.6

A disturbance of trade caused by any crisis, particularly Europe, would be a major challenge for a small trading nation like Singapore as it would be harder for us to sustain a hit to our economy as we do not have the supplies of natural resources that most

countries do that keep their economy buoyant.⁸ Therefore in this time of economic uncertainty, the government should be ever more persistent in influencing local SMEs to venture overseas into developing worlds to export our technologies and talents, to diversify our only “natural resources” – human capital.

2.2 Expanding our trade globally

In times of technological advances, the quality of products delivered has been undermined by efficiency, whereby the one with the fastest output to deliver to its customers will secure the main portion of deals available. In such a competitive world, local firms not only compete against each other for sales but also international firms, whose efficiency has long fared better than Singapore's.

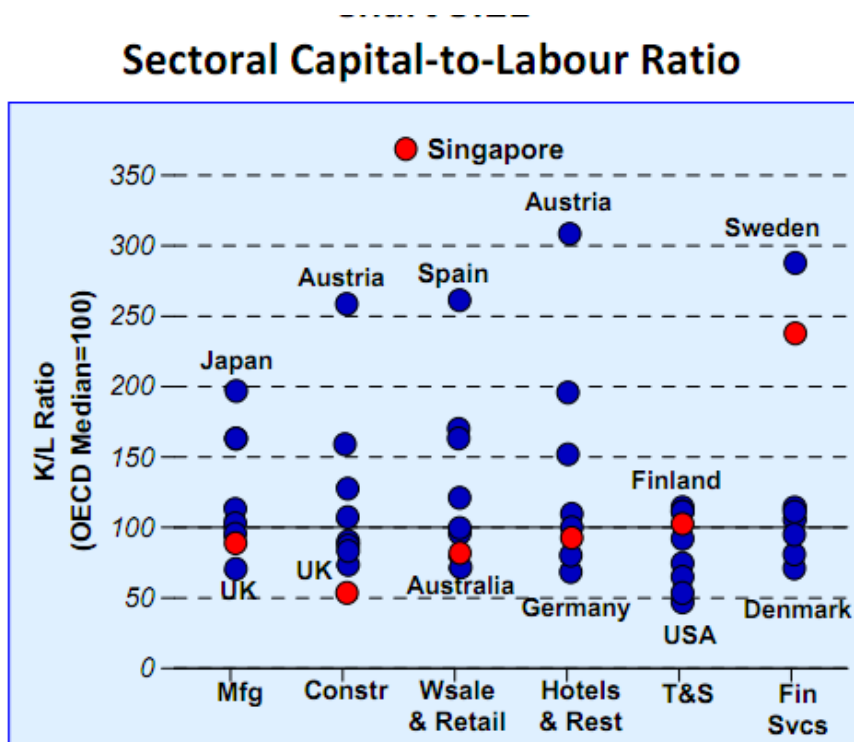
Because of our strong economy for the past few years, we have found ourselves stuck in labour talent drainage; with the strong labour market and unemployment rate at a 14-year low, it is hard for companies, especially SMEs, to find the appropriate talent to strengthen productivity.

One such example is E-steel, which saw a talent gap but tries to increase productivity which subsequently led to higher outputs⁹.

⁸ Both China and Europe accounts for a total of 20% of our exports, with United States in Singapore's list of top 10 exports. Refer to Appendix A.

⁹ As of February 11, 2012, the corporation still has 10 to 15 per cent of jobs unfilled; there is a talent gap for local managers while foreign blue-collar workers are getting increasingly expensive to hire since levies have been increasing. Since gaining more knowledge regarding productivity solutions from Productivity Management Programme (PMP), efficiency at the company's warehouse increased dramatically and sales productivity has increased by 30 per cent with the usage of low-cost automation, with time taken to fulfil a customer's order reduced by 25 per cent.

This is a good example of how corporations in Singapore can tackle the lack of talent by employing more machineries and upgrading workers' skills to better manage resources and machineries. Despite the amount of resources given by the government, only a handful of corporations took up the various schemes either due to lack of knowledge or inability to see the benefits of the fastidious processes involved¹⁰. More efforts can be done to initiate application for government subsidies and to allow capital deepening to increase in order to maximize productivity.



Source: EUKLEMS and EPG, MAS estimates

Even though manufacturing and tourism are two of our biggest industries, our manufacturing and hotels and restaurants sectors lack the capital depth to rival nations

¹⁰ Survey indicates that of an 81 per cent awareness of government schemes to boost productivity yet less than a third applied for the government subsidies.

like Japan and Austria. Technological talent is needed so to rival Japan as the better export nation by maximizing our output with machineries.

Capital deepening of firms along with subsidies given by the government not only increases productivity but also lowers the much lamented number of foreign workers as these schemes (WTS/WSQ) caters to residents of Singapore, thus providing the locals with the targeted skills at handling the appropriate technology.

