Tax Working Group
Te Awheawhe Tāke

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This paper contains advice that has been prepared by the Tax Working Group Secretariat for consideration by the Tax Working Group.

The advice represents the preliminary views of the Secretariat and does not necessarily represent the views of the Group or the Government.

Appendix E – Inflation indexing the tax system

Further information on specific revenue-reducing options

July 2018

Prepared by the Inland Revenue Department and the New Zealand Treasury

Inflation indexing the tax system

Executive summary

1. Under this option the income tax base would be comprehensively adjusted for inflation.

2. The current tax system taxes nominal income and allows deductions for nominal interest expenses. However, some nominal income and expenses is compensation for inflation and under an economic definition of income should not be taxed.

3. Taxing nominal rather than real gains increases the effective tax rates for investment and under-taxes those with nominal interest expenses. This over- and under-taxation has efficiency costs. It increases the cost of capital and investment, and increases the distortion between investments in taxed investments and untaxed investments, in particular owner-occupied housing.

4. However, inflation indexing the tax system is complex. The 1989 Consultative Document on the Taxation of Income[1] outlined that to achieve inflation indexation would require adjustments to the rules for capital assets, trading stock, depreciation and interest and financial arrangements. Of these adjustments those required for financial arrangements are the most complex, in particular for complex financial arrangements such as those involving foreign currency or derivatives.

5. This complexity creates high administration and compliance costs and is the reason why no OECD country currently comprehensively inflation indexes their tax system.

6. Due to these complexities some proponents of inflation indexation recommend partial approaches to indexation such as only taxing a proportion of interest income. We would not recommend these partial approaches as we consider they create further inconsistencies which are likely to create costs that outweigh the benefits.

7. In particular, partial indexation requires either not indexing interest expenses which creates significant revenue integrity risks, or indexing interest expenses which creates additional complexity. Inflation indexing interest but not trading stock or depreciable assets would result in increasing the cost of capital for businesses. Proxy approaches to indexation, such as only taxing a portion of interest income and expense may also potentially be arbitrary and it is not clear how they would apply to arrangements that are more complex.

8. Given the lack of international precedent for comprehensive indexation, this approach comes with risks for New Zealand. If the Group wishes to recommend potential changes, the Secretariat would suggest the Group recommend that the Government monitor international developments or undertake further work and consultation on the issue. Developing options further would require significant policy resource and will not be feasible to complete within the Group's timeframes.

[1] This was a Government consultative document outlining the results and recommendations of a review of the tax system and the tax treatment of capital income. An alternative approach was taken by Israel, which has been briefly outlined in this paper.

Proposal

9. Under this option, the income tax base would be comprehensively adjusted for inflation[2]. Comprehensively indexing the tax system involves four key changes:
   - *Depreciation:* The cost base of assets is increased by inflation every year
   - *Trading stock:* An adjustment is allowed for the inflationary increase in values of trading stock
   - *Capital assets:* The cost base of capital assets is increased by inflation since the time of incurring the costs
   - *Interest and financial arrangements:* The inflationary component of interest received is non-assessable and the inflationary component of interest paid is non-deductible.

10. This section also considers partial approaches to inflation indexation.

11. The analysis of inflation indexation is provided at a high-level. This issue was considered more comprehensively as part of the 1989 Consultative Document on the Taxation of Capital Income which is attached.

Problem

12. The current tax system applies on a nominal basis. It taxes nominal gains and allows deductions for interest based on nominal interest payments. This means the definition of income used for tax is not consistent with an economic definition of income when there is inflation. Under an economic definition of income only changes in a taxpayers *real* net worth should be taxed. The real net worth is the increase or decrease in value of a person's assets above the inflation rate.

Example – inflation and interest

Take for example a person with $1,000. The average price of goods is $10 and the $1,000 is worth 100 average goods.

The person puts the money into a bank account, earns 10% interest, and there a 10% inflation rate. In the absence of tax, the person's real worth will not change over time. In the first year, they can buy 100 average goods and in following years can continue to buy 100 average goods.

However, our tax system will tax the *nominal* gain being the full $100 of interest earned, which will reduce the person's buying power (i.e. the number of goods they can buy in future years).

13. There is a strong in-principle case for inflation indexation. The current rules over-tax people with income and assets which has an inflationary component (such as interest, trading stock, and depreciable property) when compared with an economic definition

[2] This is different to the option for inflation indexing tax thresholds. Indexing tax thresholds would involve increasing income tax thresholds every year for inflation. Under this option, only the non-inflationary portion of investment earnings and borrowings would be taxable.

of income. The current rules under-tax people with expenses which have an inflationary component (such as interest expenses) when compared with an economic definition of income.

14. This under- and over-taxation has costs. The current treatment has negative impacts for efficiency, savings and horizontal equity.

Efficiency

15. The under- and over-taxation of inflationary gains and losses distorts investment decisions.

Cost of capital

16. Taxing nominal gains results in a higher cost of capital for businesses investing in depreciable assets and trading stocks. The effective tax rate for these investments is higher than the statutory rates.

Effective tax rate for depreciable assets and trading stock with inflation

Having a tax system that operates on a nominal basis also increases the effective tax rate for depreciable assets and trading stocks. The table below provides the marginal effective tax rates for an investment in a depreciable asset and trading stock where:

- The investment is by a foreign investor
- The investment is debt financed
- The real interest rate is 3%
- The depreciation rate of the depreciable asset is 13.5%
- Trading stock is valued on a first-in first-out basis
- The inflation rate is either 2% or 0%

	No inflation	**With inflation of 2%**
Depreciable asset	28%	37%
Trading stock	28%	46%

Savings

17. Taxing nominal gains is a significant cause of the high marginal effective tax rates on savings. This exacerbates the tax preference towards investment in owner-occupied housing. This is because taxing nominal gains increases the tax rate on other investments above the statutory rate. If the tax system taxed real rather than nominal gains, then the tax preference towards investment in owner-occupied housing would still exist, however it would be smaller as the tax rate for other investments would be closer to statutory rates.

