

THE EFFECTS OF THE NEW TAX SYSTEM (NTS) ON PETROL PRICES UNDER DIFFERENT EXCISE REDUCTIONS

This Econtech report was prepared for the
Australian Automobile Association

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Revision to report of 29 June 2000

This report has been revised to use a more up-to-date average for the June Sydney pump price of petrol. This report has also been revised to more accurately represent the contribution of crude oil to the pump price, by applying appropriate conversion factors to the price of West Texas Intermediate Crude. Previously, this contribution was estimated using dated ABS input-output data.

Introduction

Under the New Tax System (*NTS*) it was stated that “at the time of the introduction of the GST, the government will reduce excises on petrol and diesel so the pump price of these commodities for consumers need not rise” (p. 86). On 22 June 2000 the Government announced that the petrol excise cut would be 6.7 cents per litre.

Treasury, using a current pump price of 90 cents per litre, used its PRISMOD model to estimate that there will be a saving in the cost of supplying petrol under the *NTS* of 1.5 cents per litre. With the announced excise cut of 6.7 cents per litre, this gives a total saving of 8.2 cents per litre. Applying these savings to a current pump price of 90 cents per litre, Treasury calculated that a 10% GST would add 8.2 cents per litre. This exactly matches the savings, leaving an unchanged pump price.

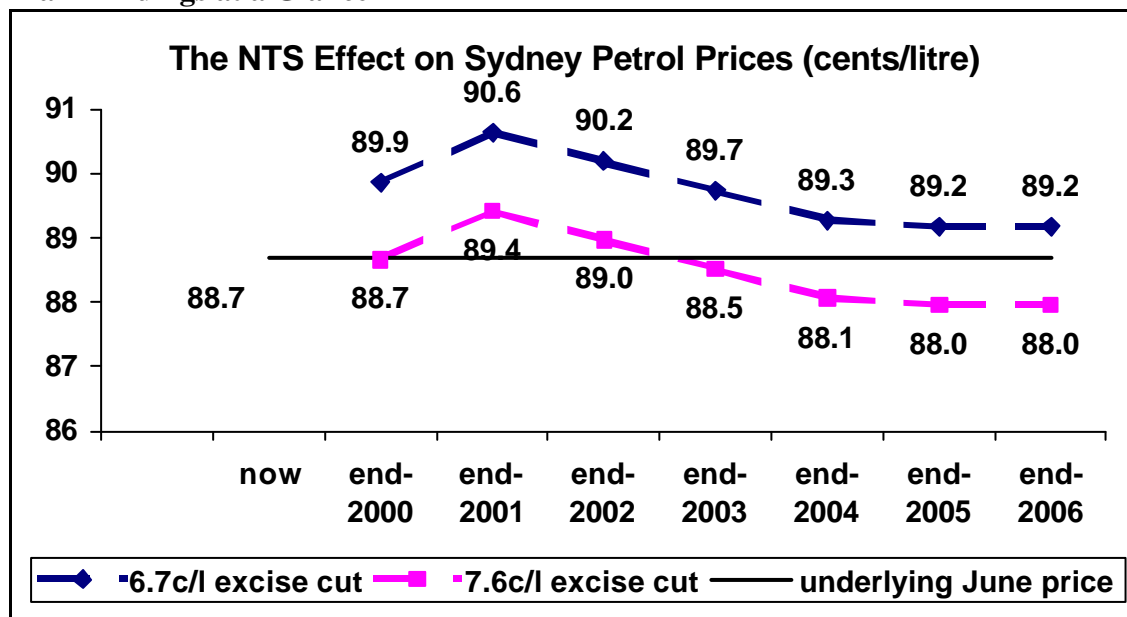
The Treasury approach is inadequate because PRISMOD only provides estimates of long-term cost savings.

This report uses Econtech’s MM600+ model, which not only provides estimates of long-term savings, but also gives estimates of savings for the introduction year of the *NTS*, the 2000/01 financial year. This is important because savings are generally lower in 2000/01 than in the long-term.