Income Elasticity Estimates							
	Total Goods	Total Services	Traditional		Modern Services		
			Trade	Travel	Fin	Biz	ICT
Full Sample	0.31	0.56	1.00	0.77	1.06	0.57	1.14
Advanced Economies	0.97	0.93	1.37	0.95	1.47	1.24	1.90
Asian Economies	0.76	1.14	0.89	1.16	1.13	2.19	2.06
Developing Economies	0.09	0.62	1.01	0.71	1.07	0.56	1.27

The following table demonstrates income allocation to the various services upon income increase of 1%. It can be seen that modern services are needed greatly across all three economies and that Information and Communications Technology sector (ICT) is highly demanded and more preferable for Singapore firms to enter the markets of the respective economies.

3. Solution to productivity

3.1 Productivity and Innovation Credit

A serious issue concerning productivity is a lack of uptake of government assistance and subsidise offered. More effort needs to be exercised to encourage expansion into overseas region if productivity were to increase. The government needs to collaborate with more economic consultation firms and business relations firms which are established in the emerging markets so local SMEs could gain the confidence and vision to set up operations overseas. It is a three-pronged approach which would increase the social benefits of productivity far greater as higher sales achievements would lead to a voracious “productivity appetite”, which firms would then use better technology and upgrade its workers accordingly.ⁱ

3.2 Registration of patents

In order to increase our productivity, Research and Development has to be on par with other nations. As of 2011, Singapore currently lags behind the top 5 nation based on number of resident patent filing per million population even though we rank at a satisfactory level behind Germany based on gross expenditure on R&D as a per cent of GDP for year 2008, showing a lack of innovators in our country even though the infrastructures are set for them.

Number of resident patent filings per million population	
Source: WIPO Statistics Database and World Bank (World Development Indicators), December 2011	
Country of Origin	2010
Republic of Korea	2696.78
Japan	2276.03
United States of America	782.97
Germany	575.83
New Zealand	362.88
Democratic People's Republic of Korea	329.33
Finland	322.73
Denmark	293.28
Austria	289.10
United Kingdom	248.96
Sweden	234.14
Norway	228.65
France	227.32
China	218.98
Slovenia	215.32
Switzerland	210.22
Russian Federation	202.62
Israel	190.17
Belarus	185.34
Iceland	179.58
Singapore	176.30

It is vital for Singapore to increase her innovations so she does not need to rely on technological imports; benefits could be maximised from innovations made locally rather than imported innovations which could be expensive and slightly backdated.

Technological innovations could allow Singapore to be the forerunner at industries that are capital intensive, edging her closer to manufacturing greats like Germany.¹¹ⁱⁱ

¹¹ Over past decade, patent and trademark filings had risen by 40 per cent, with worldwide royalty and licensing revenue doubling to over US\$200 billion. This fact shows us the potential of IP and the need to maximize capital investments and quicken the pace of Research and Development which could bring about long term benefits and stronghold of industries.

4. Region of untapped and immaculate potential to thrive in dire times

4.1 ASEAN as a whole

With its close proximity to Singapore, loosening of government regulations in certain regions and increasing growth of domestic demands, ASEAN is a region not to be ignored as it sees unprecedented peace and prosperity.

Statistics revealed ASEAN as a more suitable candidate than continents like Africa, Europe and Latin America.¹² ASEAN represents an opportunity for Singapore to diversify her resources into the region while U.S is recuperating and Europe's nations are tangled up in their threads of fiscal mess.

4.2 Investing in a self-sustainable nation- Indonesia

Indonesia is highly recommended as one of the top ASEAN nations to invest in. It reveals strong domestic growth and high consumer confidence which is a key factor that is rarely seen in a developing country as most are export-oriented; Indonesia will remain as the ideal choice to increase trade and business ventures¹³. Infrastructural developments and mining are significant undeveloped sectors to be explored even though other sectors which are thriving such as transportation and communications, trade, hotel and restaurant,

¹² Overall it has a \$2 trillion economy with continuous growth in the upper single digit range, external trade volume is 60 per cent of China's while Foreign Direct Investments is three times the inflows into India. With middle-income group expected to reach 300 million in 2015 –half of them under 30 years of age- domestic markets will thrive in lieu with proper fiscal policy governing the countries.

¹³ Indonesia exhibits GDP growth rate of 6.5% and domestic consumption making up 60 per cent of GDP for the year 2011.

finance and real estate remains as lucrative investments. Biomedical and electronics equipments can be supplied to Indonesia by our capital-intensive industries.

Other factors which support investments in Indonesia are: the close proximity and accessibility of Singapore to Indonesia and an increase in the middle income population.¹⁴

Without significant social unrest, Indonesia would be the best place for investments to take place as compared to the Africa continent, with the untapped natural resources and strong domestic market. It would also be the ideal place for us to export ICT services and to find opportunities to float our electronics industry.

¹⁴ With 18 airlines operating more than 800 weekly scheduled flights between Singapore and Indonesia, there is access not only to Indonesia's domestic market but also to its abundant of natural resources-making it easier to concentrate production in the region. Indonesia's middle income population is expected to grow exponentially from about 50 million people to 150 million people by 2015, contributing to half of ASEAN's expected middle income population of 2015.

5. The social solution- everyone benefits

With rapid development on track in countries like China, Indonesia, Vietnam and Myanmar, there is always an aspect in society that often lacks behind economic development – social development. Income gaps, health and sanitary problems and social infrastructures are a few issues that need to be monitored and rectified.