18. This issue also currently arises for shares and investment property when the capital gains are not taxed. However the extension of the taxation of capital income would reduce this distortion.

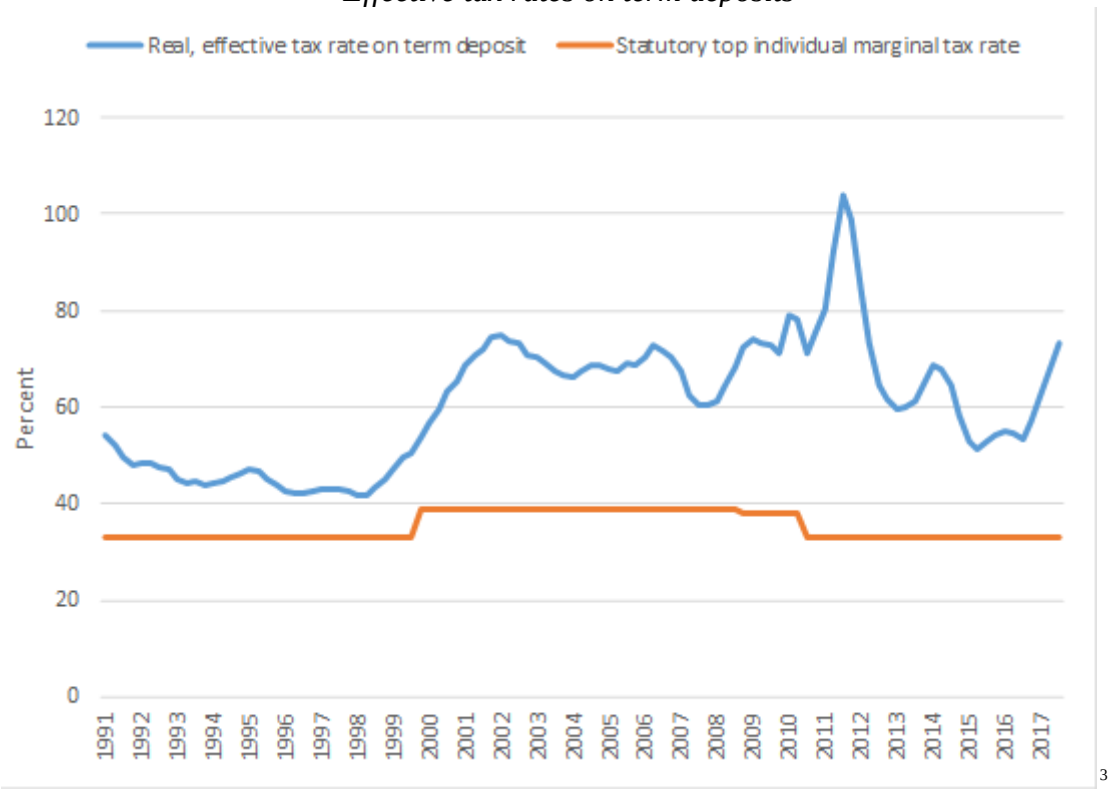
Horizontal equity

19. Significant differences in effective tax rates does not align with horizontal equity as different investments are taxed with different rates.

Savings

20. High effective tax rates on investments reduce savings. The over-taxation caused by taxing inflationary portion of interest is significant. The real effective tax rate on a term deposit since 1991 has fluctuated between 40 and 105 percent as a result of inflation.

Effective tax rates on term deposits



[3]

21. However, as noted in the Secretariat paper on retirement savings, the impact on savings rates from higher tax rates is not likely to be large

Benefits – efficiency and horizontal equity

22. Comprehensive indexation of the tax system for inflation would reduce the over- and under-taxation of investments with inflationary components. This would reduce tax distortions that favour owner-occupied housing and would potentially have modest impacts on private savings.

[3] Note: Real effective tax rate is calculated assuming the taxpayer faces the top statutory individual marginal tax rate, expected inflation is annual CPI inflation expected in one year from now from the Reserve Bank of New Zealand Survey of Expectations, and the interest rate is the weighted average advertised interest rate paid for a new six month term deposit of $10,000. The calculation is sensitive to assumptions.

23. Removing over- and under-taxation would also improve horizontal equity as the effective tax rates on different investments will be more consistent.

Costs

Compliance and administration costs

24. The key issue with inflation indexation is practicality. Inflation indexing the tax system is complex and would have high compliance and administration costs. The changes that would be required to New Zealand's tax system are summarised below and further information is in the Annex to this paper.

25. The main area of complexity arises in the case of financial arrangements, in particular complex arrangements such as derivatives and those involving foreign currency. The compliance and administration costs created by inflation indexation is the major reason why no country that we are aware of currently inflation indexes their tax system.

26. Four submitters to the Group from academics and organisations considered that full indexation would be too complex to be feasible *(ANZ, EY, Financial Services Council, Retirement Income Group)*. Four submitters considered that full inflation indexing should be undertaken *(Andrew Coleman, Craigs Investment Partners, Financial Services Federation, New Zealand Taxpayers' Union)* with one of them noting that the complexity was manageable *(Andrew Coleman).*

Revenue integrity

27. There are integrity concerns with inflation indexation. As no major country comprehensively inflation indexes their tax system, New Zealand being an outlier could potentially lead to arbitrage opportunities.

