

HIGHLIGHTS & OUTLOOK

THE AFTER-EFFECTS OF SARS ON CPI

CPI SLIPPED FURTHER IN JUNE, BRINGING AVERAGE INFLATION FOR Q2 2003 TO 0.2%

Consumer prices declined further in June, by 0.3% y-o-y, after coming in at -0.1% in May, bringing average inflation for Q2 to 0.2%, down from 0.7% in Q1. This was much weaker than market expectations, with many private analysts forecasting the June's CPI headline figure to come in at -0.15%.¹

*Special Feature on
Trends in Education
Costs in Singapore*

On a seasonally adjusted, month-on-month (m-o-m, SA) basis, the index remained unchanged from the previous month. The decline in prices of travel and retail-related items arising from SARS-induced fall in demand was offset by the increase in prices of transport and consumer services. The MAS underlying inflation – which excludes accommodation and private road transport – continued its downward trend, coming in markedly lower at 0.1% y-o-y in June, as compared to 0.5% in May.

OVERALL CPI WAS DAMPENED BY SARS-INDUCED FALL IN DEMAND...

Indeed, the lingering effects of SARS continued to be the main factor dampening overall consumer price movements in June.

In particular, prices of "other miscellaneous" items (comprising largely packaged tours), which plunged during the peak of the SARS in May, continued to trend downwards despite the June school-holiday season.² The lingering fears of travelling, shortened school holidays, and various travel restrictions imposed on foreign students³ significantly dampened the demand for overseas travel. With several airlines and travel operators offering aggressive price reductions (ranging from 30% to 70%) and other promotions to entice holidaymakers, prices of packaged tours in June were around 10% below their pre-SARS levels in Jan-Feb.

In addition, the downward price adjustment of various mass-market retail items intensified further in June, following the commencement of the six-week Great Singapore Sale (GSS) at end-May, as retailers offered massive price discounts (of up to 70%) in an attempt to lure shoppers who had shunned crowded places in the shadow of SARS. Specifically, prices of ready-made clothing and footwear saw significant declines of 3.6% and 1.4% respectively – the largest m-o-m contractions experienced since the launch of the annual GSS in 1994. To further boost public confidence, retailers also implemented preventive measures such as the daily temperature screenings of staff and regular disinfection of premises.

The prices of non-cooked food also declined in May, particularly that of vegetables, which could be attributed to the discounts offered by vendors at the Pasir Panjang Wholesale Market, in a bid to entice customers to return following its re-opening at end-May. Other initiatives included special weekend promotions and the provision of free feeder-bus services. Nevertheless, business has yet to recover to their pre-SARS levels, as the inconveniences associated with the SARS preventive measures, such as registration and temperature screenings for all visitors, have kept customers away.

...ALTHOUGH SOME CPI CATEGORIES CONTINUED TO RECORD MODEST PRICE INCREASES

Nonetheless, the negative impact of SARS on consumer prices was offset by moderate price increases in some major categories of the CPI basket.

In particular, private road transport costs rose, largely due to higher car prices. COE premiums were pushed beyond the \$30,000 mark, following strong bookings arising from the promotions of several new models. Prices of consumer-related services such as education and healthcare rose as well. The increase in the former was due to dearer magazines and other books, while

¹ According to a Reuters Poll, the median forecast for June's CPI inflation was -0.15%.

² On a y-o-y basis, prices of "other miscellaneous" items plunged by more than 10% in June – a month that traditionally experiences average price increases of about 4% during the past four years.

³ The rules imposed by the Ministry of Education included a refundable deposit payment of \$1,000, the re-application for a student pass, the 10-day home quarantine, as well as medical report verifying good health on returning from SARS-affected areas.

the rise in the latter reflected higher medical treatment charges and more expensive medicinal supplies. Nevertheless, the hike in healthcare costs was more muted than expected, given the increased precautionary measures due to SARS. In this issue of the report, we include a special feature on the education cost developments in Singapore to shed some light on the factors influencing the consumer prices of education.

MINIMAL DEMAND-INDUCED PRICE PRESSURES

CPI INFLATION FORECAST RANGE LOWERED TO 0.5-1.0%

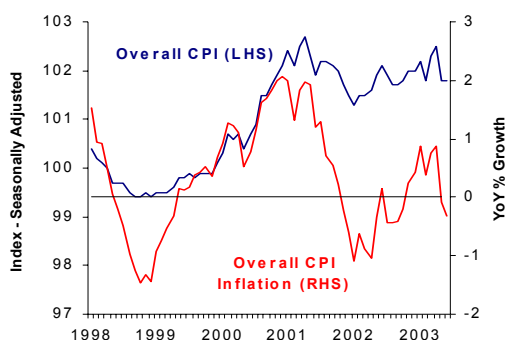
For 2003 as a whole, our forecast for headline CPI inflation has been lowered to **0.5-1.0%**, from our previous forecast range of 0.5-1.5%. The SARS outbreak has delayed the recovery in the domestic economy, while a more sustained global economic upturn is only expected in the later part of 2003.