Statistics shows that developing countries like China, Indonesia and Brazil still lack the infrastructure and facilities to promote social development as compared to advanced countries like U.S, Germany and Singapore.

Series Electric power consumption (kWh per capita)								
	China 🇨🇳	Indonesia 🇮🇩	Vietnam 🇻🇳	Myanmar 🇲🇲	Brazil 🇧🇷	Germany 🇩🇪	Singapore 🇸🇬	United States 🇺🇸
2005	1783	494	578	85	2020	7113	8507	13694
2006	2041	514	655	93	2078	7174	8520	13574
2007	2329	547	736	95	2175	7184	8514	13642
2008	2457	572	810	99	2237	7149	8185	13651
2009	2631	590	918	104	2206	6779	7949	12904
2010	..	..	..	..	..	..	..	..
2011	..	..	..	..	..	..	..	..
Page: Series: Electric power consumption (kWh per capita) Row: Time Column: Country								









Low levels of Electric power consumption per capita indicate low level of development in rural areas where electricity is still inaccessible or inadequate.

Similar data that shows the need to develop infrastructures and facilities more in the developing countries, which also represents an opportunity for Singapore to export her technology to these places.









Series Road density (km of road per 100 sq. km of land area)

	China 	Indonesia 	Vietnam 	Myanmar 	Brazil 	Germany 	Singapore 	United States 
2005	35	21	..	4	..	..	463	68
2006	36	21	46	..	..	180	463	..
2007	37	22	48	..	..	180	466	67
2008	39	23	..	..	..	180	475	68
2009	..	..	..	..	..	..	..	..
2010	..	..	..	..	..	..	..	..
2011	..	..	..	..	..	..	..	..
Page: Series: Road density (km of road per 100 sq. km of land area) Row: Time Column: Country								

Series Improved water source (% of population with access)

	China 	Indonesia 	Vietnam 	Myanmar 	Brazil 	Germany 	Singapore 	United States 
2005	86	80	88	71	95	100	100	99
2006	..	..	..	..	..	..	..	..
2007	..	..	..	..	..	..	..	..
2008	89	80	94	71	97	100	100	99
2009	..	..	..	..	..	..	..	..
2010	..	..	..	..	..	..	..	..
2011	..	..	..	..	..	..	..	..
Page: Series: Improved water source (% of population with access) Row: Time Column: Country								

Series Improved sanitation facilities (% of population with access)

	China 	Indonesia 	Vietnam 	Myanmar 	Brazil 	Germany 	Singapore 	United States 
2005	53	49	68	81	78	100	100	100
2006	..	..	..	..	..	..	..	..
2007	..	..	..	..	..	..	..	..
2008	55	52	75	81	80	100	100	100
2009	..	..	..	..	..	..	..	..
2010	..	..	..	..	..	..	..	..
2011	..	..	..	..	..	..	..	..
Page: Series: Improved sanitation facilities (% of population with access) Row: Time Column: Country								

Thus Singapore should not only encourage manufacturing and services industry to developing nations but also social enterprises to collaborate with the state governments so as to export our capital intensive product and technology to profit and at the same time raise the quality of life in these nations.

A good measure of social development would be the Inequality-adjusted Human Development Index (IHDI)¹⁵.ⁱⁱⁱ

Regional countries like China, Indonesia, Vietnam and Myanmar ranked 101, 124, 128 and 149 respectively in the upper to lower end of the middle human development spectrum. In order to expand Singapore's economy, it is imperative that help is given to countries around her raise their overall standard of living so they at least have the economic capability to consume Singapore's goods.

¹⁵ instead of the GINI-coefficient as the GINI only accounts for income disparities across the different levels whereas the IHDI "discounts" the various dimensions of the indicators by using inequality, to account for the actual loss of human development (i.e. years of schooling, life expectancy and disposable income) instead of mainly income comparisons across different tiers. GNI is also used so to reflect more on the domestic economy rather than investments abroad. Extreme high income (top 0.5% of population) and zero income were excluded so the index would not be deviated from revealing "true" inequality.

6. Beauty in all aspects

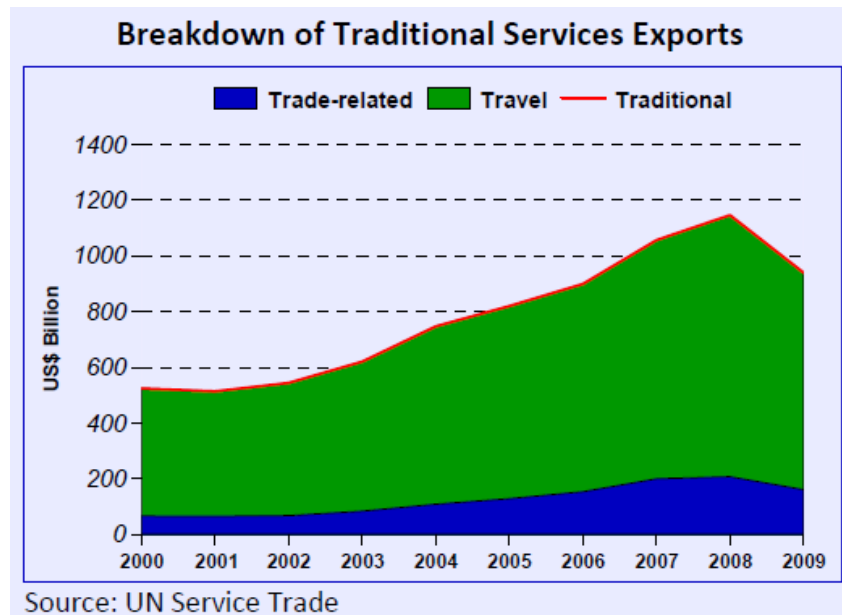
6.1 Overview of Singapore's tourism industry