28. In addition, the design of indexation rules could lead to avoidance opportunities. For example, one risk is that taxpayers acquire assets shortly before an indexation date in order to benefit from an increase in the cost base of their asset and then dispose of the asset shortly after. These risks would require further consideration.

Vertical equity

29. The distributional impact of inflation indexation is difficult to measure. To the extent that inflation indexation benefits those earning investment income, this is likely to mainly benefit high income and wealth households.

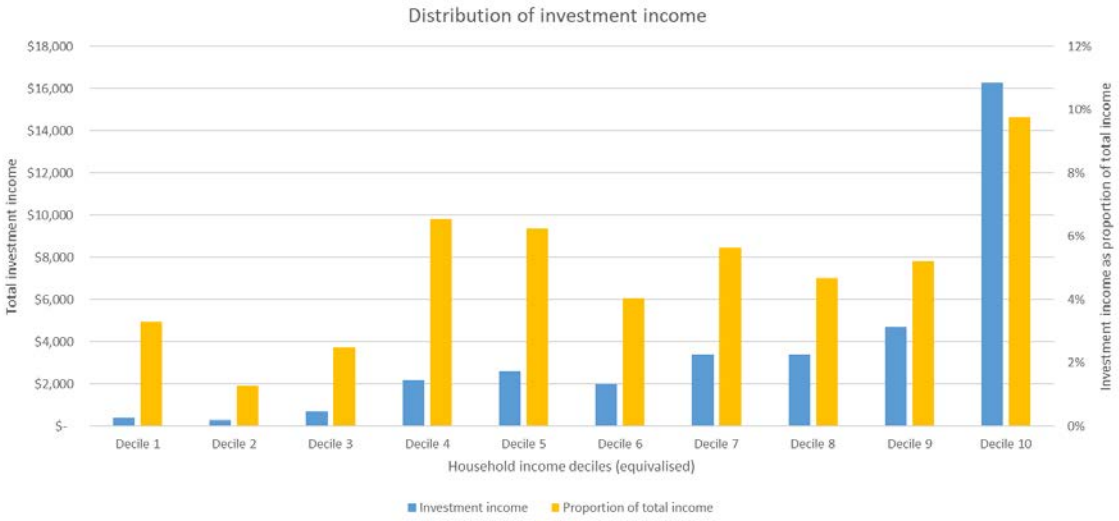
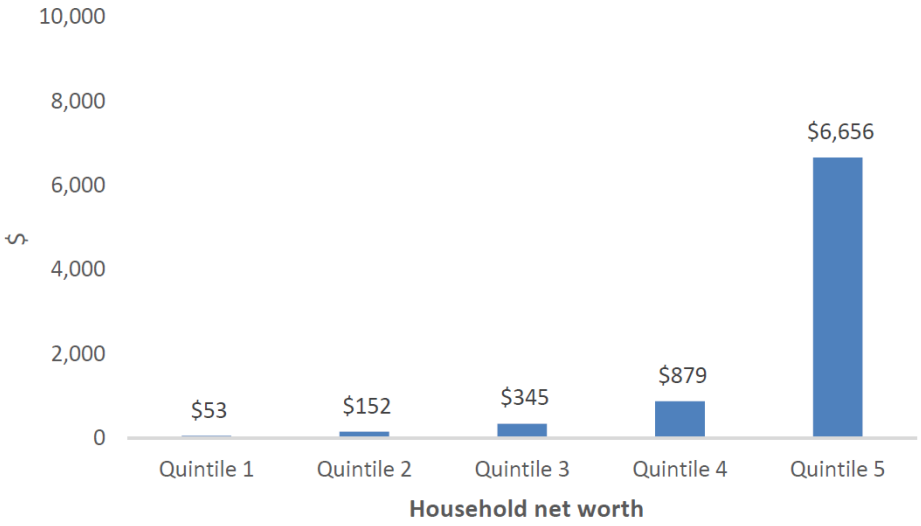


Figure 27: Annual long-term tax revenue per average household from a realisation-based capital gains tax (2017 dollars, assuming wealth distribution as at 2015)



Source: The Treasury, Statistics NZ

Inflation indexation

We have considered two approaches to inflation indexation:

- the indexation approach proposed by 1989 Consultative Document on Taxation of Capital; and
- indexation through a 'Balance Sheet' approach as implemented by Israel from 1982-2008.

A brief summary of these is provided below. The secretariat has not considered either approach in depth. Further information of them is outlined in Annex C and in the Consultative Document on the Taxation of Capital.

Consultative Document approach.

The Consultative Document outlined four key changes that would be needed to inflation index the tax system:

- *Sale of capital assets:* On sale, the cost base of the asset and improvements are increased by the amount of inflation since incurring these expenses.
- *Trading stock:* The 'opening value' of trading stock is increased by an inflationary component (based on average value of stock through the year)
- *Depreciation:* The cost base of depreciable assets is increased every year for inflation
- *Financial arrangements:* The inflationary component of interest received is non-assessable, and the inflationary component of interest paid is non-deductible. If inflation exceeds interest, the cost base for the value of the arrangement is increased. Other complex adjustments would be required for more complex financial arrangements such as derivatives and arrangements in foreign currency.

In addition, consideration would need to be given as to whether to inflation index carried forward tax losses.

Balance sheet approach

This approach would apply to taxpayers who prepare balance sheets that meet certain minimum requirements and requires them to calculate their net worth on an annual basis. A positive net worth entitles the taxpayer to a deduction for the inflationary component of this, while a negative net worth provide assessable income (to provide for indexation of interest expense).

