





**Table 1a** shows the SNA framework for the four accounts using figures from the 2003 *Economic Report* that was released in September in conjunction with the budget speech. A comparable table (**Table 1b**) is also given based on figures for the year 1993 to enable an assessment of how much has changed over the past decade. The numbers in bold are extracted directly from Table 2.1 (GNP by demand aggregate) and Table 2.3 (balance of payments) of the *Economic Report*. The non-bold figures are consistent numbers, because their inclusion in the framework results in similar column and row totals.

**Table 1a: System of National Accounts, Malaysia, 2003 (current RM million)<sup>2</sup>**

Accounts	I	II	III	IV	Col.Total
I		C+G <b>223,487</b> 57.9%	I <b>87,624</b> 22.7%	X-M <b>72,586</b> 18.8%	<b>383,697</b> 99.5%
II	GDP=Y-P 385,774 100%			P <b>-26,515</b> -6.9%	GNP= <b>359,259</b> 93.1%
III	D <b>-2,077</b> -0.5%	S 126,468 32.8%			124,391 32.2%
IV		T <b>9,303</b> 2.4%	CA <b>36,767</b> 9.5%		46,070 11.9%
Row Total	383,697	359,258	124,391	46,071	

(Source: based on figures in Tables 2.1 and 2.3 *Economic Report*, Min. of Finance, Sept.2003)

\*Percentage figures indicate proportions of the GDP

**Table 1b: System of National Accounts, Malaysia, 1993 (current RM million)**

Accounts	I	II	III	IV	Col.Total
I		<b>102,919</b> 62.3%	<b>63,356</b> 38.3%	<b>-173</b> -0.1%	<b>166,102</b> 100.5%
II	165,206 100%			<b>-8,265</b> -5%	<b>156,941</b> 95%
III	<b>896</b> 0.5%	54,534 33%			55,430 33.6%
IV		<b>-513</b> -0.3%	<b>-7,926</b> -4.8%		-8,439 -5.1%
Row Total	166,102	156,940	55,430	-8,438	

(Source: based on figures in Tables 2.1 and 2.3 *Economic Report*, Min. of Finance, Oct.1993)

\*Percentage figures indicate proportions of the GDP

### **Output and Income**

Output and income are identical in value as guaranteed by the production account (Account I), which amounts to the GDP or total output of the economy in one year. The output as a column sum is sold and becomes income as a row sum, which satisfies the various demand components, i.e., consumption, investment and net exports. What we look for here is the amount of the year's output that is unsold, and hence do not become income. We also look at how much of the income is derived not from the year's production but rather by selling inventories produced from previous years. The net effect of these is shown as D or stock level changes. A positive D indicates excess of production over income, that is, an inability to clear the produced inventory. A negative D is excess of income over production, indicating that income is derived not from current production, but instead, by drawing down from the inventory. The percentage figure in D is thus the extent of mismatch between output (i.e. production) and income.

In 2003, it is a modest negative one-half per cent of unsold production excess that did not become income. Comparing this to the figure for 1993, we see that D is also one-half per cent, but on the positive side, showing excess of sales over production. From this we conclude that in the Malaysian economy there is very little mismatch between production and income, leading to only marginal changes to inventory in the national accounts for the year.

### **National income is in the GNP and not the GDP**

Students of economics are well aware of the distinction between GNP and GDP, which remains elusive to many people. As discussed, GDP indicates total production over the year. To see what it means in terms of national aggregate income we have to deduct from the GDP figure all factor payments, P, (rents, salaries, profits, returns on investments) to non-citizens, i.e., foreign-owned business carried out in Malaysia by non-nationals as well as salaries of expatriates (including foreign maids and manual workers) and add similar payments by Malaysians and Malaysian-owned business operating overseas. A net negative number shows that foreign participation in Malaysia's economy is larger than Malaysian participation in foreign economies and thus the factor payment tends to be an outflow.

In percentage terms, this was negative 5 per cent of GDP in 1993 and increased somewhat to negative nearly 7 per cent in 2003. A negative P is typical of developing countries, which remain dependent on foreign interests in the local economy. The preferred direction would be to correct the direction of factor flows, not further widening the gap. In Malaysia, P has always been negative due to fairly sizable foreign business interests operating in the country. However, at the very least, the 2003 figure of 6.9 per cent of GDP is smaller than P figures of -8.4 per cent in 2000 and -7.6 per cent in 2001.

