

How could PNG's income tax schedule be improved?

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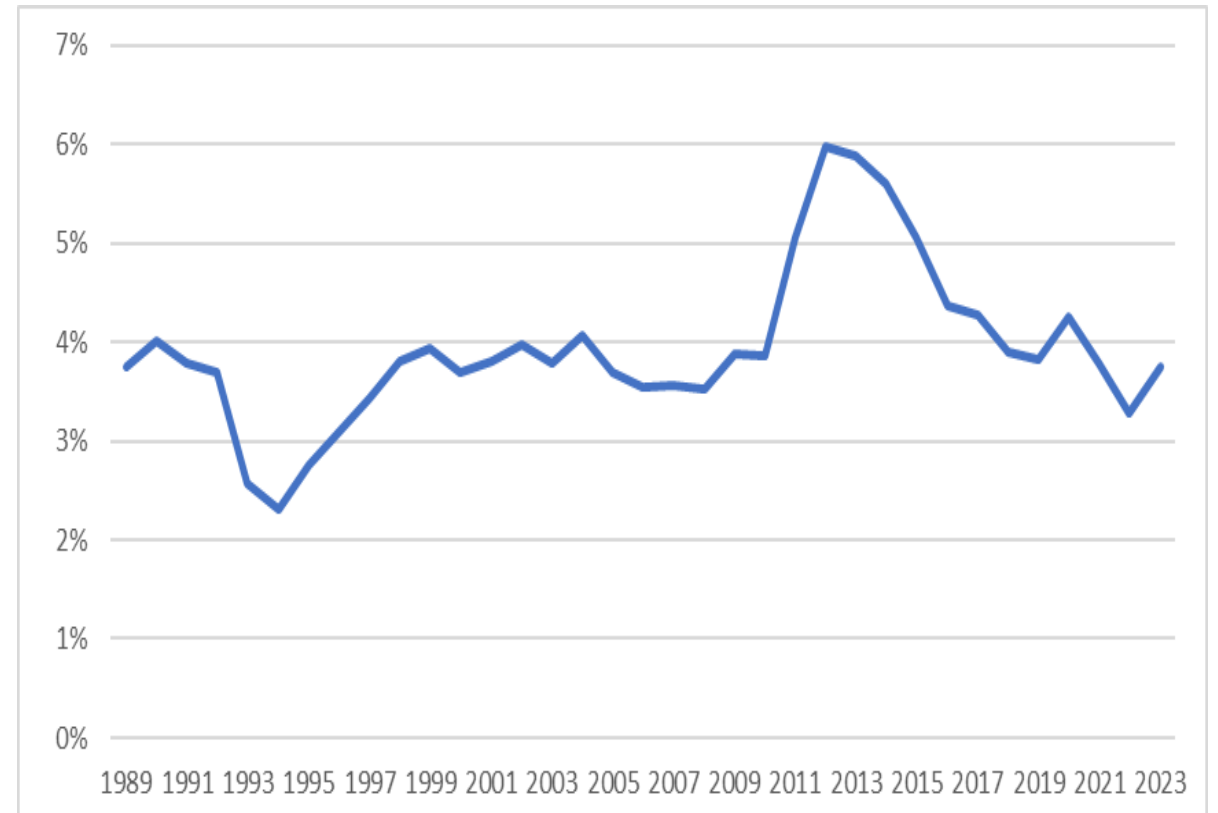
Introduction

- Income tax is a very hot and sensitive topic in PNG
- Rumours of income tax tax-free threshold being reduced led to the “Black Wednesday” last January
- Income tax was first introduced to PNG in 1959 under colonial administration
- Income tax is only imposed on formal sector workers. The formal sector employment to total population ratio has decreased from 6% in 1975 to 4.5% in 2019 (PNG Economic Database).

Importance of personal income tax in PNG

- An important source of revenue that has averaged about 4% of GDP. This is only half of developed economies average (8-9 %) but double the 2% average raised in other developing economies (Benedek, Benitez and Vellutini 2022, Figure 3).

PNG's Income Tax to GDP Ratio, 1989 to 2023



Importance of personal income tax in PNG

- High level of income tax raised reflects the high level of duality in the economy
- Out of 59 low-income and lower-middle income countries studied, PNG has the fourth highest ratio of direct taxes to GDP and the highest ratio of direct to indirect taxes (Thomas 2023, Figure 5)
- Income tax is unpopular in other countries but very much disliked in PNG because formal sector employees feel that they are 'double-taxed'.



Literature review

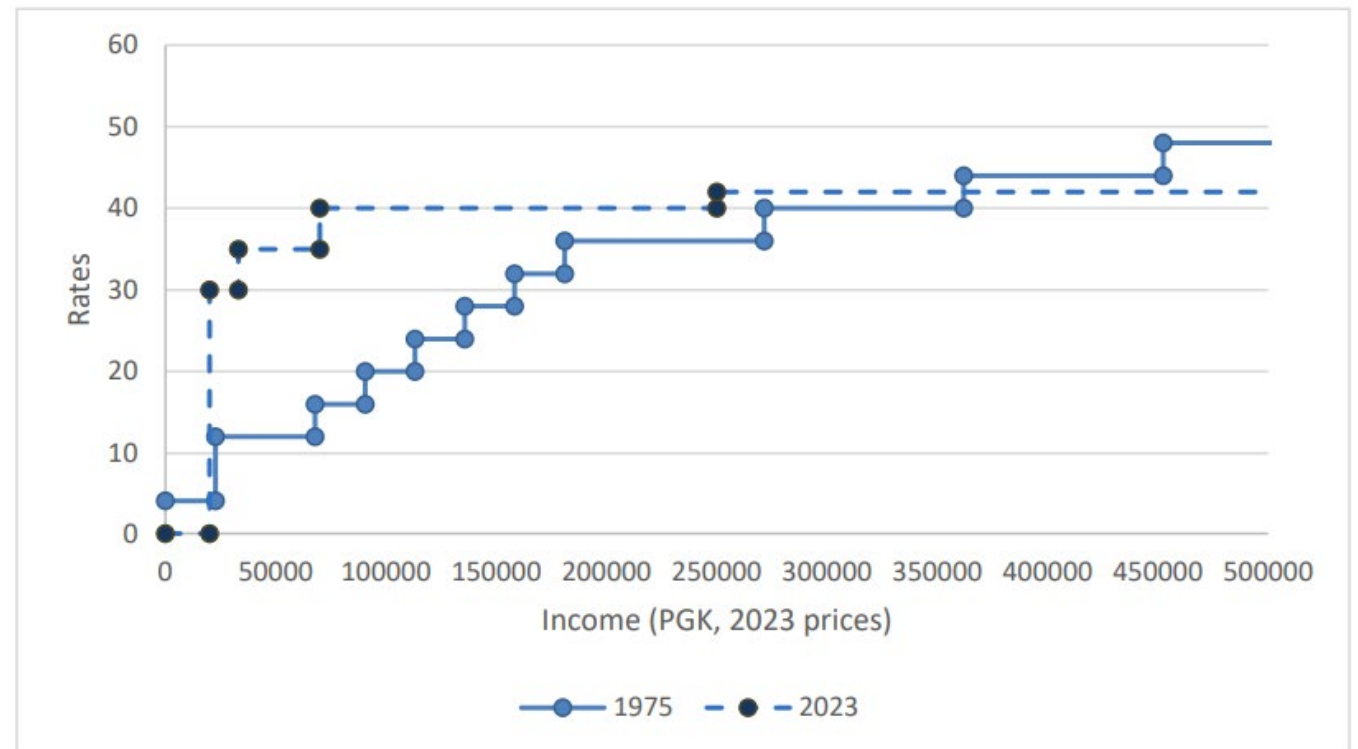
- Despite the importance of income tax in PNG, limited analysis.
- Recommendations by Collins (1985), Bird (1989), Levantis (2013) and Tax Review Committee (2015a and 2015b) have little historical analysis.
- Our paper complements the literature by
 - (a) updating it
 - (b) using both international and historical analysis and
 - (c) focusing on progressivity.