Adjustments to the net worth are made to account for fixed assets which are taxable on realisation[4].

For taxpayers who do not prepare sufficiently robust balance sheets (for example individuals earning interest income), an approach similar to that proposed by the Consultative Document above would be used.

Partial approaches to inflation indexation

30. Due to the complexity of comprehensive inflation indexation, some proponents of inflation indexation, including submitters to the Group recommended partial inflation indexation or using proxy methods to index inflation. These include:

    - inflation indexing only interest income;
    - inflation indexing interest income through only taxing a portion of the interest (for example 60%); and
    - inflation indexing solely retirement savings.

31. However, these partial options are problematic and come with significant downsides. These include arbitrage risks, increased costs of capital for businesses as well as new distortions and fairness risks.

[4] It is not clear what the approach is for depreciable assets under this approach. Further work would be required to determine this.

Arbitrage risks

32. Inflation indexing interest income, but not comprehensively indexing interest expenses provides opportunities for taxpayers to enter into arrangements to artificially reduce their taxable income.

Example - arbitrage

Take a situation where interest income is inflation indexed, however interest expenses are not inflation indexed.

A taxpayer can borrow $100,000 from a bank with an interest rate of 5%. The taxpayer can then place the funds into a term deposit with the bank earning interest of 5%.

With an inflation rate of 3% the taxpayer would have taxable income of $2,000 and deductible expenses of $5,000.

As a result, they make a net tax loss from the arrangement of $3,000 (worth $990 on a 33% tax rate).

The bank could potentially split the benefit with the taxpayer offering interest rates of between 3.5% and 5% with both parties still benefiting from the arrangement.

This transaction is repeatable and potentially able to be used to reduce the taxpayers net income to $0 with no real economic costs being incurred by the taxpayer.

33. Such arbitrage would be a significant revenue integrity risk. Addressing such arbitrage when any interest income is indexed likely requires indexation of interest expenses.

New distortions

34. Inflation indexing interest income and expenses, but not depreciable assets and trading stock would increase the cost of capital for businesses. This is because the depreciable asset and trading stock, including the gains from these assets would be taxed on a nominal basis; however, any interest used to fund these investments would only be deductible on a real basis. Increasing the cost of capital in this way would likely distort investment decisions further and have negative implications for productivity and investment.

35. Inflation indexing only some investments would also create a distortion that favours some investments over others.

Compliance costs

36. Complex financial arrangements and interest are the most complex areas of the tax system to inflation index. Inflation indexing solely interest income is likely to have significant compliance costs. We do not consider there would be significant simplicity benefits in excluding depreciable assets and trading stock from indexation relative to the complexity of indexing interest and financial arrangements.

37. It is also unclear how proxy approaches to indexing interest income and expense, such as only taxing 60% of interest income and expenses, could apply to more complex financial arrangements such as derivatives, arrangements involving foreign currency, or debt remissions. This would require further consideration, however applying proxy rules to these situations could create additional complexity.

Fairness

38. If some investments are taxed on a real basis and others are taxed on a nominal basis this raises additional horizontal equity issues as different investments are taxed differently.

39. In addition, applying proxy approaches such as treating 60% of interest as income or expenditure could be relatively arbitrary in practice.

Fiscal impact

40. The fiscal impact of inflation indexation is difficult to measure. The key difficulty is that data on interest income and expenses across different entity types is not robust. Different data sources for interest income can result in very different fiscal estimates.

41. We have prepared an estimate of the fiscal impact of comprehensively indexing interest, depreciation and trading stock, assuming there is a 2% inflation rate. This estimate indicates that indexation would have a fiscal cost of approximately $220 million per annum. However, given data concerns the actual fiscal impact of inflation indexation could be significantly greater or less. As a result, the Secretariat considers the reliability of this estimate is low. The estimate also does not take into account any behavioural impact or any potential cost due to international arbitrage risks.

42. Inflation indexation would reduce the revenue generated from a capital gains tax. The modelling of the fiscal impact of this is provided below.

43. This modelling is heavily affected by what assumptions are used. In the modelling below, we assume that assets appreciate at a nominal rate of 3%. Of this 3% nominal appreciation, 2% is due to inflation and 1% is a real gain.

44. The actual impact on capital gains revenue of inflation indexation will be more volatile and driven by economic conditions. If a capital gains tax had applied over the last 10 years, a much larger proportion of its revenues would have been raised from real gains.

Revenue generated by a capital gains tax[5]

Tax revenue as a % of GDP	Year 1		Year 5		Year 10	
	No indexation	**With indexation**	**No indexation**	**With indexation**	**No indexation**	**With indexation**
All residential land, excluding the family home	0.02	0.01	0.21	0.07	0.40	0.12
Commercial, industrial and other land	0.03	0.01	0.23	0.07	0.47	0.14
Rural land	0.01	0.00	0.11	0.03	0.22	0.06
Depreciable business assets		*Unable to quantify, but modest positive impact expected.*				
Intangible property	*Unable to quantify.*					
Domestic shares	0.05	0.02	0.29	0.09	0.28	0.08
Total	**0.11**	**0.04**	**0.84**	**0.26**	**1.36**	**0.40**

Numbers do not sum due to rounding

Conclusion

45. There is a strong in-principle case for comprehensive inflation-indexation of the tax system. However, the complexity with associated compliance and administration costs means that in practice it is not clear that the benefits outweigh the costs. There is a lack of international precedent for inflation indexation which means that comprehensive indexation comes with risks, including international arbitrage risks.

46. If the Group wishes to recommend potential changes, the Secretariat would suggest the Group recommend that the Government monitor international developments or undertake further work and consultation on the issue. Developing options further would require significant policy resource and will not be feasible to complete within the Group's timeframes.