### **The confusion over the trade gap and the resource gap**

It is this confusion over the trade (merchandise and services) balance and the difference between savings and investments (also called the resource gap) that the SNA framework is most useful for sorting out. In the previous section we discussed the row total of Account II on income and outlay. The outlay part is in the column total that shows how the income Y or GNP is either consumed as C+G, saved as aggregate savings or transferred overseas by way of non-production related payments. In a closed economy, all the money available for investments has to be derived from S so that  $S=I$ . However, in the case of an open economy, as Account III or the accumulation account shows, the total amount available for investments in the year is actually savings plus changes in stocks less the negative balance to the current account (i.e., moving CA to the left hand side). The D in the equation, as we have observed, is only one-half percent of GDP in magnitude and is relatively unimportant here. More important is if a negative CA is moved to the left hand side, it becomes a positive amount for investment and a positive CA moved to the left hand side becomes a negative amount available to invest.

In other words, it is the current account, not the trade balance, that fills up the difference between savings and investments, i.e., the resource gap. Whenever CA become negative, the first impression is that the country is importing more than exporting. But as Account II shows, X-M is not even considered here. At best, the effect of the trade balance is indirect. A positive balance means more GDP and at a fixed rate of savings there will be more S to serve the needs of I without the need to bring CA into play. Basically as the accounts show, keeping S and I in balance will leave CA unaffected.

In the case of 2003, CA is positive 9.5 per cent of GDP, which is a drastic change from the negative 4.8 per cent recorded a decade ago. The savings rate for both periods is relatively unchanged at around 33 per cent. A side note to make here is that a relatively unchanged savings rate over time is an indication of good domestic money



(and capital) market health. Money is saved in banks, pension funds, insurance and other forms of financial institutions and these make their way to become money market instruments and become available as investment funds. Concerning the CA, the reason for its significant shift from a negative value to a positive one can be immediately explained by the huge drop in investments from 38.3 per cent of GDP down to a more meagre 22.7 per cent of GDP that puts the resource gap (and thus the CA) on the positive side.

By definition, a country's balance of payment is zero (i.e., balanced). Thus any non-zero numbers in the CA must have a mirror image by the same amount to indicate the flow of funds to produce a zero balance of payment. A negative CA would involve an inflow of funds by the same amount and a positive CA means an outflow of funds. Such flows show the direction of foreign investments. Whenever CA is negative, it is a combination of foreign investments into Malaysia and/or disinvestments (fall) in the country's foreign reserves. When it is positive, Malaysia is investing overseas or its investments, by way of foreign reserves, has risen.

Using the balance of payments table for 2003 and 1993 found in the *Economic Report*, we can account for the direction of funds flow across Malaysia's borders. The financial accounts table below (**Table 2**) shows how the current account is resolved to obtain a zero balance of payment. For the 9.5 per cent excess in the current account on the credit side in 2003, we find that 3.2 per cent represents the expanding position of Malaysia's investments abroad comprising net official long term capital and corporate investments and an increase of 4 per cent of GDP in the nation's foreign reserves, which are held in the form of capital and money market instruments abroad. These are financial outflows in which excess ringgit from the CA surplus is converted into holdings of foreign capital instruments. Errors and omissions amounted to 2.3 per cent of GDP.

**Table 2: Financial Accounts Balance of Payments, Malaysia, 1993 and 2003**  
(*current RM million*)

	2003		1993	
	CR	DB	CR	DB
CA balance	36,767 9.5%		-7,926 -2.1%	
Financial investments abroad		12,500 3.2%		-27,795 -7.2%
Errors and omissions		9,020 2.3%		-9,370 2.4%
Changes to foreign reserves		15,247 4.0%		29,239 7.6%
<b>TOTAL</b>	<b>36,767</b>	<b>36,767</b>	<b>-7,926</b>	<b>-7,926</b>

(Source: based on figures in Table 2.3 *Economic Report*, Min. of Finance, Sept.2003 and Oct.1993)