In the year 2010, Singapore's tourism industry raked in S\$18.8 billion, which amounts up to 8.44% of GDP. The pie of tourism generated receipts are expected to continue to grow, base on regional tourists from countries such as China and Indonesia, which saw a surge of wealth and middle-income groups over the years; not to be neglected are countries that have high average per capita expenditure of visitor like Thailand, Philippines and United States, even though these countries contributed to a much smaller pie of tourism generated receipts due to the amount of tourists arrivals from these countries.

Tourism receipts (TR) are fairly distributed among major components, with Other TR components, shopping, accommodation, F&B and sightseeing and entertainment spearheading the industry.¹⁶

Globally, the tourism trade generates most of the revenues for Traditional Services due to the rise in disposable income in emerging markets and the lowered cost of accessibility to Travel around the region made possible by budget airlines.

¹⁶ The two Integrated Resorts generated US\$ 6 billion in 2011, which was roughly around the revenue brought in at the Las Vegas strip. In 2010 Singapore's visitor arrivals rose 20% and visitor expenditures rose 49%, subsequent year showed increases of 15% and 18% respectively.



6.2 The image created by tourism -Culture & Citizens

Even though much has improved in terms of facilities and entertainment catered to tourists, with creation of the two gambling resorts, the Singapore Flyer and the Seasonal F1 night race, much is still needed to change the perception of Singapore as the world views her.

The thought of Brazil brings about the sandy beaches, beautiful people and flamboyant costume street parades that showcases the care-free, daring nature of Brazilians; Paris advocates the spirit of Romanticism, where the architecture greatness overwhelm souls and slow music being played while diners sit by the streets; Tokyo brings forth the wildest imagination- with their quirky culture, unique fashion items that stemmed from

the creativeness which comes from their culture, technologically advanced innovations and fresh, raw seafood.

Tourists' perception of Singapore can only be changed by two factors: Culture and Citizens.¹⁷ Therefore Singapore must seek to create alternative activities for visitors to gain a positive local experience and image of Singapore despite the psychologically pleasing effect of gambling.

6.3 Seeking cultural recognition: Singapore the green city

Only by being engaged in cultural and heartland activities does one truly experiences the unique flavors of the places they are situated and these activities truly benefits both parties- tourists and heartland residents.

An innovative idea to let tourists experience the heartland would be to engage and proliferate urban farming.¹⁸

Even though Minister of State for National Development Lee Yi Shyan was thinking along the lines of recreational urban farming, a further thought could be to implement

¹⁷ Hoffman and Low (1978) and Morley (1990) showed that social factors have a significant effect on demand, with visitors gauging whether they would return to the particular destination just by their perceived image of the locals. Also, tourism trends show (Mannell and Iso-Ahola, 1987) that people tend to choose activities that allow them to escape from their routine and stressful environments rather than seek recreational activities for certain intrinsic values so as to obtain optimum level of arousal in life, either by escaping over-simulating or under-simulating life environments.

¹⁸ This idea is not uncommon in places like New York and China, where residents of New York makes use of the open spaces above their apartments to farm herbs and vegetables for barter trade or personal consumption whereas in China, farmers maximizes land usage by using the roofs of their houses to breed soft-shelled turtles.

capital-intensive farming by following the example of the Chinese farmers who just need basic necessities like an inundated flat roof to breed their turtles.

It would be a suitable way for Singapore to increase agricultural productions by the means of technological and capital intensive farming as:

- 1) product value output per capita is higher and minimizes land wastage
- 2) It will provide benefits to relevant industries that are associated with the agriculture i.e. agricultural technology
- 3) It will provide a platform for our research in agricultural technology which may provide us with the experiences to help regional agricultural industries; we need to cater more research to agriculture as the value of commodities continues to increase as the world develops.

Thus, by using HDB rooftops for technology-intensive farming and vegetables to grow along corridors, we exhibit the true nature of being a green city which is an image that we can supplant on the minds of visitors.

It will be a novelty of the world as the first city to implement large-scale urban farming, where it would be a sort of tourist attraction to allow tourists not only to watch and experience the process of urban farming but also allow them to experience the

accommodation, food and activities that locals do and to have a scenic view of the heartland of Singapore by standing at the peak of the high-rises.