47. Due to these complexities some proponents of inflation indexation recommend partial approaches to indexation such as only taxing a proportion of interest income. We would not recommend these partial approaches. We consider that these partial approaches create further inconsistencies which are likely to create costs that outweigh the benefits.

48. In particular, partial indexation requires either not indexing interest expenses which creates significant revenue integrity risks, or indexing interest expenses which would increase the cost of capital for businesses and create further distortions.

[5] The numbers are slightly increased from that provided in the Secretariat's previous paper on the taxation of capital income as the value of rural land has been corrected for a data error.

Annex: Outline of inflation indexation

Summary of inflation-indexation approach outlined in Consultative Document on the Taxation of Income from Capital – 1989

Below is a summary of the changes to inflation index the tax system proposed by the 1989 Consultative Document on the Taxation of Income from Capital (the Consultative Document).

The Consultative Document outlined four tax regimes that would need to be reformed in order to inflation index the tax system:

1. Disposal of non-depreciable assets that are taxable on disposal (i.e. revenue account property)
2. Trading stock
3. Depreciation
4. Financial arrangements

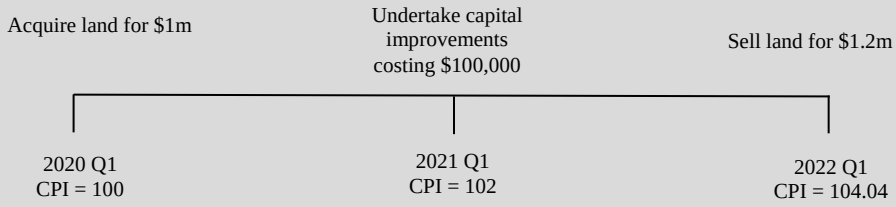
The summary provided has updated the proposals from the Consultation Document to account for changes in tax law since 1989. For example, there have been updates to account for the application of resident withholding tax on interest and the company tax rate.

1. Sale of revenue account property

The Consultative Document proposed that that on disposal, the cost of acquiring land would be increased by the inflation rate since the time of acquiring the land. The cost of improvements would also be increased by the inflation rate from the time that these costs are incurred.

The consumer price index (CPI) would be used to determine the inflation rate.

Example



A taxpayer

- Acquires land on 31 March 2020 for $1m
- Undertakes building work on the land on 31 March 2021 at a cost of $100,000
- Sells the land on 31 March 2022 for $1.2m

In the absence of inflation indexation the taxpayer would have assessable income of $1.2m and deductible expenditure of $1.1m. As a result, their total net income would be $100,000.

With inflation indexation, all of the costs are increased by the amount of inflation since the time of expense and the time of sale. This results in the costs being as follows:

For the initial acquisition : $1m x $\frac{104.04}{100}$ = $1.04m

For the capital improvements: $100,000 x $\frac{104.04}{102}$ = $102,000

Following these adjustments, the taxpayer is allowed a deduction of $1.142m. This means the taxpayer has net income of $58,000.

Proposed approach for share sales

The Consultative Document proposed that the same rules for land would also apply to share sales.

Example

A shareholder acquires shares in a company for $1m. The company uses the $1m to purchase land. Then the following three transactions occur.

1. The company sells the land at the end of 2021 for $2m
2. The company distributes its after-tax profit of $516,960 plus $201,040 in imputation credits to the shareholder
3. The shareholder sells the shares in the company for $1.282m (the amount of cash remaining in the company)

1. Sale of land

The company's assessable income from the sale of land is $2m. The company can take a deduction of $1.282m for the cost of the land. This is calculated by adjusting the original cost and applying the inflation rate for the two years($1m x $\frac{128.2}{100}$).

The company's net income is $718,000 and the company pays company tax of $201,040.

2. Distribution of income

Assuming the taxpayer is on a 33% marginal tax rate, the payment of a dividend results in a 'top up' tax to account for the 5% difference between their marginal rate and company rate. This results in extra tax of $35,900.

3. Sale of shares

The taxpayer has gross income of $1.282m from the share sale. The taxpayer can claim a deduction for the indexed cost of the shares of $1.282m ($1m x $\frac{128.2}{100}$). The taxpayer has no net income from the sale of shares.

This result means that in total there is no double taxation and $236,940 of tax is paid on a real gain of $718,000 (33%).

However, there may be issues with the application of indexation for companies when the company distributes the gross proceeds from the sale of an inflation indexed asset, rather than the shareholders selling the shares in the asset. This would require further consideration.

Additional rules that would apply to this indexation would include:

- Specific rules are provided to allocate sales and acquisitions of assets to either the beginning or end of a quarter.
- Where there is a division of an asset (for example a subdivision) then the costs of the assets are apportioned and attributed to the respective resulting split assets.
- Where there is partial disposal or acquisition of an asset, then the costs are again apportioned.

2. Trading stock

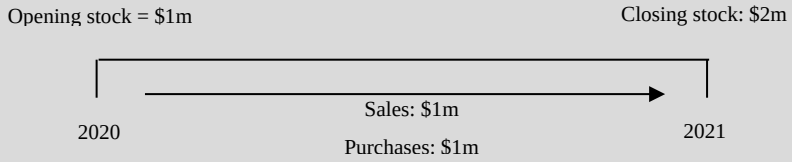
Current rules

Any increase in the total value of trading stock held by a taxpayer over the year is assessable income for a taxpayer. Any decrease in the total value of trading stock held by a taxpayer over the year is deductible expenditure.

For the purposes of these rules:

- *Opening stock* is the value of the persons trading stock at the beginning of the year; and
- *Closing stock* is the value of the persons stock at the end of the year.