In 2000/01 not all long-term cost savings will be available, and the cost saving in supplying petrol is estimated at 0.4 cents per litre, not 1.5 cents per litre. The 2000/01 cost saving estimates from MM600+ allow for cost savings from cheaper non-capital inputs only; not for cost savings from cheaper new investment which are only fully realised in the long-term. The 2000/01 estimates allow for both direct cost savings from tax reductions on inputs, as well as indirect cost savings passed along supply chains in the form of lower prices.

MM600+ is also more detailed than other models. It distinguishes 672 products compared with about 110 products in other models.

Main Findings at a Glance



As can be seen above, under the excise cut of 6.7 cents per litre announced by the government, the pump price of petrol is expected to rise. For example, in 2000/01, the *NTS* adds 1.2 cents per litre to the June Sydney price of 88.7 cents per litre, taking it to 89.9 cents per litre.

The *NTS* will add further to the pump price in February 2001. At that time, excise rates will be adjusted automatically for the movement in the CPI which itself will be inflated by the *NTS*. This effect will partly wear off as long-term capital cost savings flow through, reducing the contribution of the *NTS* to the CPI.

Our calculations of these second round effects of the *NTS* on pump prices are based on Treasury estimates that the *NTS* will add 2¾ per cent to the CPI in the June quarter 2001 easing back to 1¾ per cent in the long-term.

On that assumption, even in the long-term, the second round effect adds 0.7 cents per litre to the petrol excise rate. This reduces the effective long-term excise cut from 6.7 cents per litre to 6.0 cents per litre. This adjustment is not made in the Government's figuring.

As shown in the Chart, under the announced excise cut of 6.7 cents per litre, the *NTS* will add significantly to the pump price for the first four years of the *NTS*.

This effect reduces in the long-term. In the long-term, the effective excise cut of 6.0 cents per litre is supplemented by cost savings that build to an estimated 1.6 cents per litre, giving a total saving of 7.6 cents per litre. However, this is not sufficient to fully offset GST of 8.1 cents per litre.

As shown in the Chart, to meet the Government's commitment that the *NTS* will not add to the pump price in 2000/01, the excise cut will need to be deepened from 6.7 cents per litre to 7.7 cents per litre, at an estimated full-year cost to revenue of up to \$300 million.

In 2000/01, the saving in the cost of supplying petrol under the *NTS* is estimated at 0.4 cents per litre, rising to 1.6 cents per litre in the long-term. Less than half of these savings are in the local oil industry — more than half are based on a strengthening of the \$A as a result of the *NTS* leading to lower world crude oil prices when converted to Australian dollars.

With the deeper excise cut of 7.7 cents per litre, and the cost saving of 0.4 cents per litre, this gives a total saving in 2000/01 of 8.1 cents per litre.

Applying these savings to the June Sydney pump price of 88.7 cents per litre, means that 10% GST would add 8.1 cents per litre. This exactly matches the savings, leaving an unchanged pump price in 2000/01. The full time profile of the effect of the *NTS* on the pump price under this deeper excise cut can be read from the chart.

In interpreting the Chart, it is important to note that it only takes into account changes in petrol prices due to the *NTS* alone. This is because it is designed to assess the effects of the *NTS* on petrol prices. Other factors, notably world crude oil prices, will also affect petrol prices.

This report is structured as follows.

- Section 1 presents estimates of the likely savings in the cost of supplying petrol both in 2000/01 and the long-term.
- Section 2 analyses the second round increase in petrol excise due to the *NTS*.
- Section 3 compares the setting of the changes in petrol excise with related changes in alcohol excises.
- Section 4 estimates the effects of the *NTS* on pump prices under the Government's proposed excise cut of 6.7 cents per litre.
- Section 5 estimates the effects of the *NTS* on pump prices under a deeper excise cut of 7.7 cents per litre.
- Attachment A contains the estimates of the makeup of petrol prices underlying this report.