Major changes in the income tax schedule over time

- PNG's income tax schedule has gone through 17 changes since independence (1975).
- Tax schedule today is very different to at independence (when there were many more rates, a higher top rate and no tax-free threshold).
- How and when did this change happen? Documenting that change has not been done and is a research contribution of this paper.
- The next few slides document the major changes.

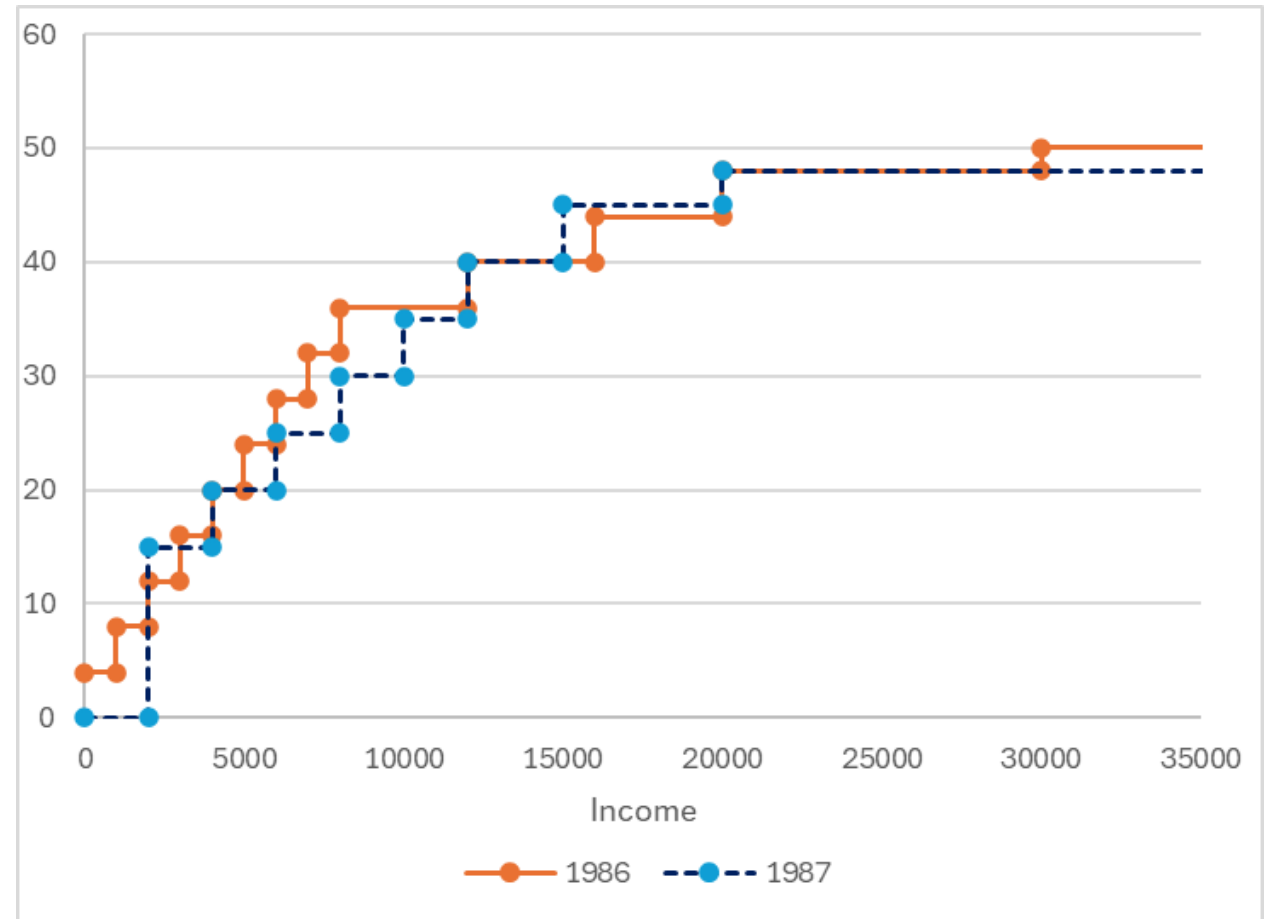
Income Tax Schedules: 1975 and 2023



First major change in the income tax schedule was in 1987

- A major tax reform in 1987 reduced tax rates from 12 to 9 and for the first time the tax-free threshold was introduced.
- The tax-free threshold applied to those who earn less than K2,000 in a year. The top tax rate of 50% was abolished and the maximum was at 48%.