Nonetheless, consumer price inflation could see some modest increases in the near term, stemming largely from several one-off supply-side factors. In particular, the rise in world oil prices to around US\$27/barrel in recent months has resulted in an upward revision in electricity tariffs from July. In addition, with the recent change in tax policy on tobacco – cigarettes are now taxed by sticks instead of by weight – the price of an average pack of cigarettes has risen by almost 25% since March. Meanwhile, healthcare costs could also see some modest increases, as the stepped-up precautionary measures due to SARS has led to permanently higher running costs for hospitals and other medical facilities, although this could be countered somewhat by the discounted packages offered by some private hospitals.⁴

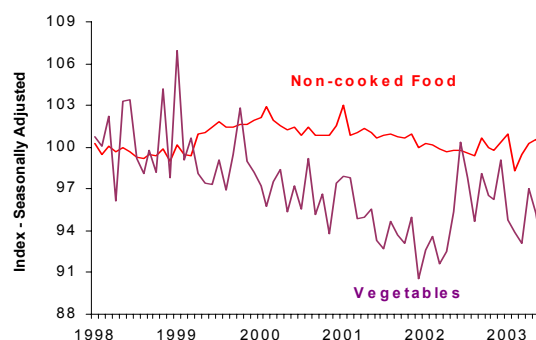
However, the generally weak consumer sentiment is expected to limit price pressures from the demand side. Specifically, prices of travel and retail-related items are likely to remain soft in the coming months, as tour operators and retailers could extend their promotions amidst sluggish consumer demand. Although the retail industry is showing some signs of recovery, with some retail chains reporting sales increase of more than 50% in June relative to May, to the extent that the recovery is underpinned by price declines, profit margins of retailers would continue to be squeezed.

⁴ The Straits Times on 28 July 2003 reported that several private hospitals are offering special discounts in a bid to bring back patients. For example, patients at Mount Alvernia Hospital are getting discounts of up to 20% on their hospital bills.

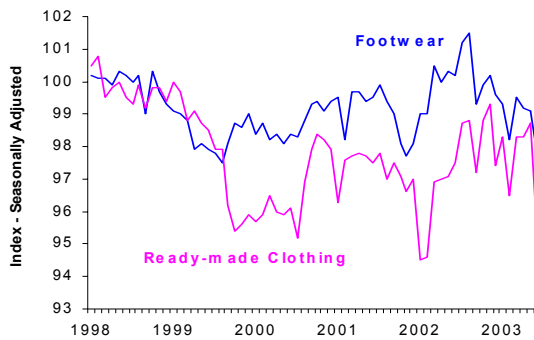
Consumer prices fell by 0.3% y-o-y in June, following a decline of 0.1% in May. The seasonally adjusted index held unchanged in June.



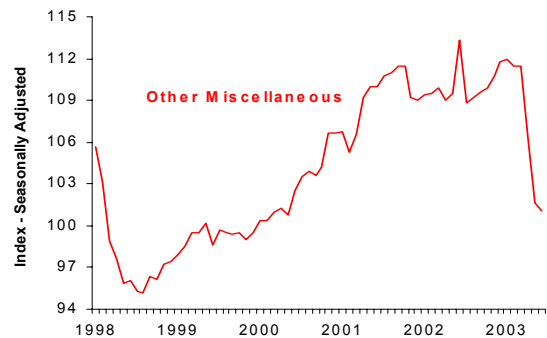
Prices of non-cooked food declined on account of cheaper vegetables.



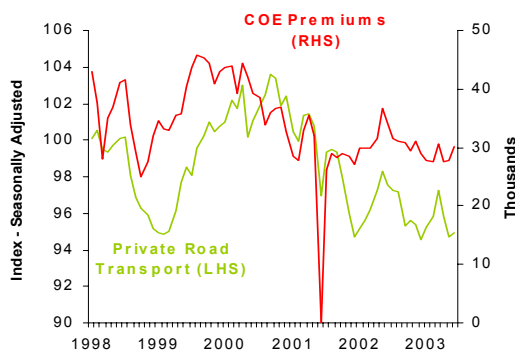
Prices of retail items such as ready-made clothing and footwear fell markedly in June, as retailers offered massive discounts during the GSS in an attempt to lure shoppers.



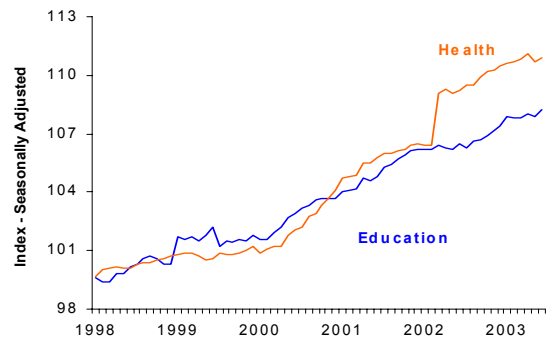
With significant price cuts offered by airlines and tour operators to entice holidaymakers, prices of "other miscellaneous" items (comprising mainly packaged tours) declined as well.