\*Percentage figures indicate proportions of the GDP

**Capital flows is sometimes not a part of the production economy**

In 1993, quite unlike what we have just seen in the 2003 financial flows, the current account balance was negative - amounting to a modest -2.1 per cent of GDP. This was even smaller than the 2.4 per cent of 1993's GDP in terms of errors and omissions. What is glaring in the 1993 balance of payment figures is the inflow of foreign investments of 7.2 per cent of GDP, which was offset by an increase in the reserves by a hefty 7.6 per cent of GDP. In all other years, except 1992 and 1993, the percentage numbers for the flow items on the financial accounts are well below the CA value. Basically, the sum of the flows all adds up exactly to CA so that the balance of payment becomes zero. However, 1993 was a strange year where the CA was relatively small compared to the value of the flow items.

The massive flows in 1993 were not foreign direct investments or the amount would have shown up as part of investments, I. The amount would have also appeared as part of the CA deficit due to the excess of investment over sav-



ings. What the 1993 finance accounts showed instead were massive capital inflows that did not form a part of the country's production economy and for this reason they did not enter into any of the four SNA accounts.

Carrying on the story a step further, the sizable build up in the reserves suggests sanitization steps taken on the capital inflows. The central bank intervenes in the forex market of the *ringgit* to keep it in a narrow band by selling the excess ringgit from the inflows, building up its foreign reserves in the process. In reality, the event is likely less sinister. What often happens is when the inflows are too large there are insufficient *ringgit* in the forex market, causing the country to accept inflows in the form of foreign currencies that end up in the reserves.

### **Conclusions**

The popular concern with economic numbers is GDP growth as it represents increases to the level of welfare (living standards) in the country. However, beyond this, it is also important to get a clear picture of the relationship between production and consumption, how they are financed via investments and how the local economy is integrated both in production and financial terms to the rest of the world. The SNA format is a convenient way to depict this picture. In a stable and sustainable economy, the items on the SNA will generally remain unchanged in terms of their relative proportions over time, showing how production, consumption and financing is carried out in the economy year after year. Once in a while, we notice spikes in the numbers as was revealed in the 1993 financial flows. Knowing what the stable numbers are will enable us to spot when the numbers are out of sync, warning us that something is going wrong.

### **§ Dr. Chan Huan Chiang**

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<sup>1</sup> United Nations (1968) *A System of National Accounts*. Studies in Methods Series F No.2 United Nations Statistical Office, New York.

<sup>2</sup> In economic statistics, only GDP or GNP numbers are reported in constant dollars to enable real (i.e., inflation adjusted) growth to be calculated. However, the GDP and GNP numbers in the above tables are in current rather than constant dollars so that they can be compared against the other data items in the framework. Put together, the different numbers present a snapshot of the state of the economy that will enable us to make value judgments about it.



## The K-Economy: Where is Penang At?

By the rendering of Harvard Professor, Michael Porter's Theory of the Competitive Advantage of Nations, Penang's economy is now a mix of the resource driven and investment driven stages of development (See Box 1). There is an urgent imperative to surge towards the innovation driven stage if Penang is to remain competitive. The acceleration towards a K-economy and the drive towards innovation are part and parcel of Penang's strategy to stay ahead of the pack in terms of economic competitiveness.

### Porter's Theory of the Competitive Advantage of Nations

According to Porter, the four determinants of National Competitive Advantage are:

- a. factor conditions (i.e. the nation's position in terms of factors of production, such as skilled labour and infrastructure);
- b. demand conditions (i.e. sophisticated customers in home market);
- c. related and supporting industries; and, firm strategy, structure and rivalry (i.e. conditions for organization of companies, and the nature of domestic rivalry).

Based on this theory, Porter divides the economic development of nations into different stages, viz:

- Resource driven
- Investment driven
- Innovation driven
- Wealth driven

For countries at the resource driven stage of development, the competitive advantage of firms rests on the basic factor conditions such as low cost labour, abundant natural resources, and favourable geographical location. The source of technology are from more developed countries, through Foreign Direct Investment (FDI) or technology purchase. Companies are engaged in labour-intensive manufacturing and positioned in the assembly part of the value chain. In contrast, for countries at the investment driven stage of economic development, firms are very efficient in producing standard products while they may lack capabilities in engineering major technological innovations. The competitive advantage of firms from these countries rests on the "functional capability" of the companies, i.e., the mastering of production and marketing of mass-produced products using imported technologies.