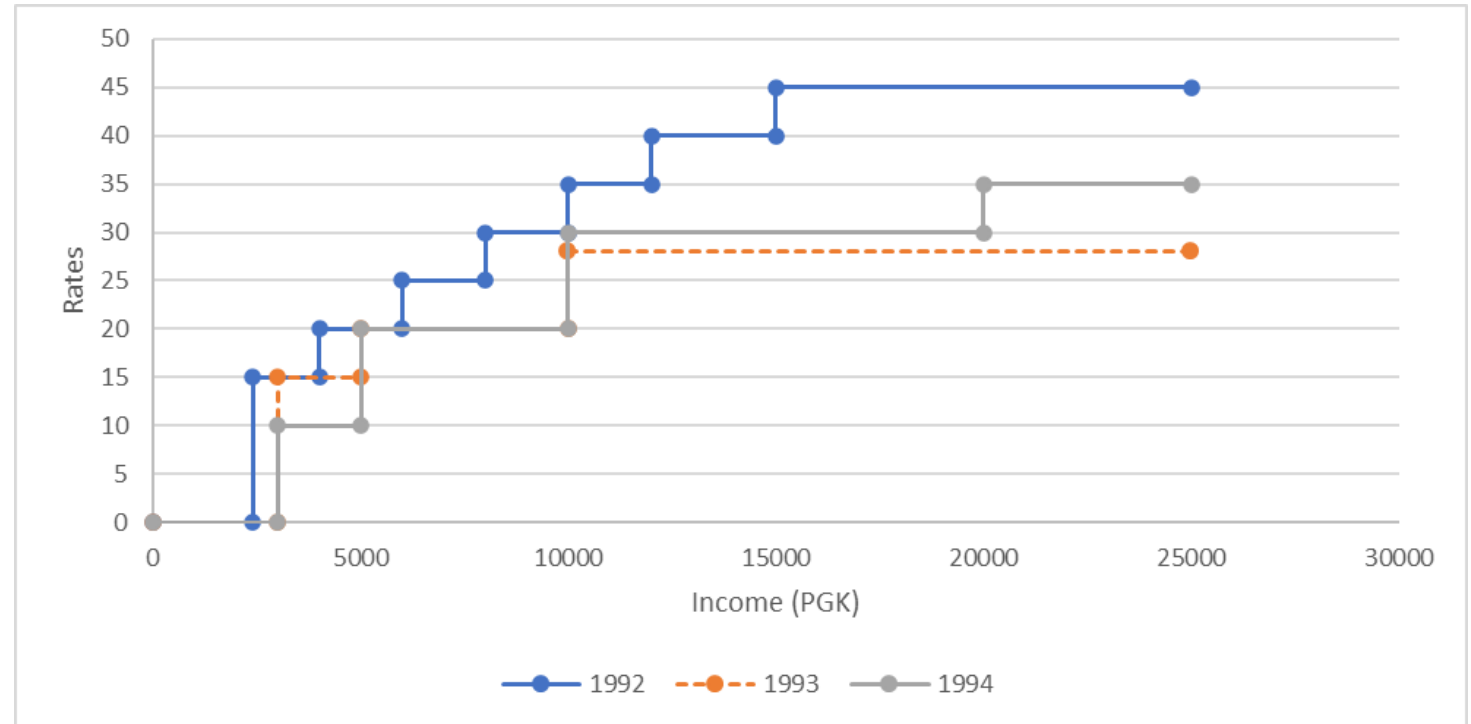
Income Tax Schedules, 1986 & 1987



Radical but shortlived policy change in the early 1990s

- The most radical reform but short-lived occurred in 1993 when the number of tax rates reduced to 5 and the highest rate to only 28%.
- Fiscal problems led to a supplementary budget being delivered in March 1994 and higher tax rates were re-introduced.
- Reforms in 1998 made the tax schedule similar to the pre-1993 structure with higher rates of 37%, 42% and 47% (see next slide).