This project will also increase the length of stay of tourists which will make a positive impact on tourism receipts, diversifying the revenue directly to small companies located at the heartland. Senior residents can also uphold the spirit of entrepreneurship and make their own worth even in retirement by conducting classes for the cultural tourists i.e. Tai-ji classes, culinary classes etc. There will also be significant social impact as allowing foreigners into our heartland allows a natural cultural exchange that would invoke an additional depth to our cultural landscape and offer a different perspective of life for the common Singaporeans.

6.4 Cultural Revolution

We have always known since the independence of Singapore that human capital is our greatest asset and only resource that can foster growth within Singapore. Therefore as we passed through the different stages of economy, we realized that we have almost reached the pinnacle of productivity. What more can be enhanced in order for Singapore to reach greater heights? The answer would be what is deemed as “cultural revolution”. The cultures industry is one of the most undermined sectors in Singapore’s economy but if we get future generations involved the benefits will be immense as people worldwide would be influenced by Singapore as a city and its people.

A fundamental way of getting the attention we need is to “show” Singapore everywhere, just like how Japan and South Korea built up their mainstream media, spearheading different cultures sub-sectors with them.¹⁹ Basic steps to be taken are: increasing payroll, importing of talents who gained international recognition for their work and encouraging the setting up of more media-related SMEs.

¹⁹Great examples of countries which have a cultural and media impact worldwide are Japan and South Korea. Japan with the idea of “Cool Japan” wants to continue expanding its cultures and creative industries, in recognition of the immense benefits that the particular industry has on its economy.

In year 2009, Pokemon-related products brought in worldwide revenue of about 3 trillion yen, which is about one-fourth of Japan’s entire domestic market. Current size of Japan’s world market for culture industries stand at around 463 trillion yen and is expected to increase by 7% to more than 900 trillion yen in 2020.

Not taking into account food and tourism, its creative industry account for 7% of all sales which is on par with the 8% of sales from automobile industry and 6% of sales from consumer electronics industry. It also accounts for 5.4% of Japan’s employment figures. The ripple effect into other industries (media content, advertising market and communication market etc) total 57 trillion yen.

Policies implemented by Britain, Korea and US should also be modeled to develop our cultures industry by creating our own style which is unanimous to Singapore’s cultural identity and providing incentives to import creative people into Singapore to influence Singaporeans into accepting cultural activities as a viable source of income.

7. Singapore's education system

7.1 Providing the environment for sprouting talent

“What values are essential to what Yale stands for, and how will those values have to be compromised in Singapore? At what point are we willing to sacrifice values we hold sacred for the sake of accepting foreign customs?”^{iv}

“Yale is undertaking an alliance with a state that does not share these values,” Joselit said. “It is imperative for us as a faculty to practice what we preach — to probe, explore, question and debate the great dangers, as well as the possible virtues, of such an alliance on the part of our University.”

With recognition of different sets of skills needed to achieve success, the government opened a myriad of universities to cater for the different talents: NUS-YALE, SUTD and SIT.

However, in order to nurture people with diversified talents, a unique array of tertiary education is not enough to provide the environment for communities with diverse sets of thinking. A bottom to top implementation of new educational policies are needed in order to maximize talent productivity upon enrolling into unique schools like SUTD and NUS-Yale liberal college.

A liberal college for example provides the environment for inquisitive people to thrive. But what will they do and how will they be accepted once they enter society? Would their critical thinking be gauged as irritation in a “don’t-question” society and their wide array of knowledge deemed as arrogance? More needs to be done in order to set the environment for the thinkers of the society; only time and restructuring of the methods and mindset of work can help foster the best environment needed for a group of people taught to think in a unique way.

8. Conclusion

. With government incentives at an increased of 10 to 20 per cent, one has to think not how much further can the government go to support the middle and lower income population and local SMEs but how does the government actually raise revenue in order to finance the lot of incentives that are taking place^{v20} This is a touchy situation, given that only when the economy is growing that firms can capitalise on the opportunity to expand further and internationalise with the help of the government to compete against other international firms.

Also, the widening income gap though may seem harmful to a society, is by no means a by-product of capitalism that has allowed everyone, even the low-income groups, to reap benefits from. What is ultimately important is to increase growth in real income of all levels and, especially so, to pull up the income of the 10th percentile of the population so overall standard of living could be harmonised.^{vi}

Furthermore, with expectations of the increasing importance of natural resources, more emphasis needs to be given in part of developing agricultural and quarrying technology^{vii}, where profit could be derived from the support given to enhance development and

²⁰The fact that SMEs hire 60 per cent of the workforce juxtaposes the importance of these firms when it comes to contributing to tax revenues.

Under a theoretical scenario where every SMEs have an annual turnover of S\$100 million, contributes to 42% of corporate tax revenue and each claim tax deduction for at least one qualifying activity, the increase in tax deduction from 150% to 400% would cost the government \$84 million more, decreasing year 2010 Corporate Income Tax by 0.8%, amounting to 3.6% of the revised budget surplus for FY2011 and negating the estimated budget. With a quarter of Singapore's revenue derived from corporate taxes, there is a need to ensure that productivity in SMEs results in exponential gains and assistance is given to help expansion.

production. As Dr. John G. Hibben says, “Education is the ability to meet life’s situations,” Singapore needs to have a forward looking, unique vision yet retain its known practicality so to dream and yet be able to achieve.