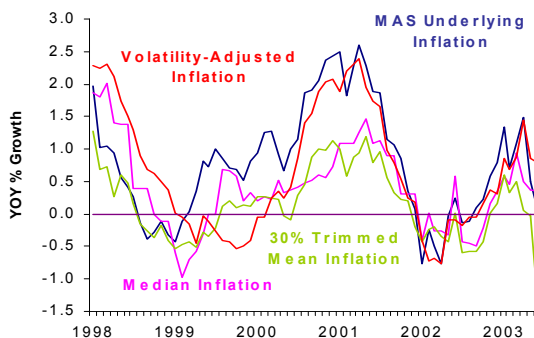
However, private transport costs rose, as relatively strong car demand spurred COE premiums to above the \$30,000 mark.



Costs of education and healthcare rose, on account of more expensive magazines & other books, as well as higher medical treatment charges and dearer medicinal supplies respectively.



Compared to the previous month, the MAS underlying inflation, the trimmed mean and the volatility-adjusted inflation were lower at 0.1%, -1.3% and 0.8% respectively; while the median inflation remained unchanged at 0.4%.



Note: CPI SA series are used only when seasonality is detected. Otherwise, non-SA series are used.

**MONETARY POLICY DIVISION
ECONOMIC POLICY DEPARTMENT**

Trends in Education Costs in Singapore

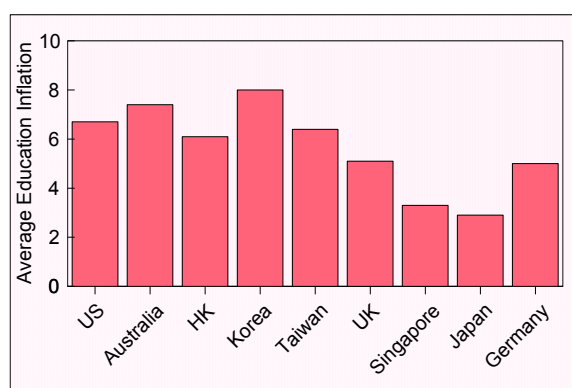
Introduction

Education costs have risen steadily in importance in Singaporeans' consumption basket of goods and services the late 1970s. This is evident from data in the Household Expenditure Survey (HES), which shows that the weight of the education category in the CPI basket almost doubled from 3.8% in 1977/78 to 7.3% in 1997/98, the latest survey. Education costs have also generally risen at a somewhat faster pace than the rate of overall inflation, especially since the early 1980s. While CPI inflation averaged 2.3% in the period 1980 to 2001, the pace of education cost increases was almost double that at 4.3%.

The phenomenon of faster-than-inflation increases in education costs is hardly confined to Singapore. Many industrialised countries also face similar trends. In comparison, Singapore's education inflation has remained much lower than that of other countries. (See Chart 1.) Various studies on education have attributed the high education costs worldwide to increasing higher education costs, particularly tertiary tuition fees. Other factors include quality improvements related to smaller class sizes, technology advances, better library collections and other improved facilities such as gymnasiums, auditoriums and computer laboratories. In line with the quality improvements, salaries of teachers have also increased.

In this box item, we attempt to shed some light on the various factors influencing education inflation in Singapore.

Chart 1
Cross-Country Comparison of Average Annual Education Inflation, 1988-2002



Source : CEIC and Datastream

* Data for Hong Kong is between 1995-2002; data for Germany is between 1990-2002

Sub-components of Education Category

The education category in the CPI basket can be divided into three main subcategories:

- i) school textbooks & stationery,
- ii) newspapers, magazines & books and
- iii) school/tuition and other fees.

The first and second subcategories comprise mainly retail items, which include various books and magazines, as well as personal computers. Price pressures from these subcategories have been fairly subdued, due to intense competition at the retail level.

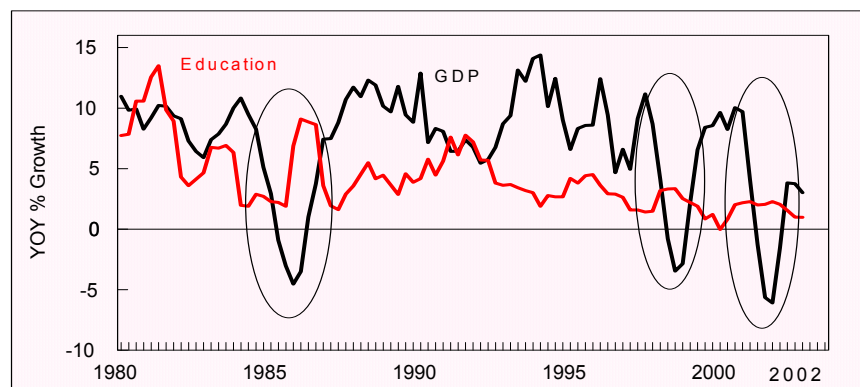
The third subcategory, which comprises about two-thirds of overall education costs, consists of mainly instructional costs. As education services are labour-intensive in nature, price dynamics of this subcategory are typically influenced by labour costs, and are usually more resilient to the business cycles than items in i) and ii). Nonetheless, apart from domestic costs, imported education inflation has a significant impact on this subcategory as well, as many Singaporeans study overseas.^{1/}

^{1/} Foreign university fees are a component of education costs in the CPI basket.