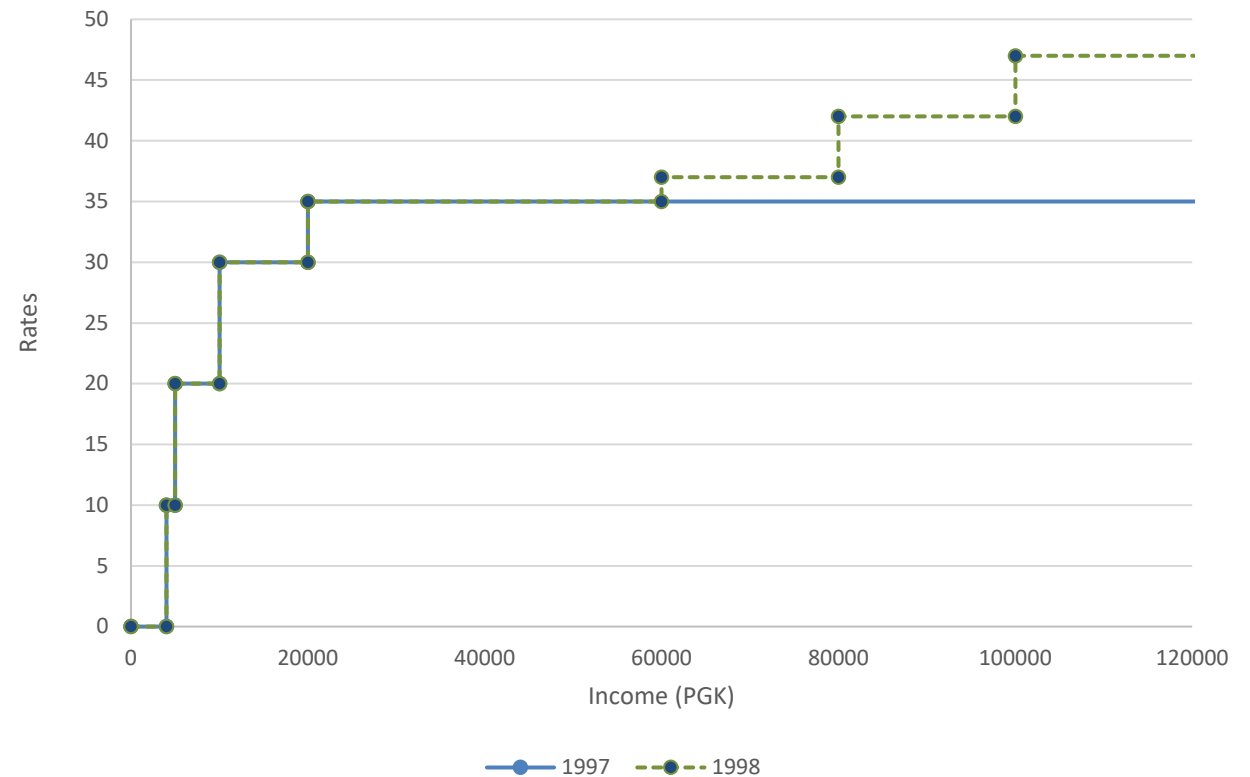
Income Tax Schedules, 1992 to 1994



1998 changes further undid the 1993 reforms

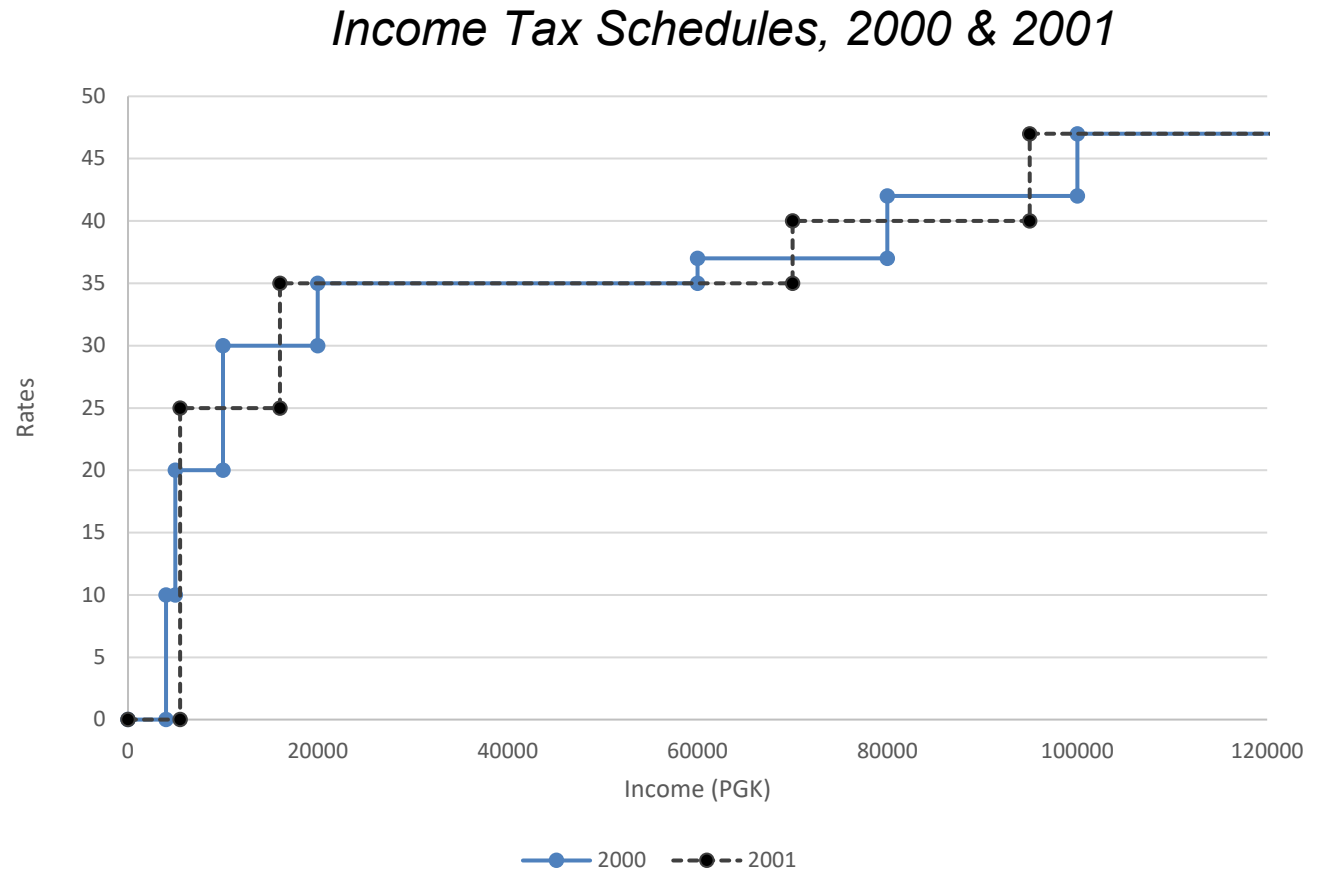
- Another major reform in 1998 returned the structure to similar to pre-1993.
- Number of tax rates increased to 8 with new higher tax rates of 37%, 42% and 47%.

Income Tax Schedules, 1997 & 1998



A simplification in 2001

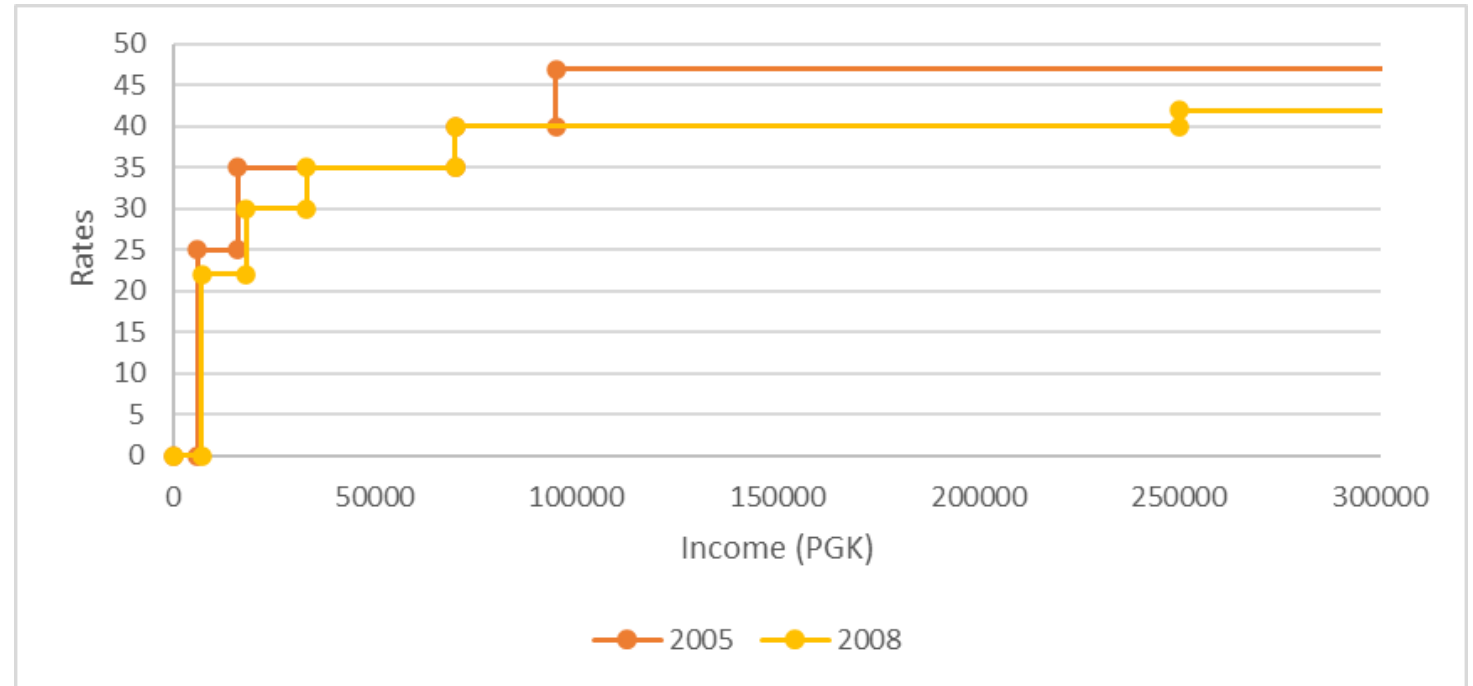
- The next big change in 2001 reduced the number of rates from 7 back to 5.
- The tax-free threshold was also raised to K5,000 (from previously risen to K4,000).
- Other lower rates were abolished, leaving 25% as the lowest rate after zero.