It is true that the world’s our oyster, yet sometimes when we cannot attain what we want at least we can fall back on what we need in order to survive. After all, money and public policy can only provide 15% of our happiness; the rest depends solely on us

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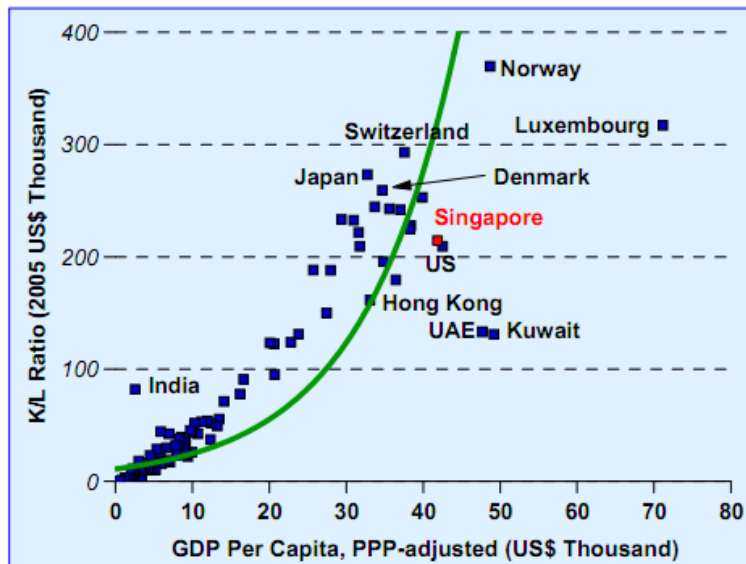
APPENDIX

APPENDIX A- SINGAPORE'S TRADE PARTNERS

MERCHANDISE TRADE		Value	Annual percentage change	
		2010	2005-2010	2009
Merchandise exports, f.o.b. (million US\$)		351 867	9	-20
Merchandise imports, c.i.f. (million US\$)		310 791	9	-23
		2010		2010
Share in world total exports	2.31	Share in world total imports	2.02	
Breakdown in economy's total exports		Breakdown in economy's total imports		
By main commodity group (ITS)		By main commodity group (ITS)		
Agricultural products	2.2	Agricultural products	3.5	
Fuels and mining products	17.3	Fuels and mining products	27.6	
Manufactures	72.2	Manufactures	64.9	
By main destination		By main origin		
1. Malaysia	11.9	1. European Union (27)	12.3	
2. Hong Kong, China	11.7	2. Malaysia	11.7	
3. China	10.3	3. United States	11.5	
4. European Union (27)	10.0	4. China	10.8	
5. Indonesia	9.4	5. Japan	7.9	

APPENDIX-B- PRODUCTIVITY RELATED GRAPHS

Capital-to-Labour Ratio and GDP per capita in 2005 Prices



Source: EPG, MAS estimates, IMF, International Labour Organisation and the World Bank

The graph shows Singapore's overall Capital-to-labour Ratio in relation to other advanced economies. Despite its high purchasing power, Singapore is unable to rival countries such as Japan, Switzerland and Norway, which have similar demographics and are also export-oriented. More effort needs to be done to increase productivity of our capital-intensive industries if we are to expand our economy further by rivalling our trade "competitors" and gain excess to developing countries that need our technology.

Elasticity of Substitution by Sector

Sectors	Elasticity of Substitution
Manufacturing	0.99** (high)
Wholesale & Retail Trade	0.95** (high)
Financial	0.67* (average)
Hotels & Restaurants	0.21* (low)
Construction	0.05* (low)
Transport & Storage	0.00 (low)

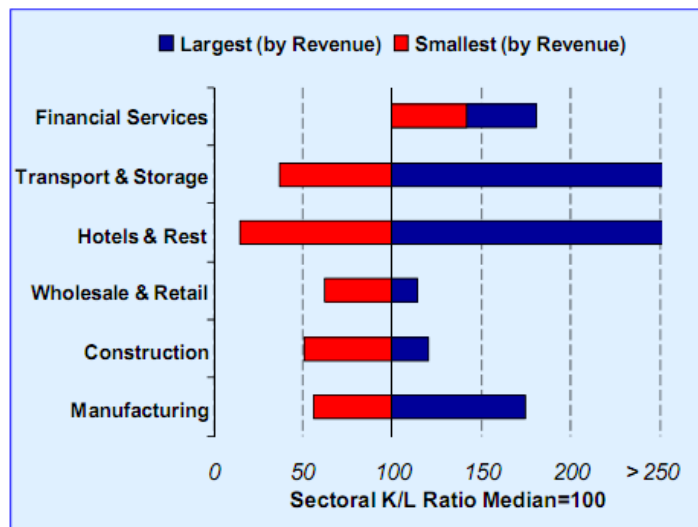
Source: EPG, MAS estimates

* Statistically significant at the 10% level.

** Statistically significant at the 5% level.

Ironically, manufacturing also has the highest elasticity of substitution which may be indicative of how “back-dated” our technology is in that particular sector as compared to other manufacturing oriented nations. Even though it may be harder to add capital depth to hotels and restaurants, we shall have to look towards modelling countries such as Austria.