While all care, skill and consideration has been used in the preparation of this report, the findings are based upon the strict instructions of the Automobile Association of Australia and are designed to be used only for the specific purpose set out below. If you believe that your instructions are different from those set out below, or you wish to use this work or information contained within it for another purpose, please contact us.

The specific purpose of this report is to provide the Automobile Association of Australia with estimates of the effect of the *NTS* on petrol prices.

The findings in this report are subject to unavoidable statistical variation. While all care has been taken to ensure that the statistical variation is kept to a minimum, care should be used whenever using this information. Should you require clarification of any material, please contact us.

1. Saving in the Cost of Supplying Petrol – Is it 1.5 cents per litre?

The first step when analysing the effect of the *NTS* on the cost of supplying petrol is to estimate the contribution of each cost component to the pump price.

FuelTrac reports that the average pump price of petrol in Sydney was 88.7 cents per litre. The petrol excise, at 44.1 cents per litre in June 2000, accounts for half of this price. Of the remaining 44.6 cents per litre, most is accounted for by the cost of crude oil.

In estimating the contribution of crude oil to the Sydney pump price of petrol in June, we have allowed for the small delay in the pass through of changes in world oil prices to local pump prices. Specifically, we have used the average price for the West Texas Intermediate Crude in the four weeks to mid June of US\$30.25 per barrel. Using an average exchange rate for the same period of \$0.583 gives an average cost of crude oil of A\$51.84 per barrel. Converting this to cents per litre (using 159 litres/barrel) gives an average crude oil cost of 32.6 cents per litre.

Only the remaining 12 cents per litre represents costs in the local oil industry. These are allocated between refining, wholesale, transport and retail margins using ABS data and industry information.

The contribution of each cost component discussed above is shown in more detail in Attachment A.

The second step is to estimate the effect of the *NTS* on these cost components. After the introduction of the *NTS* the cost of supplying petrol is expected to fall as many inputs become cheaper, as shown in Chart 1.1. In considering the cost savings, it is useful to distinguish between savings in the cost of crude oil and savings in the local oil industry.

The price of crude oil is determined on world markets. Cost savings in crude oil from the *NTS* can therefore only arise through its effect on the value of the \$A. Econtech's MM600+ model estimates that the *NTS* will add 0.6 per cent to the value of the \$A in 2000/01 building to 3.3 per cent in the long-term. This reduces the price of crude oil when expressed in \$A. In terms of petrol prices, this \$A effect on the local price of crude oil gives a cost saving of 0.2 cents per litre in 2000/01 building to 1.0 cents per litre in the long-term (see Chart 1.1).

There are also cost savings in the local oil industry, including in refining, wholesaling, transporting and retailing petrol, as detailed in Chart 1.1. These total 0.2 cents per litre in 2000/01, building to 0.6 cents per litre in the long-term. The makeup of these cost savings in the local oil industry can be read from Chart 1.1.

Thus the total cost savings in supplying petrol are estimated at 0.4 cents per litre in the year 2000/01 (or 0.8 per cent), building to 1.6 cents per litre in the long-term (or 3.7 per cent).

Thus this report confirms the Treasury PRISMOD estimate of a long-term cost saving of 1.5 cents per litre. Our estimate is similar at 1.6 cents per litre. However, there are two issues with the way the Treasury has used this estimate in setting the new excise rate.

First, this estimate is a long-term figure. Our estimate for the cost saving for the *NTS* introduction year of 2000/01 is much lower at an estimated 0.4 cents per litre. This has not

been taken into account by the Government in setting the new petrol excise rate. This problem has presumably arisen because PRISMOD does not provide estimates of introduction year cost savings.