Penang during the 1970s was at the resource driven stage of economic development. Then, we focused on providing low cost labour and low overheads for multinational companies to set up their operations in the state. These advantages were further strengthened with the free trade industrial zone provisions. Presently, the Penang economy primarily manifests characteristics of the resource driven and the investment driven stages of economic development, with official policy being to push full-speed towards the innovation stage.



### ***Penang K-ICT Blueprint***

As part of this strategy, Penang is the only state in Malaysia to have formulated a K-ICT Blueprint that charts its roadmap towards a K-Economy. The Blueprint identified eight strategic goals as being crucial for the transition to the K-Economy. They are:

- ensuring equitable and affordable access to information and knowledge
- producing a critical mass of quality knowledge workers
- creating the learning economy and organizations
- promoting the widespread adoption of e-business
- moving up the manufacturing value chain towards more knowledge-intensive pre-production and post-production processes
- e-enabling the government machinery for efficiency, effectiveness and positive customer experience
- eliminating the knowledge and digital divide to attain social sustainability and promoting local content development

The platform that provides the means for creating, disseminating, and utilizing knowledge for a K-Economy includes both the ICT sector and the ICT infrastructure. In the United States, which leads in this transformation to a K-Economy, investment in ICT equipment and software increased from 29 per cent of total investment in 1987 to 52 per cent in 1999. The information infrastructure or “info-structure” consists of not only telecommunications networks but also strategic information systems, supporting policy and legal systems, and human resources to develop and utilize the physical infrastructure.

### ***Indicators of K-Economy Development in Penang***

There are numerous indicators and guides that can be used to measure the level of K-Economy in a nation, or in this case, a state. These include infrastructure indicators like telephone density, mobile phone usage, computer ownership; and production skills indicators like tertiary enrolment, technical graduates and high-tech experts.

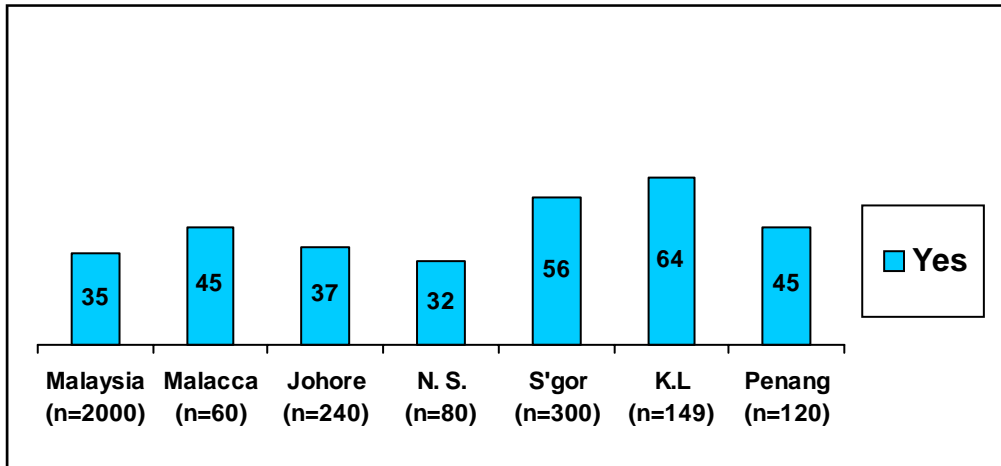
#### ***Infrastructure Indicators***

Based on the latest statistics from Telekom Malaysia, Penang has an exchange line capacity of 537,000 with a telephone density of 26 subscribers per 100 population as of November 2003. In this respect, Penang is well ahead of the national telephone density rate of 14 subscribers per 100 population.

As for mobile phone ownership, a survey by the Malaysian Communication and Multimedia Commission (MCMC) showed that 45 per cent of the respondents in Penang owned a mobile phone. Chart 1 below indicates the percentage of mobile phone users in various states in Malaysia. Each bar indicates the percentage of sample population that has a mobile phone. Penang tied with Malacca for third place with regards to this indicator.