Firm-Level Capital-to-Labour Ratio by Sector



Source: EPG, MAS estimates

Correlation between Capital Deepening and Profitability by Size of Firm

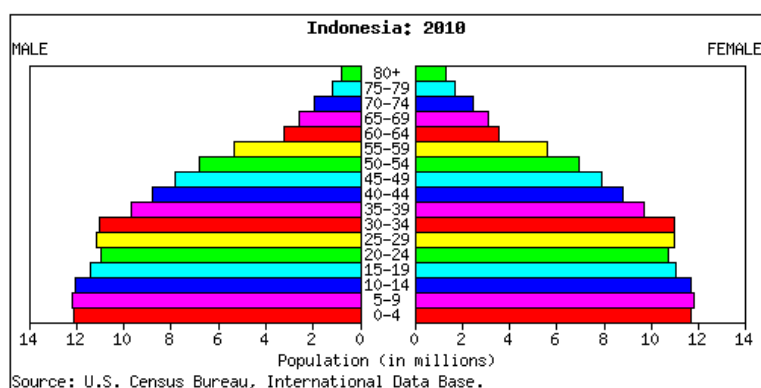
Size of Firms (by revenue)	Correlation between K/L Ratio and Profitability
Bottom decile	-0.02
11 th to 30 th percentile	0.10*
31 st to 70 th percentile	0.12*
71 st to 90 th percentile	0.16*
Top decile	0.31*
Overall	0.25*

Source: EPG, MAS estimates

* Statistically significant at the 5% level.

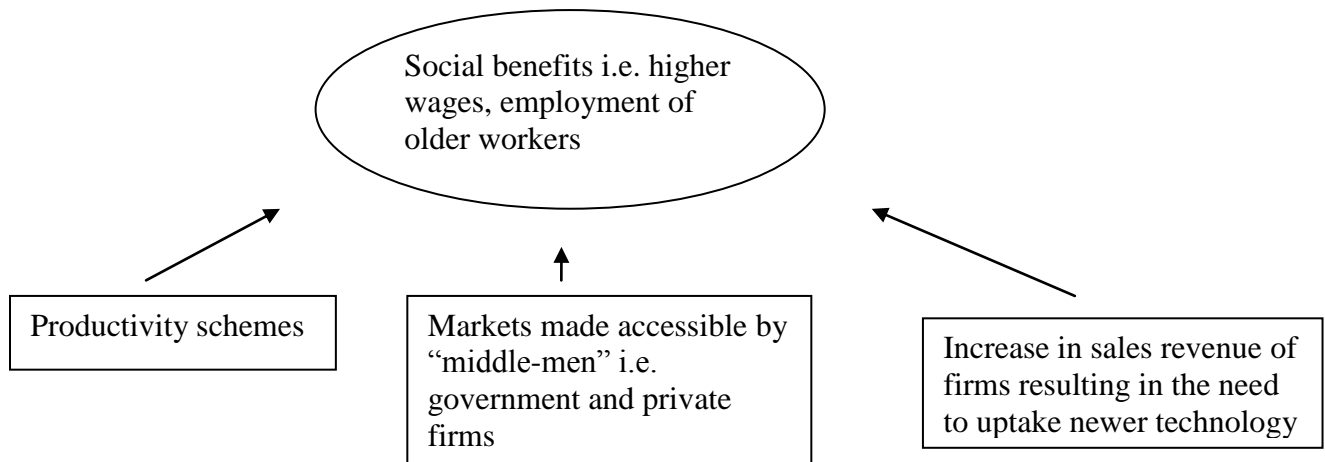
The two graphs above demonstrate the effectiveness and the propensity of capital deepening in relation to the size of the firms. Among all the sectors, only Financial Services demonstrates the aptitude of the smallest firms to undertake capital deepening whereas for the rest of the sectors, smallest firms do not exceed sectoral capital-labour ratio median. There are several reasons to explain this phenomenon: first, some sectors which are labour-intensive do not need much capital deepening i.e. construction; second, firms which should and can use do not have the expertise to make efficient use of technology; Lastly, firms which do not have big enough output could not afford the continuous upgrade of technology and the fluctuations of business cycles, which only big firms that have stable, increasing source of customers-local and overseas- can afford to have; as explained by the correlation between capital deepening and profitability by size of firm where the top decile reaps the highest profitability as capital deepening is most efficient when output level is high.

APPENDIX C- INDONESIA'S DEMOGRAPHIC



With half the population under the age of 40, Indonesia's young population indicates that domestic consumption will continue to increase even after 2030, if no major economic or political disturbances occur.

APPENDIX D- THREE-PRONGED APPROACH THAT LEADS TO SOCIAL BENEFITS



ENDNOTES

ⁱ Fingleton, M. (1999), In Praise of Hard Industries pg 17-19. As Benett Harrison of New York's New School has pointed out, all the conventional wisdom to the contrary, unskilled workers "barely" off the farm can be readily trained to operate computer-controlled presses and similarly sophisticated production machinery. In Harrison's terms, today's high-tech production machinery is not "skill-demanding" but "skill-enabling".