Example



A taxpayer:

- *Opening stock:* At the beginning of the income year has trading stock of $1m
- *Sales:* Makes sales of $1m throughout the year
- *Purchases:* Acquires additional stock at a cost of $1m
- *Closing stock:* Has closing stock of $1.2m

Note the value stock doesn't equal the opening stock plus sales minus purchases as the stock may be valued at cost while sales will be recorded at market value.

The taxpayers net income, excluding the trading stock adjustment is $0 ($1m of sales minus $1m of purchases).

The taxpayers trading stock has increased in nominal value by $200k. This increases their assessable income by $200k.

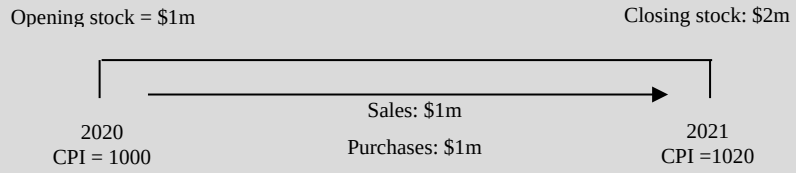
Inflation indexation proposal

To index trading stock, a deductible 'inflation adjustment' would be available based on the amount of increase in value of trading stock that is attributable to inflation.

This is achieved through taking the estimated average value of trading stock over the year and multiplying this by the inflation rate.

$$\frac{Opening\ Stock + Closing\ Stock}{2}\ x\ (inflation\ rate)$$

Example



Taxpayer has for an income year:

- *Opening stock:* At the beginning of the income year has trading stock of $1m
- *Sales:* Makes sales of $1m throughout the year
- *Purchases:* Acquires additional stock at a cost of $1m
- *Closing stock:* At the end of the income year has trading stock of $1.2m

The average trading stock over the year is $1.5m.

The inflation rate is $\frac{1,020}{1,000}$ - 1 = 2%

The taxpayer's inflation adjustment is $22,000 ($1.1m x 2%) for which they can take a deduction.

The taxpayer's net income is now $178,000.

Some additional rules that would need to apply when calculating inflation adjustments on trading stock include:

- Large taxpayers with significant amounts of trading stock would be required to undertake this calculation on a quarterly basis (i.e. multiple their average stock over the quarter, with the inflation rate for the quarter).
- For taxpayers calculating trading stock on a "first in first out" basis, they would be required to cost all their stock at the price for stock in the last quarter of the year.

3. Depreciable assets

Current law

Taxpayers may take a deduction for the amount that an asset is assumed to have depreciated over an income year. Taxpayers have two methods for calculating this depreciation:

- *Straight line:* Taxpayers take depreciation deductions as a fixed proportion of the original cost of an asset. (For example, if an asset costs $1,000 and has a 20% depreciation rate, the taxpayer takes a $200 deduction every year)
- *Diminishing value:* Taxpayers take depreciation deductions based on a fixed percentage of the value of an asset at the beginning of the year (For example if an asset costs $1,000 and has a 50% depreciation rate, they take a $500 deduction in year 1, $250 in year 2, $125 in year 3 etc).

Depreciation rates are set by a determination from the Commissioner of Inland Revenue.

Depreciation recovery

When a taxpayer sells a depreciable asset they must undertake a 'wash up' calculation. Under this, they compare the sale price of the asset with the cost of the asset minus any depreciation deductions previously taken (the adjusted tax value). If the sale price is less than the adjusted tax value, the difference is a deductible expense for the taxpayer. If the sale price is greater than the adjusted tax value, the difference is assessable income (with the amount of income capped at the amount of depreciation deductions previously claimed).

Indexation – depreciation deductions

For assets depreciated on a diminishing value basis, the value of the asset would be adjusted every year to account for the fact that the asset has likely increased in nominal value due to inflation.

Example

A taxpayer acquires a depreciable asset at the beginning of the income year:

- The asset was acquired for $10,000.
- The asset has a 40% depreciation rate.
- There is a 2% inflation rate.

Year 1

- *Opening value:* $10,000.
- *Depreciation deduction:* $4,000.
- *Closing value:* $6,000.

Year 2

- *Indexed opening value:* $6,120 (Calculated by increasing closing value by inflation rate = $6,000 x 1.02)

- *Depreciation deduction*: $2,448
- *Closing value:* $3,672

Year 3

- *Indexed opening value:* $3,745.44 (this amount calculated by: $3,672 x 1.02)
- *Depreciation deduction*: $1,498.176
- *Closing value:* $2,247.264

A similar approach would apply for assets on a straight-line basis with the initial value of the asset being indexed every year.

Sale of depreciable asset

Where a depreciable asset is sold, when undertaking the wash up calculation, the value of the asset used for the purpose of the calculation is the indexed value of the asset.

Example

The taxpayer in the above situation sells the asset at the end of the third quarter of year 3 for $2,300. The inflation rate for the first three quarters of the year was 3%.

The taxpayer takes the indexed opening value of the asset at the beginning of year 3 ($2,247.264). They then increase this value by the inflation rate for the first 3 quarters of the year (3%).

This results in the cost base of the asset being $2,314.68.

The sale price is lower than the closing value of the asset by $14.68. The taxpayer may take a deduction for this amount.

4. Indexation of financial arrangements and debt instruments

The Consultative Document outlined the indexation approach for three types of financial instruments:

a) Bank accounts and other accounts where the amount of principal in the amounts may be varied as taxpayers contribute or withdraw funds (variable principal accounts).
b) Term deposits paying a fixed-rate of interest that are not tradeable.
c) Tradeable instruments bearing a fixed rate of interest such as government stock, commercial bills, fixed-rate debentures and certificates of deposit.