Recent Trends in Education Costs

The prices of the education category has generally been fairly resilient, consistently registering positive inflation rates throughout the period 1980 to the present, despite the fact that the period was interspersed with three economic downturns. (See Chart 2.) Indeed, there have been several episodes where education inflation remained steady, despite the relatively large fluctuations in GDP growth.

Chart 2
GDP Growth and Education Inflation



Source: Department of Statistics

In the early 1980s when Singapore was enjoying strong GDP growth of around 10%, education inflation also rose in tandem. As this was a phase when Singapore was building up its human capital and when many people sought education upgrading, demand for education services was high. When Singapore was hit with its first major recession in 1985, education inflation did not adjust downward to the sharp contraction in GDP, but remained stable at around 2%. Its resilience could be partly attributed to the unemployed seeking retraining and education upgrading during economic downturns.

Subsequently for the next decade, developments in education costs were largely driven by the upward adjustments in university fees. The higher fees were needed to keep up with higher wages and other costs, as well as the objective to eventually peg fees at 20-25% of operating costs. The latter reflected the government's policy of reducing subsidies and moving towards cost recovery for higher education through gradually raising tuition fees in the long term. Thus, since the mid-1980s after the recession, university fees were hiked up by 35-50% every two years, which led to education inflation trending up steadily, reaching a high of 7% in 1991. This was supported by Singapore's rapid industrialisation, which required large-scale technically-skilled workers. Polytechnic graduates were in high demand and their school fees rose in tandem as well.

During the early 1990s, university fees were raised more moderately by less than 10%, as evidenced by the downtrend in education inflation. However, education inflation was pushed up temporarily again around 1995 due to the one-off price hike in newspapers on account of soaring newsprint costs at that time. Later during the Asian Crisis in 1998, upward adjustments in various school fees led to the mild uptrend in education inflation. Apart from higher tuition fees in universities and polytechnics, fees at commercial institutions and private kindergartens rose as well, as did the miscellaneous fees at primary, secondary and junior colleges.

However, the subsequent freeze in university and polytechnic fees for two years in 1999 and 2000 led to a decline in education inflation.

More recently in 2001-02, education has continued to register mild inflation rates. Pre-school fees were raised due to increased wage costs as kindergarten teachers were required to meet new qualification standards to raise the quality of pre-school education. Tuition fees at universities and polytechnics also saw increases. Although tertiary fees were frozen subsequently in 2002 due to the recession, hikes in foreign university fees continued to push up education costs.

Given that education costs in Singapore are often driven by adjustments in school tuition fees, we will now focus on this subcategory, examining the factors influencing their price dynamics.

The factors driving education costs in Singapore can largely be analysed within the usual demand-supply framework. Demand for education services has risen steadily over the years, in line with the needs of Singapore's rapidly industrialising economy. While the high demand for the provision of such services has partly led to rising education costs, supply-factors such as labour constraints and service improvements were also major contributors.

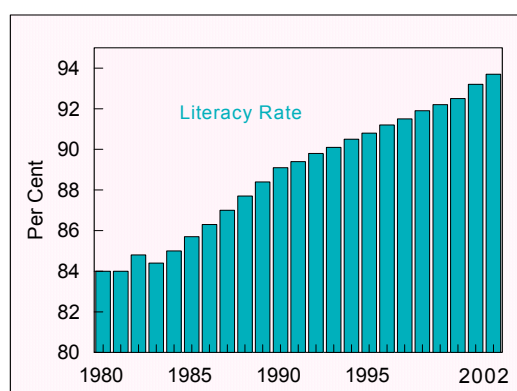
Demand-side Dynamics:

Since Singapore has no natural resources, human capital investment has always been a high priority for the government. From a national policy perspective, continued investment in education is vital for sustained economic growth, which depends not only on technological advances and capital accumulation, but also on improvement in the quality of human resources. Thus, in line with Singapore's fervent efforts in developing its human capital, public expenditure on education has steadily increased over the years. According to the Human Development Report 2002,^{2/} Singapore ranks well in human development - 25th out of 173 countries in the world, with public education expenditure amounting to 3-4% of GNP. Literacy rates have continued to trend up as well. (See Chart 3a.)

Several trends on the demand side are observed. First, Singapore's evolving economic landscape, with an increasing focus on more knowledge-intensive activities has led to a rise in the demand for higher-educated and higher-skilled workers. Thus, despite increasing education costs, pursuit of high educational attainment is perceived by many Singaporeans to be a worthwhile investment in securing an attractive job. Indeed, the number of people obtaining higher education has increased significantly over the years. The number of local university graduates has risen by 2.8 times from 3409 to 9586 over the period 1984 to 2001. Local polytechnic graduates have also risen by 4.9 times over the same period. (See Chart 3b.)