2008: Top rate reduced, and brought in at a higher income level

- Between 2006 and 2008, the top rate reduced from 47% to 42% and the top threshold increased from K95,000 to K250,000.

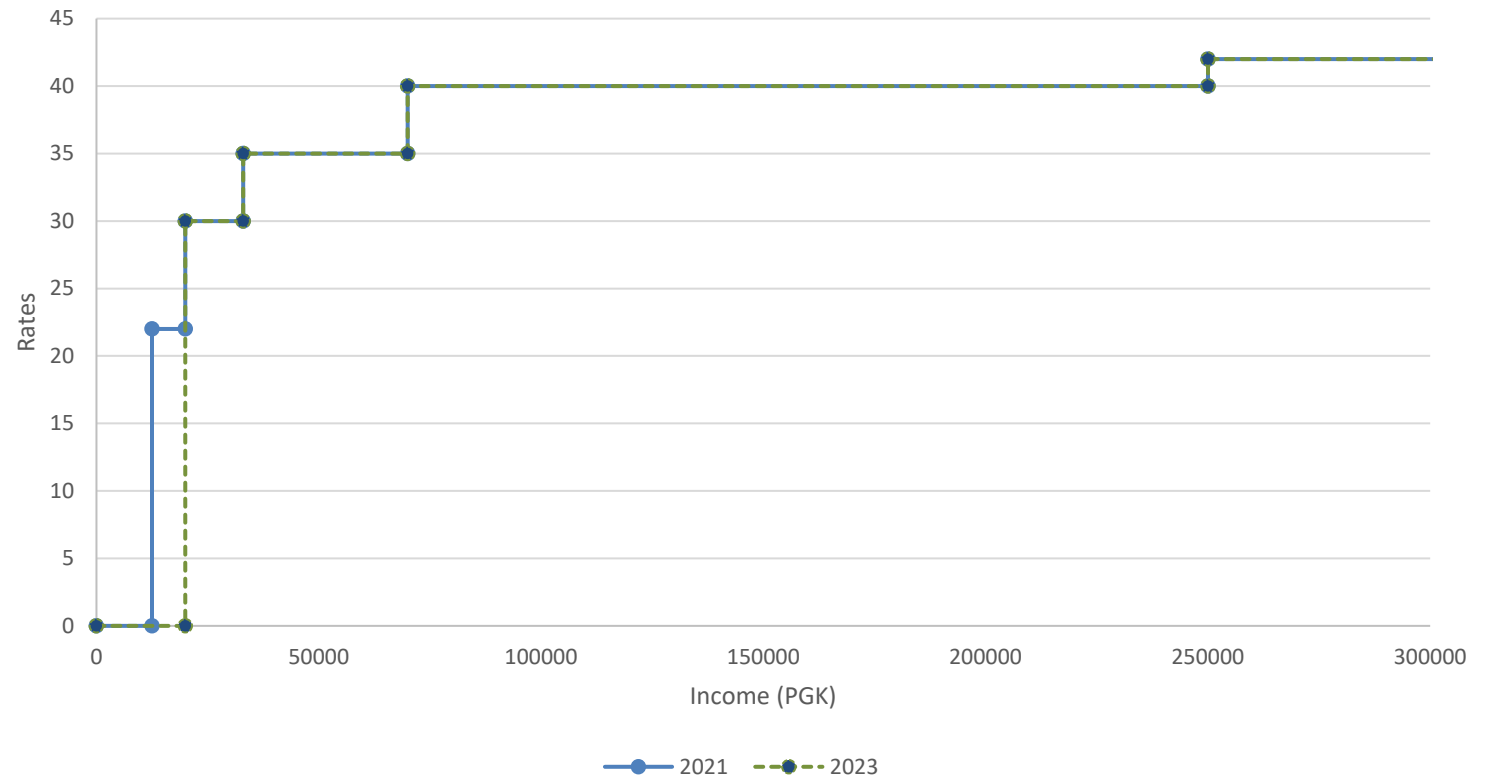
Income Tax Schedules, 2005 & 2008



Most recent major change in 2023

- Since 2008, the only changes were the tax-free threshold being increased (K10,000 in 2012, K12,500 in 2019, K17,500 in 2022 and K20,000 in 2023)
- In 2023, the 22% minimum non-zero tax rate was abolished.