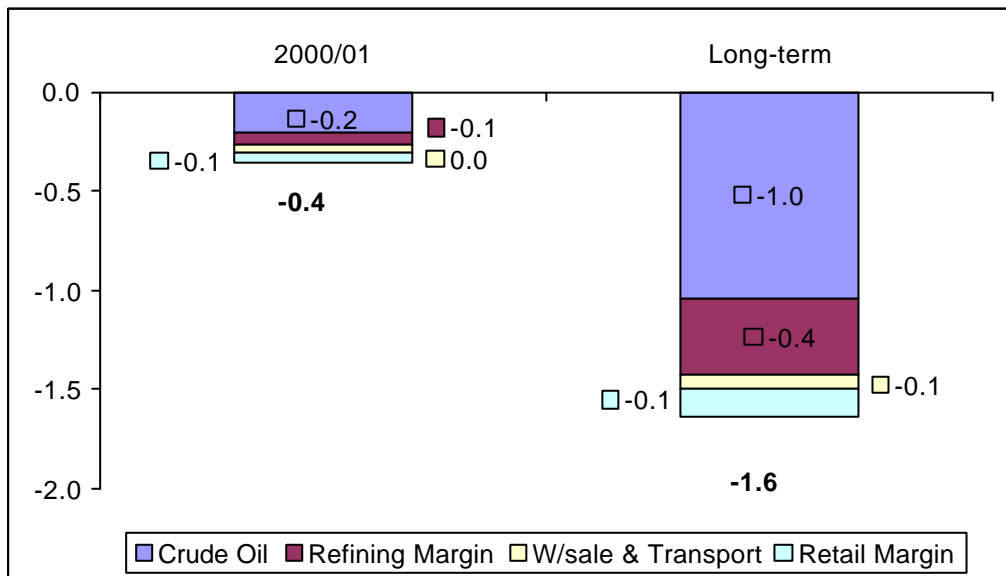
Second, as mentioned previously, it should be recognised that there are two parts to the estimated cost savings in supplying petrol. These are savings in the cost of crude oil and savings in the local oil industry.

Of the 1.6 cents per litre saving in the long-term, a full 1.0 cents per litre is from the effect on the \$A cost of crude oil of the estimated effect of the *NTS* on the value of the \$A. This cost saving is based on the estimated effect of the *NTS* on the value of the \$A and is beyond the control of the local oil industry.

The cost saving in the local oil industry is estimated at only 0.6 cents per litre in the long-term, as detailed in Chart 1.1 below.

It is likely that the breakdown of the Treasury estimate of the long-term cost saving of 1.5 cents per litre would be similar.

Chart 1.1
Changes in the Cost of Supplying Petrol



2. Second Round Effect of the NTS

The *NTS* will add further to the pump price in February 2001. At that time, excise rates will be adjusted automatically for the movement in the CPI which itself will be inflated by the *NTS*.

This effect will partly wear off as long-term capital cost savings flow through, reducing the contribution of the *NTS* to the CPI. Our calculations of these second round effects of the *NTS* on pump prices are based on Treasury estimates that the *NTS* will add 2¾ per cent to the CPI in the June quarter 2001 easing back to 1¾ per cent in the long-term.

This implies a second round rise in petrol excise due to the *NTS* of 1.0 cents per litre by the end of 2001, based on a CPI effect of 2¾ per cent. This reduces the effective excise cut from 6.7 cents per litre to 5.6 cents per litre.

In the long-term, the second round rise in petrol excise due to the *NTS* eases back to 0.7 cents per litre. This is based on a long-term CPI effect of 1¾ per cent. This reduces the effective excise cut from 6.7 cents per litre to 6.0 cents per litre.

3. Other Excise Changes and Price Effects

The Econtech estimate that the announced cut in petrol excise of 6.7 cents per litre will add 1.2 cents per litre to the pump price in 2000/01 uses our standard modelling assumptions for estimating the introduction year effects of the *NTS*.

These assumptions have been used in a wide range of Econtech studies. This includes work that we have undertaken for the ACCC. That work, together with industry information, was drawn on by the ACCC when it compiled its *Shopping Guide*.