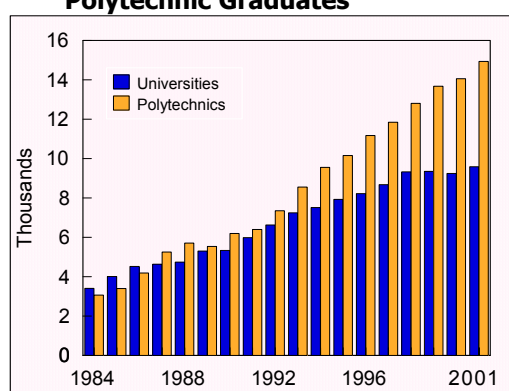
Chart 3

a) Literacy Rate



Source: Department of Statistics

b) Number of Local University* and Polytechnic Graduates



Source : Ministry of Education website

* Universities figures are for first degree in the National University of Singapore and Nanyang Technological University only

^{2/} The Report uses four components to obtain the overall Human Development Index (HDI):

- i) life expectancy at birth;
- ii) adult literacy;
- iii) combined primary, secondary and tertiary gross enrolment; and
- iv) GDP per capita (PPP US\$)

Second, an increasing number of Singaporeans are going overseas for their university education or seeking external degree programmes locally.^{3/} The number of graduates from external degree programmes in Singapore more than doubled from 2,600 in 1997 to 5,350 in 2000.^{4/} As Singaporeans become more affluent, increasing numbers are able to afford the higher cost of these overseas university programmes. This has exerted significant upward pressure on education costs, as the cost of tertiary education in many other countries is often higher, and has been escalating over the years. With the high and somewhat demand for higher education, expenditure on university education as a proportion of overall education expenditure has steadily gained in importance through the years, and fuelled the overall increase in education inflation.

Third, private tuition and various personal development classes have become increasingly popular with students, especially the former. Although such private tuition lessons add significantly to the education expenditure of Singaporean families, many regard them as a necessary expense.^{5/}

Fourth, demand for pre-primary education services has increased in more recent years. Expanded occupational opportunities and higher labour force participation rates for women have led to the rising popularity of crèches and pre-schools, as stronger labour market commitments of women led many families to substitute purchased school services for family-provided child services.

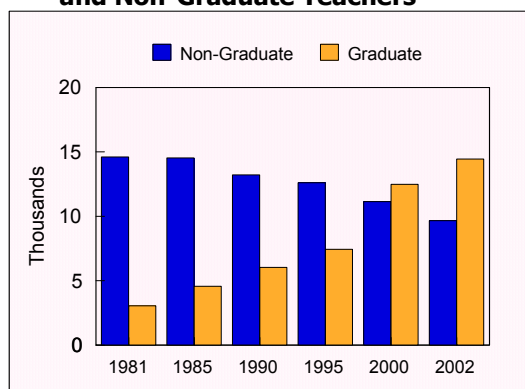
Supply-side Dynamics:

Regular education in Singapore is provided for by the state, particularly in the primary and secondary levels. Nonetheless, prices of education services in general have continued to rise moderately, as supply-side constraints led to rising labour costs, drive up the cost of delivery of these labour-intensive activities.

First, wages of teachers have increased in the last couple of decades, in line with the general rise in wages across the economy. Education institutions have also employed an increasing number of better-qualified teachers to raise the quality of education offered. The number of graduate teachers have risen almost fivefold from 3058 in 1981 to 14443 presently, while the number of non-graduate teachers have steadily declined. (See Chart 4a.) These higher-qualified teachers command higher salaries, which further push up the wage bill for schools.

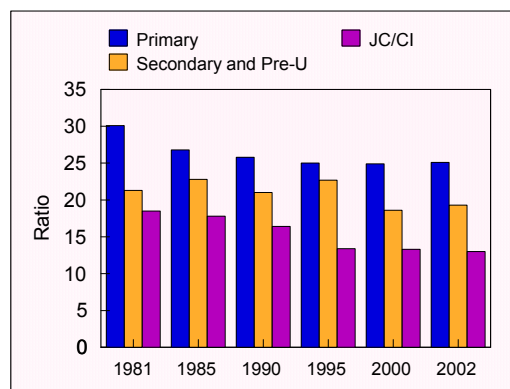
Chart 4

a) Breakdown of Graduate and Non-Graduate Teachers



Source : Ministry of Education

b) Student to Teaching Staff Ratio



Source : Ministry of Education

^{3/} Several foreign universities have set up Asian campuses in Singapore, including John Hopkins, Insead and Wharton.

^{4/} Figure obtained from Statistics Singapore Newsletter : Educational Upgrading through External Degree Programmes.

^{5/} A Straits Times survey found that although private tuition fees cost 10 to 15 times more than basic school fees, 43% of

primary school children and 30% of secondary and junior college students have such extra coaching.