Income Tax Schedules, 2021 & 2023

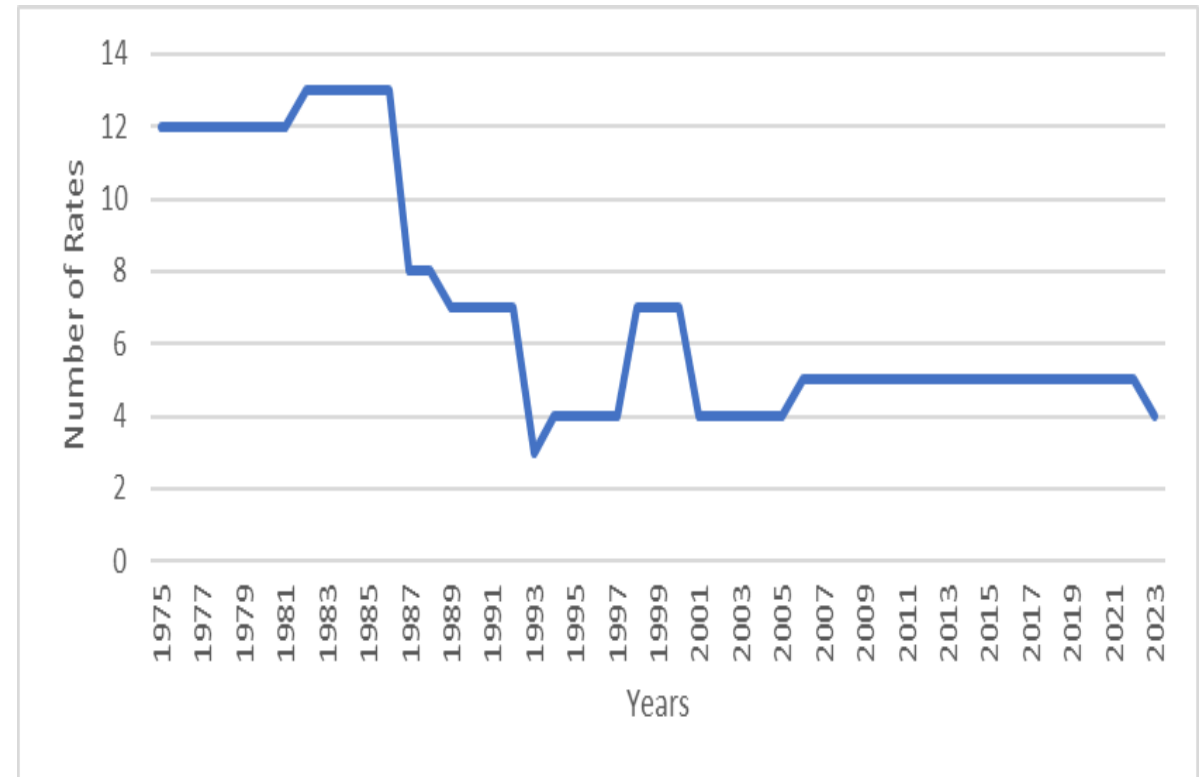


Analysis of changes to the income tax schedule

1. Number of tax rates has been mainly decreasing

- The number of tax rates indicates how complex a tax system is.
- Number of tax rates reduced by two-thirds, so much simpler today than at independence.

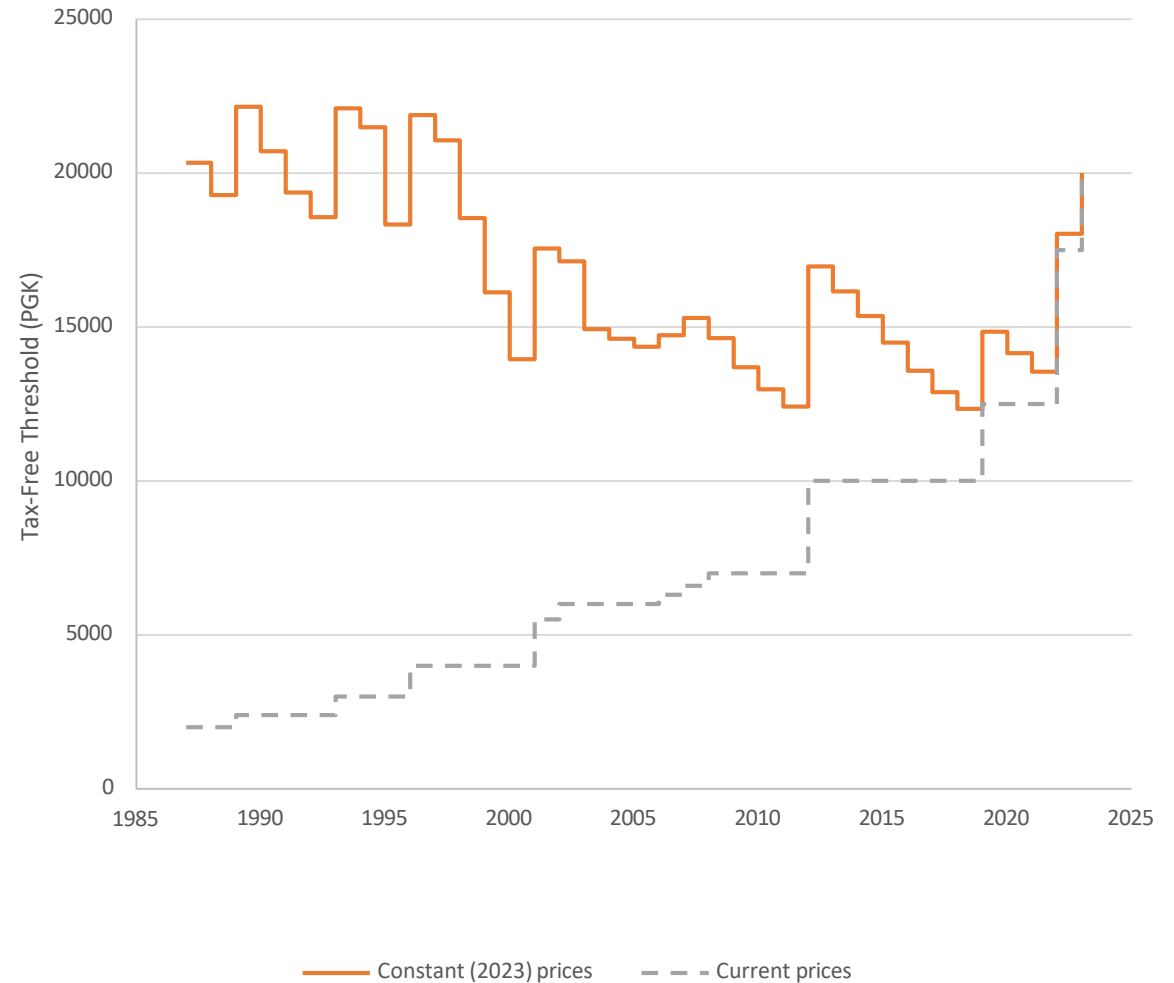
Number of Tax Rates, 1975 to 2023



2. Tax-free threshold has been mainly constant in real terms

- The level of tax-free threshold is important for equity.
- The higher the threshold, the more progressive an income tax is.
- The tax-free threshold was only introduced since 1987.
- Tax-free threshold fell after inflation for most years since 1987, but after recent increases is now very similar now to what it was when introduced.