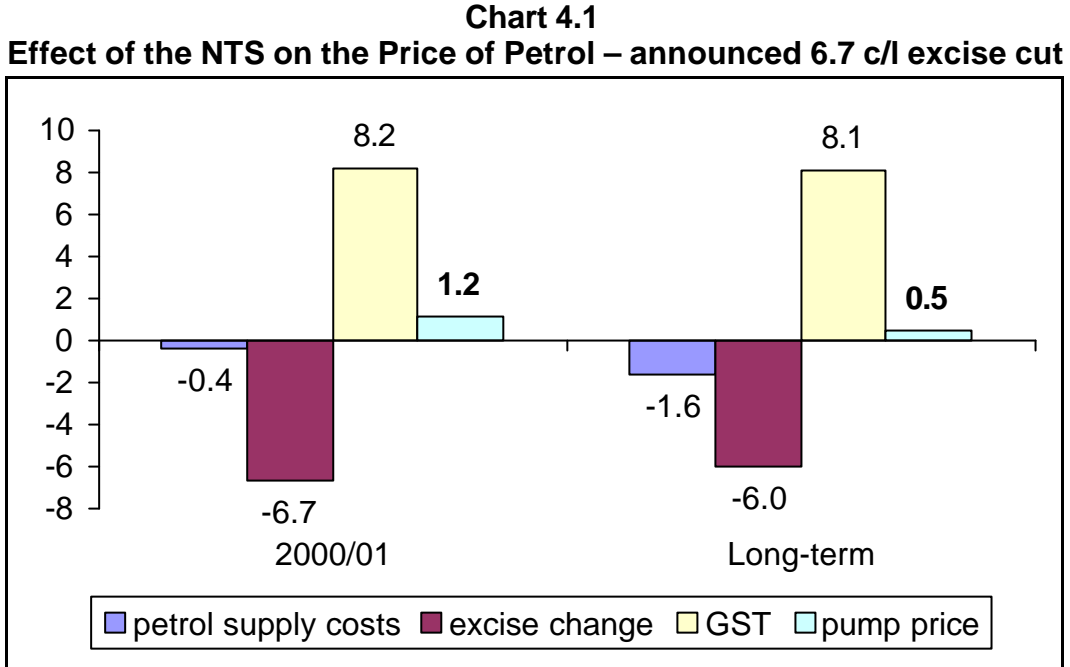
The original *NTS* proposals for tax changes for beer, wine and spirits factored in long-term PRISMOD cost savings. Because cost savings are lower in the short-term than the long-term, had this approach been maintained, the price rises of beer, wine and spirits in 2000/01 would have exceeded the Government's commitments in *NTS*.

Instead, the Government modified its original proposals for beer, wine and spirits taxation to reduce the tax burden. This has had the effect that the Government is likely to meet its price commitments in these areas, even allowing for the fact that short-term savings will be less than long-term savings.

Petrol stands out as an exception where the Government has not modified its approach. As a result, the *NTS* will add an estimated 1.2 cents per litre to petrol prices in 2000/01.

4. Petrol Prices with a Reduction in the Excise of 6.7 Cents Per Litre

Chart 4.1 shows the expected effect of the *NTS* on the price of petrol if the excise is cut by 6.7 cents per litre. This is the excise cut that the Government announced on 22 June 2000.