Table 1
Real Recurrent Expenditure per student/\$*

| Financial Year | Primary | Secondary ¹ | Junior College ² | Institute of Technical Education | Polytechnic | University |
|----------------|---------|------------------------|-----------------------------|----------------------------------|-------------|------------|
| 1987/88 | 1852 | 2565 | 3320 | 4562 | 5300 | 15067 |
| 1988/89 | 2094 | 2926 | 3537 | 4705 | 5944 | 17634 |
| 1989/90 | 2274 | 3094 | 4005 | 5123 | 6917 | 16785 |
| 1990/91 | 2341 | 3306 | 4600 | 5678 | 6879 | 15831 |
| 1991/92 | 2327 | 3391 | 5163 | 5847 | 6830 | 16781 |
| 1992/93 | 2272 | 3450 | 5270 | 6837 | 6772 | 17003 |
| 1993/94 | 2429 | 3677 | 5580 | 5616 | 7532 | 16649 |
| 1994/95 | 2639 | 3649 | 6100 | 7857 | 7933 | 17108 |
| 1995/96 | 2735 | 3794 | 6560 | 9842 | 8016 | 17774 |
| 1996/97 | 2883 | 4220 | 6835 | 11835 | 8543 | 15282 |
| 1997/98 | 2951 | 4456 | 7031 | 10554 | 8991 | 15080 |
| 1998/99 | 2819 | 4490 | 6371 | 7048 | 8177 | 12631 |
| 1999/00 | 2609 | 4405 | 6319 | 6446 | 8024 | 14098 |
| 2000/01 | 3091 | 5029 | 7196 | 7957 | 8420 | 15157 |
| 2001/02** | 3453 | 5437 | 8114 | 7536 | 10002 | 16618 |

Source : Nominal figures obtained from Education Statistics Digest 2002

* Deflated by the Consumer Price Index

**Preliminary figure

¹ Excludes independent schools

² Includes centralised institutes

Second, student to teaching staff ratio has declined over the years. (See Chart 4b.) This is a trend seen in many OECD countries as well, and has been attributed as a major reason for the rise in teaching costs. The considerable increase in teaching costs from the above factors can be evidenced from the significant rise in recurrent expenditure per student in real terms, which rose by 1.8 times over the period 1987 to the present when averaged across all education levels. (See Table 1.)

In addition, many education institutions have increased capital expenditure to build better facilities, invest in more teaching aids and information technology, as schools strived to provide a higher quality of education for students. These higher costs inevitably lead to higher prices of education services eventually.

Changes in the market structure of the education sector over the last decade have altered the pricing structure of education services. In the past, mainstream education was mainly provided for by the public sector, with a fairly homogeneous "product" being offered. While the government remains the principal provider of education today, the market is now more segmented with several government-aided, autonomous and independent schools emerging in the last ten years. These new categories of schools aim to offer higher quality education, with better school facilities and teachers, as well as a variation of the regular curriculum. As schools move towards a more niche marketing strategy by offering differentiated "products", they are thus able to assert some market pricing power for their education services.

Baumol's Cost Disease Model

The Baumol unbalanced growth model, or cost disease model, as it is popularly known, has often been used as a framework for understanding the longer-term price dynamics in the services industry, including the education sector. While the model makes several assumptions for simplicity, its predictions do provide valuable insights on Singapore's education costs.

The basic premise of Baumol's cost disease model asserts that economic activities can be grouped into two types: technological progressive activities which enable such industries to have substantial rises in output per man hour on a sustained basis; and activities, which, by their very nature, permit only sporadic increases in productivity. The latter are usually characterised by labour intensive industries that have a limited ability to benefit from technological advances and thus inevitably experience higher real costs.

In addition, wages in these two sectors of the economy are generally assumed to move up and down together, regardless of which sectors are the most productive or which sector generates the most productivity gains. This is because mobility exists across all segments of the labour market. Although there could be some disparity in wages between the two sectors in the short run, this is not expected to persist.

The education sector characterises the second type of industry – it is labour-intensive and has relatively low productivity growth - which is in any case fairly difficult to measure - inevitably leading to higher real costs. According to the model, teacher's wages and other labour components depend on the cost of labour in the economy as a whole rather than productivity in the education sector. Schools must compete against other employers, occupations and sectors of the economy for the supply of labour for teaching. As productivity growth in the technologically progressive sector leads to wage gains in that sector, the wage gains will not be just confined within that sector, but will also spill over to the other less productive sector. Thus, wages in the education sector must also move in tandem with the other more technologically progressive sector.

Although some of these relatively less productive sectors, especially those that produce price-sensitive goods or services, may be eliminated altogether, this will not happen to the education sector. This is because, like in many other countries, demand for education services in Singapore is fairly inelastic. The implications for education costs is that any price increases in the education sector will generally be "tolerated" and will not lead to a considerable reduction in the quantity of education services demanded, as Singaporeans place a strong premium on education.

Concluding Remarks

Like other parts of the world, education costs in Singapore have been rising steadily through the years. These cost increases have been attributed to similar reasons such as declining student to teaching staff ratio and better-qualified teachers, compounded by the strong price inelasticity and income elasticity for education. However, education is a service in which labour is an end in itself, and performance is often judged directly in terms of the amount and quality of labour. Therefore, the price increases have to be viewed in the context of various quality improvements in education that have come along with them, and in turn, the immense benefits to our human capital development. While education costs have climbed up in the last two decades, the quality of our labour force has improved tremendously as well, with a significantly higher proportion of the population obtaining higher education. Moreover, education inflation in Singapore still remains relatively low compared to many other countries.

Going forward, although policymakers will have to remain mindful of education cost increases, so as to ensure that educational opportunities remain within reach of Singaporeans, market forces may still dictate a continued rise in prices of education services. Moreover, with the Economic Review Committee's recommendations to position Singapore as a global education hub in the future and increase education services' contribution to GDP, education institutions will need to continuously improve the quality of education to compete with global education players in attracting international students here. The higher costs of providing a better quality of education will inevitably lead to continued price increases in education services in the future.