The treatment of other financial arrangements was not outlined. The paper noted that these would need to be considered further, however the principles for these instruments would be applicable to these instruments.

Current law

The financial arrangement rules apply to arrangements involving the providing of consideration now by one party in exchange for consideration later by the other party (money now in exchange for money later). The most common financial arrangements are deposits and loans. However, the rules apply to a wide number of arrangements, many of which are complex including:

- derivatives;
- hire purchase arrangements;
- finance leases;
- forward contracts;
- purchase and sale of property with deferred payment;
- currency hedges;
- interest rate swaps;
- arrangements involving foreign currency and foreign exchange gain and losses; and
- debt remissions.

Broadly there are two aspects to the rules:

- *Spreading:* The income and expenses relating to the arrangement are spread over the term of the arrangement. For large taxpayers, this is done on an accruals basis (i.e. as they are incurred rather than when cash is received for them). For smaller taxpayers, this is done on a cash basis (i.e. as cash is received or paid).
- *Base price adjustment:* At the conclusion of the arrangement there is a wash up calculation. The taxpayer takes all cash received in the arrangement and compares with all cash paid, and compares this with the income and deductions recorded.

Under the current financial arrangement rules there is a different approach taken for cash basis taxpayers and accrual basis taxpayers.

The examples provided below for bank accounts and term deposits apply equally to cash basis taxpayers as accruals basis taxpayers. For tradeable instruments, the rules differ and are more complex for taxpayers on an accrual basis.

a) Bank accounts and other variable principal accounts

To inflation index bank accounts and other variable principal accounts, the amount of taxable interest would be reduced by the portion that is attributable to inflation.

This is calculated by taking the average daily balance of an account for the relevant period and multiplying this by the inflation rate for the year.

Example

A person has a bank account which pays interest at a rate of 0.5% at the end of the quarter. The inflation rate for the quarter is 0.25%.

The average daily balance of the account for the quarter is $1,000 and the interest payable is $50.

The interest excludable for the account is $25 ($1,000 x 0.25%).

As a result, the taxable interest is $25. When calculating the resident withholding tax for the bank account holder, the bank will withhold tax from $25 of interest income at the taxpayers RWT rate.

Optional fractional exclusion method

Alternatively, taxpayers could exclude a standard fixed proportion of the interest income they receive. This would be a simpler, proxy method for full indexation. Under this approach, Inland Revenue would publish a standard fraction of interest that cash basis bank accounts would exclude from assessable income. This would be based on an estimate of the inflationary fraction of interest.

Example

As per the above scenario, however Inland Revenue calculates that the exclusionary portion of interest is 50% for the year.

As a result, the assessable interest is 0.25%.

b) Non-transferable fixed-rate instruments (e.g. term deposits)

These instruments would be treated the same as variable principal instruments and bank accounts.

Example

A cash basis taxpayer puts $10,000 into a term deposit which pays out 10% interest a year.

The inflation rate for the year is 4%. If the taxpayer (or financial institution) uses the first method (actual inflation), then 6% of the interest payable is taxable and 4% is excluded.

The financial institution would withhold RWT on the 6% interest payable, at the taxpayers RWT rate.

Where taxpayers or financial institutions utilise the 'fractional exclusion method', Inland Revenue would publish a suitable exclusion factor for different types of instruments. This is to address that different instruments typically have different interest rates.

Example

A cash basis taxpayer puts $10,000 into a term deposit which pays out 4% interest.

Inland Revenue has determined that taxpayers may exclude 50% of the interest as being inflationary for these types of term deposits. As a result, 2% of the interest is taxable and the financial institution would withhold RWT on this 2%.

c) Transferable fixed-rate instruments (e.g. bonds)

For transferable interest, the regular interest paid would be treated the same as the methods outlined above for non-transferable instruments. The main difference for these instruments is the base price adjustment when the instruments are sold.

Cash basis taxpayers

For cash basis taxpayers, so long as interest exceeds inflation, there is no changes to the base price adjustment as compared with current rules. However, if the inflation rate exceeds the interest rate then the value of the principal for the instrument is decreased by the amount inflation exceeds interest.

Example

A taxpayer acquires a bond for $10,000 which pays out 2% interest, payable annually.

The taxpayer holds the bond for 2 and a half years and sells the bond during year 3 for $10,000. They have previously received taxable interest of $400.

The inflation rate for years 1 and 2 is 3% each year and 1.5% for the half year in year 3.

	Adjusted principal	*Nominal interest income*	*Indexation adjustment*	*Assessable income*
Year 1	$10,000	$200	$300	$0
Year 2	$10,100	$200	$303	$0
Year 3	$10,203	0	$153.05	

For year 1, nominal interest income is $200 and the indexation adjustment is $300. This means the taxpayer is making a negative real return and so the taxpayers assessable income is $0. The $100 of inflation that is in excess of the interest income is added to the value of the principal to make the adjusted principal in year 2 equal to $10,100.

For year 2, a similar exercise occurs as inflation exceeds the interest rate. The taxpayer has no assessable income and the value of the principal increases to $1.

In year 3, the bond is sold for $10,000. The taxpayer must undertake a base price adjustment for the bond. The adjusted principal for the bond is $10,356.05 ($10,203 plus $153.05). The sale price is $10,000. As a result, the taxpayer may take a deduction of $356.05 so long as the other requirements for deductibility are met.

Accrual basis taxpayer

For the base price adjustment a more complex calculation is used for taxpayers on an accrual basis. As with cash basis taxpayers the principal is adjusted upwards for inflation every year but in addition to this, when calculating the base price adjustment all cash paid and received and all taxable income and deductions must be indexed from the relevant year incurred.