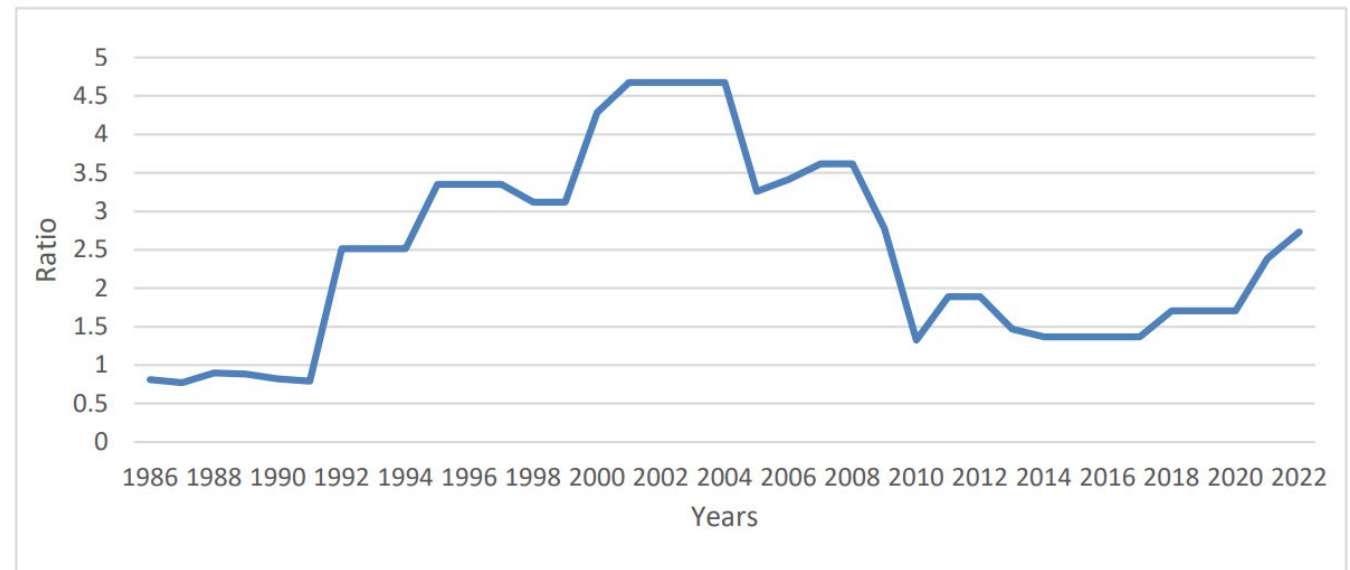
Tax-free Threshold, 1987 to 2023



3. The tax-free threshold is about 2.5 times the minimum wage

- Tax-free threshold to minimum wage ratio is another important indicator for equity.
- Today, those who earn up to two and a half times the minimum wage do not pay income tax.
- The de-regulation of 1992 cut the minimum wage by two-thirds causing the tax-free threshold from being the same size as the minimum wage to being about 2.5 times its size.

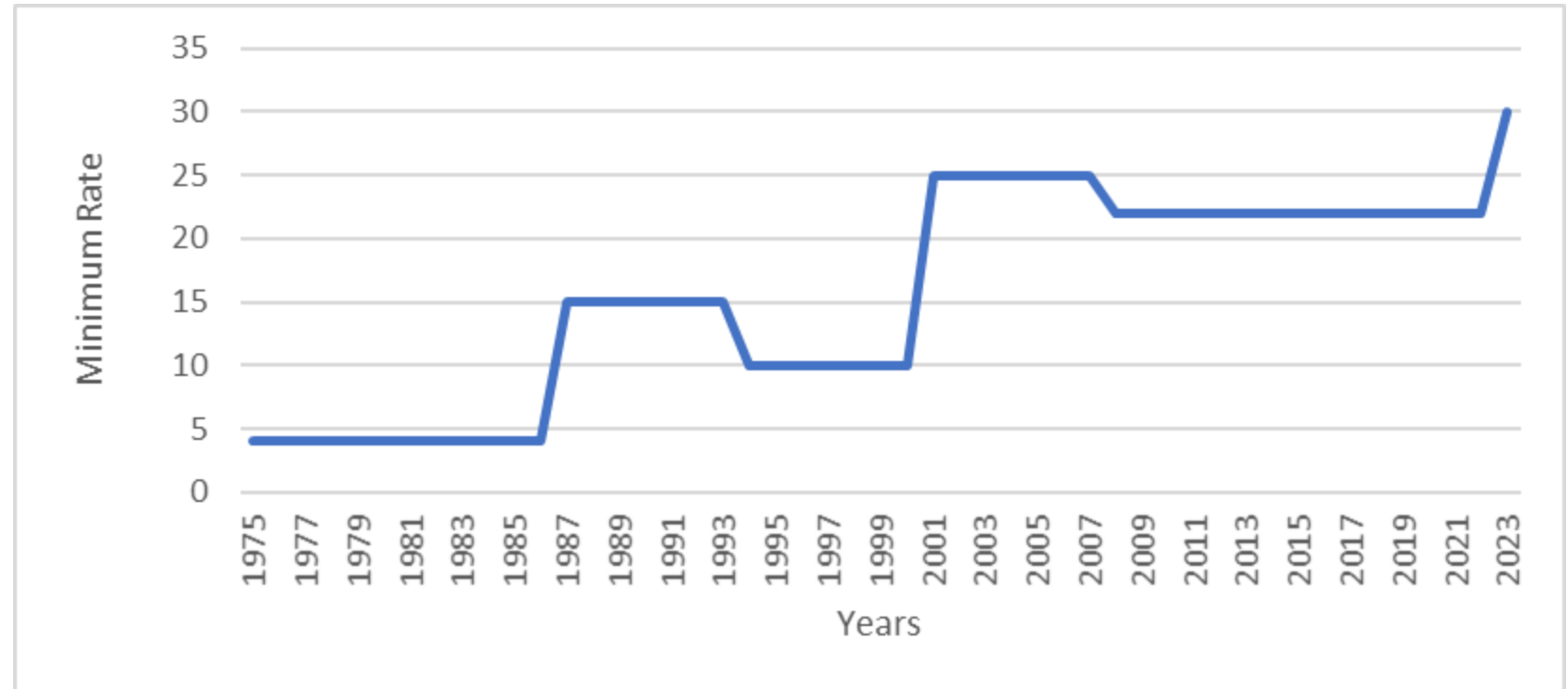
Ratio of Tax-free Threshold to Minimum Wage



4. The minimum non-zero tax rate has increased from 4% in 1975 to 30%

- Nominal increases in the tax-free threshold have come at the expense of the lowest non-zero rate.
- For instance, in 1987, when the TFT was introduced, the minimum non-zero rate jumped to 15%. In 2023, the TFT was increased to K20,000 from K17,500 and the minimum non-zero rate increased to 30% from 22%.