A good example is the textile industry though labour-intensive has subsectors that are highly capital-intensive and therefore tend to be dominated by rich nations. Spinning is a good example. As recounted in the *Wall Street Journal*, the capital required in a state-of-the-art spinning mill these days can amount to as much as \$300,000 per job. Thus the world's most productive spinning mills are located in affluent northern Italy.

Despite ultra-high wage costs, Germany still remains the preferred manufacturing location in the world for many MNCs like Motorola as Germany offers a world-beating manufacturing infrastructure complete with superb utilities, reliable delivery services, honest regulators, and a pleasant residential environment for expatriate executives. And there is also the advantage of Germany's well-educated and disciplined workforce.

Because wages only account for 3 percent of total manufacturing costs, finding an alternative site like Britain which offers lower-wages is totally negligible.

ⁱⁱ It is known that being capital intensive was an advantage manufacturing had over postindustrial services, but manufacturing boasts another key advantage: it enables incumbents in an industry to build up a huge endowment of proprietary know-how that gives them a wide productivity edge over new entrants to the industry. Some of this know-how is explicitly protected by patents, but often the most valuable know-how is unpatented proprietary production technology. Typically such know-how can be acquired only by dint of many years of learning by doing.

ⁱⁱⁱ Singapore ranked 26th under the Inequality-adjusted Human Development Index(IHDI) for 2011

^{iv}Yale Daily News regarding scepticism of liberal education in Singapore
<http://www.yaledailynews.com/news/2012/mar/02/news-view-its-time-talk-singapore/> &
<http://www.yaledailynews.com/news/2012/mar/01/faculty-to-raise-concerns-about-yale-nus/>

^v As it is more common for a nation to increase spending during times of deficit, according to Keynesian economics, raising social benefits and providing tax reductions for corporations may result in huge tax revenue reduction.

^{vi} GINI coefficient taken at face value is no doubt an unfair evaluation of the inclusiveness of Singapore's economy. With the middle-class household experiencing the most real growth of income for the past 5-years (Middle-income families doing better by Janice Heng The Straits Times Fri, March 2,2012), it is no exception that the GINI focuses more on the extremes of the income levels in Singapore. We however should see a reduction in GINI, especially with more welfare schemes and trade unions (i.e. the cleaner union) formed.

GINI must be viewed with a discerning perspective given the fact that numerous countries that have high poverty rates also have decent GINI ratings around the 30s. Studies show (Branko Milanovic, 2011) that if a society have a low average income around subsistence level, despite a few relatively rich elites, GINI cannot be very high as the pair-wise income comparisons between individuals will be zero. Therefore to conclude whether the GINI does justice to a country we must look further into the Inequality Possibility Frontier (IPF) as well as the "inequality extraction ratio" of a nation as well as various other factors like real income growth, mean number of years of schooling, life expectancy etc. Thus if we were to compare colonial era Singapore to modern era Singapore, the GINI of colonial era Singapore would be much lower

as studies have shown that colonies have high extraction ratios and possibly low frontier GINI. The GINI should be taken with a grain of salt, not be seen by its face value and to consider various other factors.

(Branko Milanovic ,2011) In rich countries, openness to trade should produce opposite effects from poor countries since rich countries tend to export high-tech products. Their production requires highly skilled workers, so the earnings of college graduates increase relative to those with only a primary or secondary education. Thus, inequality goes up. Therefore it is up to the government to limit inequality via government spending and also to raise productivity so blue-collared workers (i.e. welders in engineering firms) profit from the increase in sales from the firm's efficiency.

"Good" inequality is needed to create incentives for people to study, work hard, or start risky entrepreneurial projects. None of that can be done without providing some inequality in returns. But "bad" inequality starts at a point, where, rather than providing the motivation to excel, inequality provides the means to preserve acquired positions. (By judging the increase in real median income across all levels in Singapore, it is deemed that our inequality is in fact healthy as this shows the rich's propensity to invest locally rather than build up passive income by stashing their capital in bonds.)

The capitalist system must generate a pre-tax income distribution that is sustainable and will not encourage people to choose extortionary tax rates; Extortionary tax rates reduce the incentives to invest. A solution to income inequality is to emphasis on better access to education for everybody as wider distribution of education would equalize distribution of pre-tax income and make even those relatively poor think twice before deciding to vote for high taxes.

^{vii} The Undervaluation Bias: Two Theories have been founded to look into why agriculture, especially in developing countries has been undervalued.

First, in order to stabilize agricultural prices and hold food prices down in order to protect the poor from malnutrition, national marketing boards are formed to sell food at subsidized prices. The most significant impact is when the national marketing boards holding down prices paid to domestic farmers, reducing the incentives to produce.

Second, farmers from developing countries rely heavily on subsidized pesticides and mechanization thus ruining the ability to transit to sustainable agricultural practices.

These factors undermine the value of agriculture in developing countries as compared to places with modern facilities where even small farmers who engaged in sustainable practices and hybrid farming report increases in labour use per acre, with a consequent increase in the wage bill received by the poor and double or triple of productivity over a 30-year period.

Thus Singapore should look forward into the future to question how we can contribute and reap the benefits of the pending rise of agricultural value with the development of countries like China and Indonesia