**Chart 1: Percentage of mobile phone users in selected states in Malaysia**

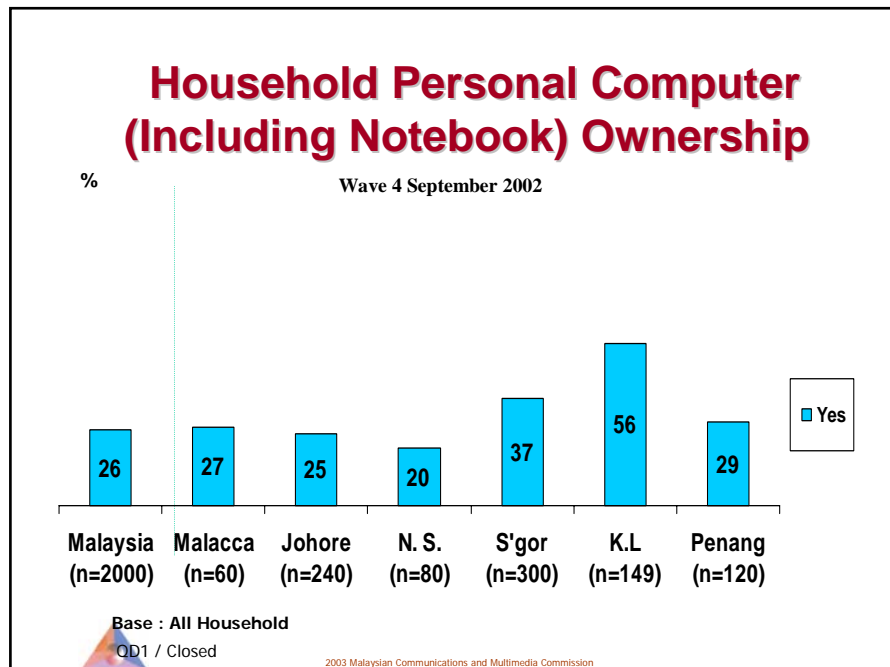


n = size of sample population

Source: Malaysian Communication and Multimedia Commission. Wave 4, 2003

A third infrastructure indicator is the level of personal computer (including notebook) ownership. For this indicator, Penang again ranked third behind Selangor and Kuala Lumpur. Chart 2 below indicates the percentage of household personal computer (including notebook) ownership in various states in Malaysia. Each bar indicates the percentage of sample population that has a personal computer or a notebook.

**Chart 2: Percentage of household personal computer (including notebook) ownership in selected states in Malaysia**



n = size of sample population

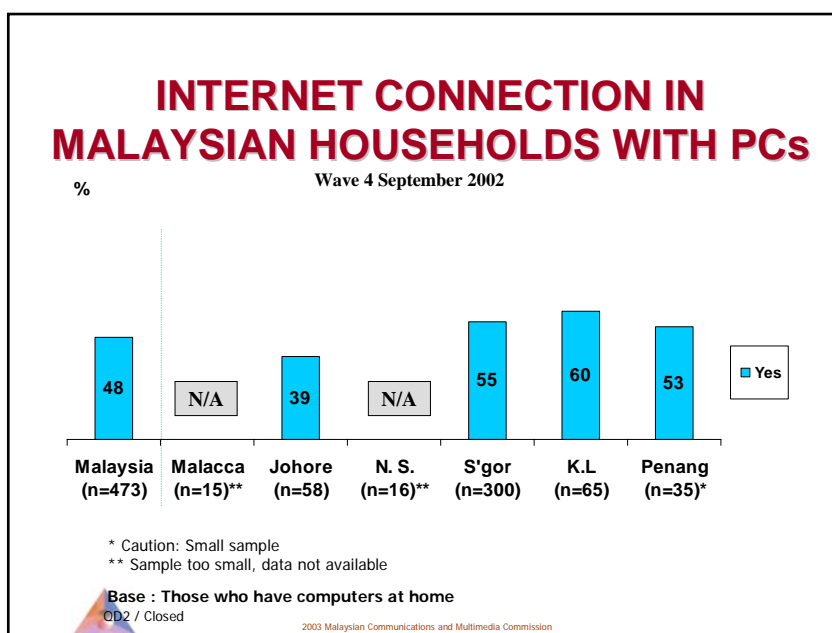
Source: Malaysian Communication and Multimedia Commission. Wave 4, 2003

With regards to Internet connection in households with personal computers, the same third ranking persists for Penang, behind Kuala Lumpur and Selangor. Chart 3 below indicates the percentage of Internet connection in Ma-



laysian households with personal computers in various states in Malaysia. Each bar indicates the percentage of sample population that has a personal computer or a notebook and uses the Internet.