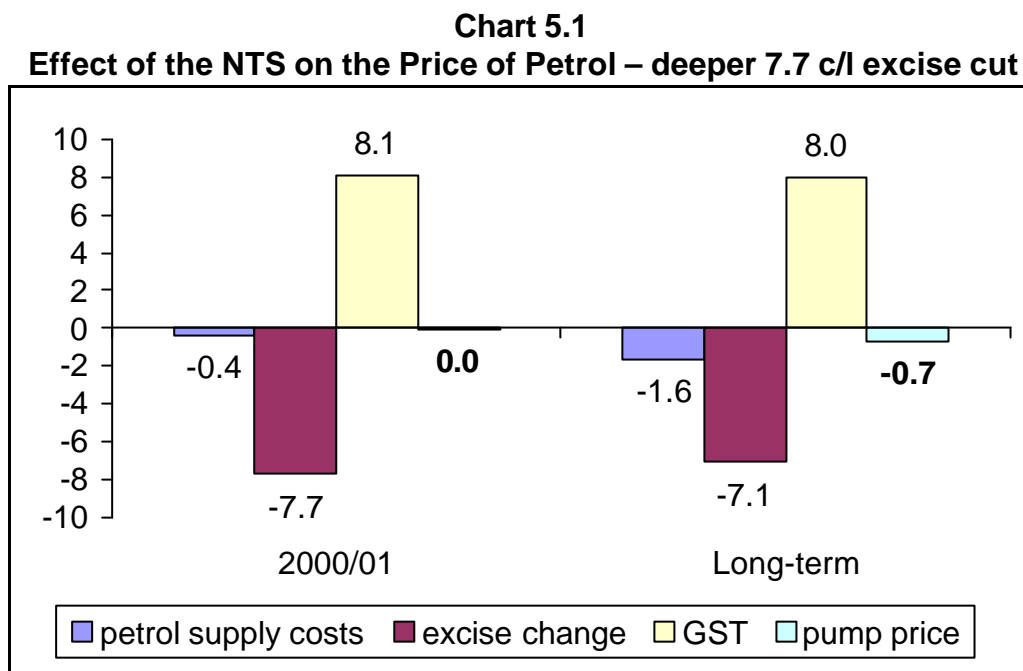
In the year 2000/01, there is an estimated cost saving of 0.4 cents per litre in the supply of petrol, as analysed in section 1. In addition, the Government has announced a petrol excise cut of 6.7 cents per litre. On the other hand, using a June Sydney petrol price of 88.7 cents per litre, after allowing for these cost savings, 10% GST of 8.2 cents per litre will be added back to the price. The final result is an estimated net addition to the pump price from the *NTS* of 1.2 cents per litre in 2000/01, as shown in bold type in Chart 4.1.

In the long-term, the estimated cost saving in the supply of petrol is larger at 1.6 cents per litre, as was also analysed in section 1. As explained in section 2, the long-term petrol excise cut is 6.0 cents per litre, reflecting both the initial cut of 6.7 cents per litre, and the second round CPI indexation increase of 0.7 cents per litre. 10% GST of 8.1 cents per litre will be added back to the price. The final result is an estimated net addition to the pump price from the *NTS* of 0.5 cents per litre in the long-term, as shown in bold type in Chart 4.1.

Both the 2000/01 and long-term cost changes assume that all upstream suppliers pass on all their cost savings by reducing their prices, as required under ACCC guidelines.

5. Petrol Excise to keep Pump Price constant in 2000/01

Chart 5.1 shows the expected effect of the *NTS* on the price of petrol if the excise cut is deepened from 6.7 cents per litre to 7.7 cents per litre so that the *NTS* does not add to the pump price of petrol in 2000/01.