Example

A taxpayer acquires a bond for $10,000 which pays out 2% interest, payable annually.

The taxpayer holds the bond for 2 and a half years and sells the bond during year 3 for $10,000. The taxpayer spreads the value of the interest using a relevant method which leads to nominal interest income each year of $200.

The inflation rate for is 3% each full year and is 1.5% for the 6 months in year 3.

	Adjusted principal	*Nominal interest income*	*Indexation adjustment*	*Assessable income*	*CPI*
Year 1	$10,000	$200	$300	$0	103
Year 2	$10,100	$200	$303	$0	106.09
Year 3	$10,203	0	$153.05	See below	107.68 (for mid-year)

For year 1, nominal interest income is $200 and the indexation adjustment is $300. This means the taxpayer is making a negative real return and so the taxpayer's assessable income is $0. The $100 of inflation that is in excess of the interest income is added to the value of the principal to make the adjusted principal in year 2 equal to $10,100.

For year 2, a similar exercise occurs as inflation exceeds the interest rate. The taxpayer has no assessable income and the value of the principal increases to $10,203.

In year 3, the bond is sold for $10,000. The taxpayer must undertake a base price adjustment for the bond. All the cashflows and tax paid would be adjusted for inflation.

Cash paid:

- *Principal:* $10,000 x $\frac{107.68}{100}$ = $10,768

Cash received:

- *Year 1 Interest: $200 x* $\frac{107.68}{103}$ =$209.09
- *Year 2 Interest: $200 x* $\frac{107.68}{106.09}$= $203
- *Disposal proceeds: $10,000*

Cash paid minus cash received = $355.91
Total tax paid = $0

As a result, the taxpayer is allowed a deduction for $355.91 so long as the other requirements for deductibility are met.

These results differ from those for the cash basis taxpayer due to rounding.

Anti-avoidance and other rules

Specific anti-avoidance provisions would be developed to ensure the rules are not abused. Two specific rules proposed were:

- taxpayers are not allowed deductions for real losses in excess of the nominal loss unless there was a reasonable expectation of profit at the time of entering into the arrangement; and
- taxpayers are prevented from having deductions for inflation when they enter into an arrangement involving acquiring assets at the end of a quarter and then dispose of them at the beginning of the quarter.

There would be no inflation adjustment for interest received by non-residents. As a result there would be no change to the NRWT/AIL rules.

Balance sheet approach

This approach would apply to taxpayers that complete sufficiently robust balance sheets. It provides a potentially simpler approach to indexation for these taxpayers that avoids having to index on a transaction by transaction basis.

Broadly the method involves:

- Taxpayers calculate their net worth on a year by year basis (based on their balance sheet).
- The taxpayer multiples their net worth by the inflation rate to adjust this for inflation. If the taxpayer has a positive net worth they are allowed a deduction for the inflationary increase in value of net worth and if the taxpayer has a negative net worth they have assessable income for the inflationary decrease in value of their net liability (to deny interest expenses).
- Adjustments to this net worth are made to account for fixed assets which are taxable on realisation[6]. For capital assets taxable on realisation this is to ensure that the inflationary component of these is not deducted on an accruals basis, when the gain is taxable on realisation. Instead for these assets there are adjustments on sale.
- Adjustments to net worth are also made for changes in equity. This is to ensure that increases in net worth that are attributable to changes in equity are not inflation indexed.

These adjustments net out to a single formula:

$$Adjustment = \big((Equity - Fixed\ Assets) x\ inflation\ rate\big) + (changes\ in\ equity\ and\ fixed\ assets\ x\ inflation\ rate\ from\ time\ of\ change)$$

If the formula results in a positive amount, this is a deductible expense for the taxpayer. If the formula results in a negative amount this is assessable income.

This results in adjustments that are broadly similar to the adjustments that would occur if the methods outlined above and for the 1989 Consultative Document were used. The examples below are provided to illustrate this. However, it is not clear how the approach applies to depreciable assets and there are further technical issues that would need to be considered further and may result in increase complexity.

Example

A taxpayer has a rental business. They have:

- invested $1 million into the business;
- taken a loan of $1 million;
- purchased $2m of rental property; and
- their after-tax net income is paid out to shareholders.

[6] It is not clear how this approach would apply to depreciation. Further consideration of this would be necessary.

Over the year the taxpayer:

- earns rental income of $200,000;
- pays interest of $100,000;
- the inflation rate is 5%; and
- the rental property increases in value to $2.1m.

Under the formula outlined above the taxpayer has the following adjustment:

(Equity -	Fixed Assets)	x inflation rate
$1m	$2m	0.05

= -$50,000

The taxpayer has assessable income of $50,000 after their rental profits of $100,000 are reduced by the $50,000 inflation adjustment. This is the same result as if the taxpayer instead was only allowed to deduct the real interest incurred (10% nominal interest – 5% inflation rate).

Example 2

At the beginning of the next income year, the taxpayer sells the rental property for $2.1m. They place the resulting cash into a bank account earning 10% interest.

Under the formula outlined above they have the following adjustment at the end of the year:

((Equity -	Fixed Assets)	x inflation rate)	+ (Changes in equity and fixed assets	x inflation rate from change)
$1m	$2m	0.05	2.1m	0.05

= -$50,000 + $105,000

This results in a deductible expense for the taxpayer of $55,000. This is equivalent to inflation indexing the net interest income from the loan and bank deposit.

On sale, the cost base of the rental property would be increased by the inflation rate since acquisition. This means the cost base of the rental property is $2.1m leading to no net income.