**Chart 3: Percentage of internet connection in Malaysian households with personal computers in selected states in Malaysia**



n = size of sample population

Source: Malaysian Communication and Multimedia Commission. Wave 4, 2003

The above data indicate that Penang is faring quite well at the national level in terms of its ICT infrastructure, although there is still some catching up to do in comparison to Selangor and Kuala Lumpur.

**Table 1: Comparison of Infrastructure Indicators with Regional Countries**

	Telephone density per 100	Mobile phone users per 1000	Household personal computer ownership per 1000	Internet users in thousands
Penang	26 (2003)	450 (2003)	290 (2003)	115 (2003)
Singapore	47.1 (2001)	724 (2001)	508.3 (2001)	1500 (2001)
South Korea	48.6 (2001)	621 (2001)	256.5 (2001)	24380 (2001)
Vietnam	3.8 (2001)	15 (2001)	11.7 (2001)	1009.5 (2001)
Thailand	9.9 (2001)	123 (2001)	27.8 (2001)	3536 (2001)
Malaysia	14 (2003)	350 (2003)	260 (2003)	6500 (2001)
Hong Kong	58 (2001)	859 (2001)	386.6 (2001)	2601.3 (2001)

Source: Malaysian Communication and Multimedia Commission. Wave 4, 2003, International Telecommunication Union and UNESCO

Regionally, Penang's ICT infrastructure is better developed than many other South East Asian countries (see Table 1). In comparison to Vietnam and Thailand, Penang has higher number of mobile phone users, more telephones, and higher ownership of household personal computer.



In terms of telephone density, Penang is ranked fourth behind developed countries such as Singapore, South Korea, and Hong Kong. Similarly, mobile phone user statistics also shows that Penang trails behind the 3 countries aforementioned. Penang's mobile phone usage of 450 per 1000 people lags behind South Korea (621), Singapore (724), and Hong Kong, China (859).

Overall, Penang's ICT infrastructure is better than most South East Asian countries' (except Singapore) but there is room for catch-up with more advanced Asian countries.

### ***Moving Forward***

Penang has always demonstrated a remarkable ability to respond in a positive way to changing global trends. Just as it pioneered the establishment of foreign manufacturing operations about 30 years ago and thus heralded a new era of industrialization in Malaysia, so it must capitalise on the Internet and information technology to open up new markets for knowledge exports. These include such products as software, education, media, Web design, telecommunications, financial services, call centres and others.

Having been a hub of the electrical and electronics industry for more than 30 years, Penang is well positioned to take its place in the global knowledge economy. A critical element of the K-Economy is enterprise and entrepreneurship, thus the conditions must be created for the marketplace to lead. If, despite the best efforts, there are clear and demonstrable market failures, the state government must intervene but only long enough to set things right.

However, this does not detract from the leadership role of the government, especially in articulating a clear vision and sense of direction for the development of the K-Economy. The "Penang K-ICT Blueprint" is a definite step in this direction and sends a powerful signal to the people of Penang about how important the knowledge economy is to their social and economic well-being.

The state government's recent moves to publicize its vision to the people in business, education, research, and local government are a positive sign. However, much more needs to be done to create a sharper focus on developing the K-Economy.

Penang will have to move forward more aggressively to increase its share of gross domestic product (GDP) derived from knowledge-intensive industries. Ensuring Penang's future economic success means reducing its dependence on low level and mid-level manufacturing exports and increasing the share of the innovative knowledge-based industries in its GDP. Better incentives should be offered to attract investments in the knowledge-intensive sectors, for instance, by offering special assessment rates and price of land for investment in Research and Development.

Training of people, young and old, through high-quality education and life-long learning are essential. The state government, private sector, education community, and research community alike must see education as the springboard for disseminating and implementing the knowledge economy strategy. Above all, they need to respect and support the innovators, the inventors, and the idea-generators, the people working at the leading edge of change. And in order to do that, they themselves have to be change agents.

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