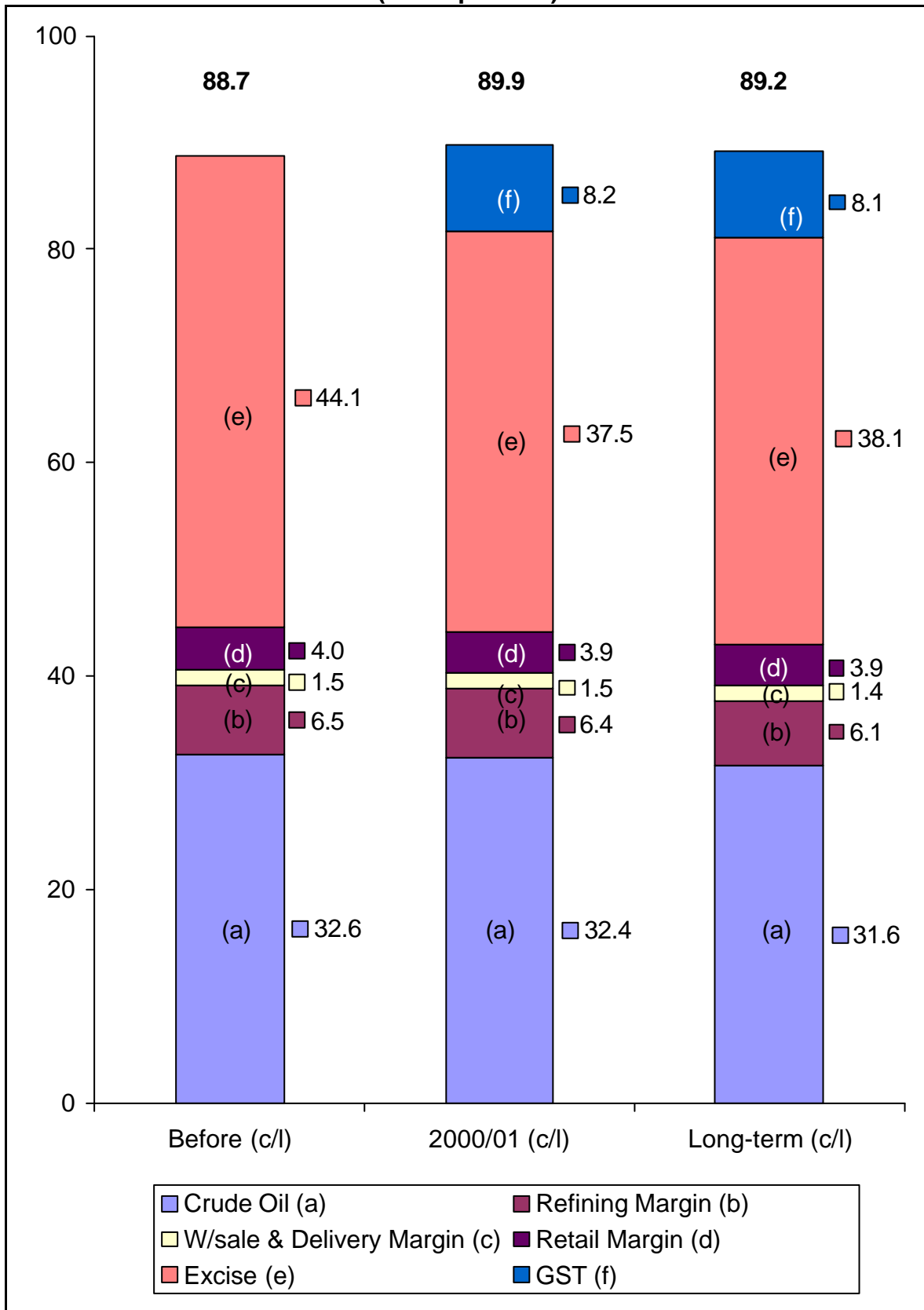
In the year 2000/01, there is an estimated cost saving of 0.4 cents per litre in the supply of petrol, as analysed in section 1. This scenario factors in a deeper excise cut (than announced by the Government) of 7.7 cents per litre. After allowing for these cost savings, 10% GST of 8.1 cents per litre will be added back to the price. The final result is that the cost savings and the deepened excise cut exactly offset the GST, leaving the pump price unchanged by the *NTS* in 2000/01, as shown in bold type in Chart 5.1.

In the long-term, the estimated cost saving in the supply of petrol is larger at 1.6 cents per litre, as was also analysed in section 1. As explained in section 2, the long-term petrol excise cut is 7.1 cents per litre, reflecting both the initial deeper cut of 7.7 cents per litre, and the second round CPI indexation increase of 0.6 cents per litre. 10% GST of 8.0 cents per litre will be added back to the price. The final result is an estimated net cut to the pump price from the *NTS* of 0.7 cents per litre in the long-term, as shown in bold type in Chart 5.1.

Both the 2000/01 and long-term cost changes assume that all upstream suppliers pass on all their cost savings by reducing their prices, as required under ACCC guidelines.

Attachment A
The NTS Effect on Sydney Petrol Prices in 2000/01 and the Long-term

**Under the Government Proposed Excise Cut of 6.7 cents per litre
(cents per litre)**



**Under a Deeper Excise Cut of 7.7 cents per litre
(cents per litre)**