References

Baumol, W.J. (1967) "Macroeconomics of Unbalanced Growth : The Anatomy of Urban Crisis", *The American Economic Review*, June, Vol 57, Issue 3, pp 415-426.

Flyer, F., Rosen, S. (1994), "The New Economics of Teachers and Education", *National Bureau of Economic Research*, August, Working Paper No. 4828.

Ministry of Education (2002) *Education Statistics Digest*.

Nelson, F. H (1998) "Trends in Private School Cost and Tuition : No Immunity from the Cost Disease", Paper Proposal for the 1998 AEFA Meeting in Mobile, Alabama.

United Nations Development Programme (2002) *Human Development Report*.

| CONSUMER PRICE INDEX | | | | | | | | |
|-----------------------------|-----------|-------|----------|---------|------------|-----------|--------|-------|
| Period | All Items | Food | Clothing | Housing | Tpt & Comm | Education | Health | Misc |
| Weights | 10000 | 2752 | 443 | 2292 | 1803 | 729 | 305 | 1676 |
| INDEX – SEASONALLY ADJUSTED | | | | | | | | |
| 2000 Jan | 100.3 | 101.4 | 96.5 | 99.3 | 100.7 | 101.6 | 100.9 | 100.8 |
| Feb | 100.7 | 102.4 | 96.4 | 98.9 | 101.4 | 101.6 | 101.1 | 100.7 |
| Mar | 100.6 | 101.5 | 96.8 | 99.0 | 101.1 | 101.9 | 101.2 | 101.4 |
| Apr | 100.7 | 101.3 | 96.4 | 99.3 | 101.3 | 102.2 | 101.2 | 101.3 |
| May | 100.4 | 101.1 | 95.8 | 99.8 | 99.0 | 102.7 | 101.8 | 101.0 |
| Jun | 100.7 | 101.2 | 96.1 | 100.0 | 99.9 | 102.9 | 102.1 | 101.5 |
| Jul | 100.9 | 101.1 | 96.8 | 100.4 | 100.4 | 103.2 | 102.2 | 101.9 |
| Aug | 101.5 | 101.4 | 97.1 | 101.8 | 100.7 | 103.3 | 102.8 | 102.1 |
| Sep | 101.5 | 101.1 | 98.0 | 101.7 | 101.0 | 103.6 | 102.9 | 102.0 |
| Oct | 101.7 | 101.3 | 98.5 | 101.9 | 101.1 | 103.7 | 103.3 | 102.5 |
| Nov | 101.9 | 101.2 | 98.3 | 102.1 | 100.9 | 103.7 | 103.7 | 103.5 |
| Dec | 102.1 | 101.6 | 98.0 | 102.2 | 101.3 | 103.7 | 104.1 | 103.7 |
| 2001 Jan | 102.4 | 103.1 | 97.4 | 102.7 | 100.8 | 104.0 | 104.7 | 103.8 |
| Feb | 102.1 | 101.6 | 97.6 | 103.1 | 100.5 | 104.1 | 104.8 | 103.4 |
| Mar | 102.5 | 101.8 | 98.0 | 103.0 | 100.9 | 104.2 | 104.9 | 104.6 |
| Apr | 102.7 | 101.9 | 98.0 | 103.3 | 100.7 | 104.7 | 105.5 | 105.1 |
| May | 102.3 | 101.8 | 98.0 | 101.8 | 100.1 | 104.6 | 105.5 | 105.2 |
| Jun | 101.9 | 101.8 | 97.6 | 102.1 | 98.3 | 104.8 | 105.8 | 105.6 |
| Jul | 102.2 | 101.9 | 99.2 | 101.6 | 99.3 | 105.3 | 106.0 | 106.0 |
| Aug | 102.2 | 101.8 | 97.3 | 101.4 | 99.2 | 105.4 | 106.0 | 106.1 |
| Sep | 102.1 | 101.8 | 97.7 | 101.1 | 98.9 | 105.7 | 106.1 | 106.1 |
| Oct | 102.0 | 101.9 | 97.1 | 100.9 | 98.5 | 105.9 | 106.2 | 105.9 |
| Nov | 101.7 | 101.9 | 96.8 | 100.6 | 98.0 | 106.1 | 106.4 | 105.3 |
| Dec | 101.5 | 101.6 | 97.0 | 100.7 | 97.4 | 106.2 | 106.5 | 105.1 |
| 2002 Jan | 101.3 | 101.8 | 95.9 | 99.8 | 98.1 | 106.2 | 106.4 | 105.2 |
| Feb | 101.5 | 102.2 | 95.6 | 99.4 | 98.4 | 106.2 | 106.4 | 105.3 |
| Mar | 101.5 | 101.8 | 97.5 | 99.4 | 98.4 | 106.4 | 109.1 | 105.1 |
| Apr | 101.6 | 101.8 | 97.4 | 99.5 | 98.7 | 106.3 | 109.3 | 104.7 |
| May | 101.9 | 101.9 | 97.8 | 99.6 | 99.0 | 106.2 | 109.1 | 106.0 |
| Jun | 102.1 | 101.9 | 98.0 | 99.7 | 98.9 | 106.5 | 109.2 | 107.3 |
| Jul | 101.9 | 101.8 | 100.2 | 99.9 | 98.9 | 106.3 | 109.5 | 104.9 |
| Aug | 101.7 | 101.5 | 98.9 | 99.7 | 98.7 | 106.6 | 109.5 | 105.2 |
| Sep | 101.7 | 102.2 | 97.5 | 99.5 | 97.6 | 106.7 | 109.9 | 105.4 |
| Oct | 101.8 | 102.0 | 98.9 | 99.6 | 98.0 | 106.9 | 110.2 | 105.6 |
| Nov | 102.0 | 102.0 | 99.3 | 99.8 | 98.4 | 107.2 | 110.3 | 105.6 |
| Dec | 102.0 | 102.2 | 97.6 | 99.9 | 98.0 | 107.4 | 110.5 | 106.0 |
| 2003 Jan | 102.2 | 102.5 | 98.9 | 99.3 | 99.3 | 107.9 | 110.6 | 106.7 |
| Feb | 101.8 | 101.6 | 96.8 | 98.9 | 99.5 | 107.8 | 110.7 | 106.4 |
| Mar | 102.3 | 101.8 | 98.3 | 99.0 | 99.8 | 107.8 | 110.8 | 107.6 |
| Apr | 102.5 | 102.4 | 98.3 | 100.6 | 98.9 | 108.0 | 111.1 | 106.0 |
| May | 101.8 | 102.4 | 98.7 | 99.4 | 98.0 | 107.9 | 110.7 | 104.6 |
| Jun | 101.8 | 102.2 | 96.9 | 99.5 | 98.4 | 108.2 | 110.9 | 104.6 |

SELECTED INFLATION INDICATORS

| Period | CPI | Import Price Index | Non-fuel Primary Commodities | Opec Oil Price |
|----------|-------------|--------------------|------------------------------|----------------|
| | YOY% Growth | | | |
| 2000 Jan | 0.9 | 7.5 | 6.2 | 133.1 |
| Feb | 1.3 | 8.5 | 9.6 | 168.4 |
| Mar | 1.2 | 10.2 | 9.0 | 122.7 |
| Apr | 1.1 | 8.2 | 7.8 | 53.5 |
| May | 0.5 | 9.2 | 7.6 | 77.0 |
| Jun | 0.8 | 11.1 | 7.3 | 86.2 |
| Jul | 1.2 | 11.0 | 6.5 | 51.3 |
| Aug | 1.6 | 9.6 | 2.3 | 46.0 |
| Sep | 1.7 | 9.7 | 1.7 | 42.4 |
| Oct | 1.8 | 9.9 | -0.5 | 41.2 |
| Nov | 2.0 | 8.2 | -1.2 | 30.8 |
| Dec | 2.1 | 4.6 | -1.5 | -2.6 |
| 2001 Jan | 2.0 | 4.5 | -2.1 | -2.4 |
| Feb | 1.3 | 3.8 | -2.9 | -5.2 |
| Mar | 1.8 | 1.6 | -3.0 | -12.3 |
| Apr | 2.0 | 3.4 | -2.3 | 7.7 |
| May | 1.9 | 2.6 | -1.7 | -2.9 |
| Jun | 1.2 | 1.3 | -1.3 | -10.5 |
| Jul | 1.3 | 0.3 | -1.6 | -14.1 |
| Aug | 0.7 | -0.6 | -2.1 | -14.5 |
| Sep | 0.5 | -2.7 | -7.0 | -22.7 |
| Oct | 0.2 | -4.2 | -9.3 | -36.0 |
| Nov | -0.2 | -3.9 | -7.2 | -43.2 |
| Dec | -0.6 | -2.1 | -8.4 | -26.5 |
| 2002 Jan | -1.1 | -1.8 | -8.8 | -24.4 |
| Feb | -0.6 | -2.1 | -7.7 | -25.6 |
| Mar | -0.9 | -0.8 | -4.6 | -4.4 |
| Apr | -1.1 | -1.0 | -5.2 | 0.5 |
| May | -0.3 | -1.7 | -6.3 | -5.8 |
| Jun | 0.1 | -2.9 | -2.8 | -8.9 |
| Jul | -0.4 | -2.0 | 0.2 | 6.0 |
| Aug | -0.4 | -0.6 | 1.4 | 5.7 |
| Sep | -0.4 | 0.7 | 7.9 | 13.8 |
| Oct | -0.2 | 1.6 | 13.4 | 40.2 |
| Nov | 0.2 | 0.8 | 11.5 | 37.2 |
| Dec | 0.4 | 2.1 | 11.5 | 59.6 |
| 2003 Jan | 0.9 | 3.1 | 12.5 | 65.5 |
| Feb | 0.4 | 5.0 | 12.1 | 66.7 |
| Mar | 0.8 | 3.4 | 7.2 | 30.4 |
| Apr | 0.9 | -0.3 | 7.1 | 1.9 |
| May | -0.1 | -1.5 | 7.4 | 3.6 |
| Jun | -0.3 | 0.0 | 6.2 | 12.7 |