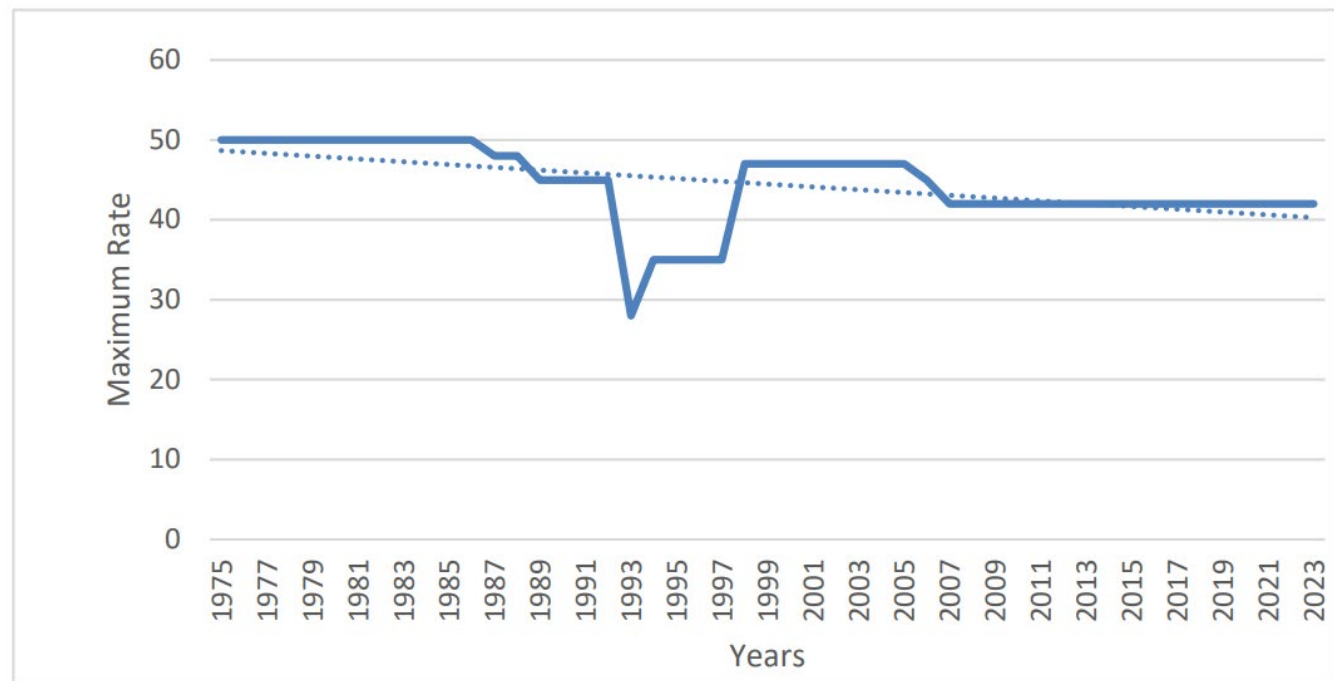
Minimum Non-zero Tax Rate, 1975 to 2023



5. The maximum tax rate has slightly reduced

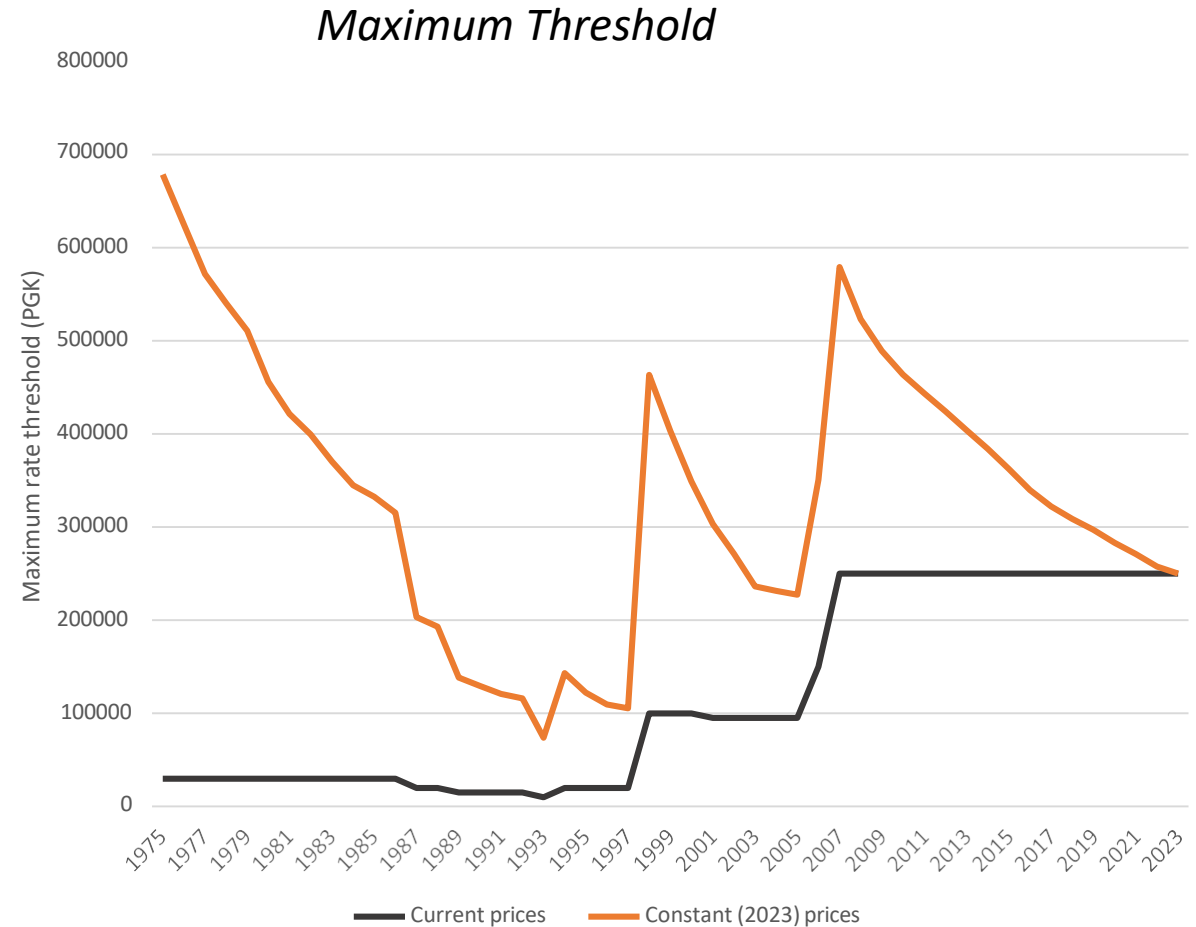
- The maximum tax rate is also important. A lower maximum tax rate may have positive work incentive effects but is less progressive.

Maximum Income Tax Rate, 1975 to 2023



6. The maximum threshold shows a decline in real terms.

- Maximum threshold is also important for equity: the higher it is, the fewer people it applies to.
- The maximum threshold has shown a lot of volatility in constant prices as it has not been changed often.
- The only major changes were in 1997 and 2006-2007.
- Overall it shows a decline after inflation.



7. The minimum non-zero rate rising and the maximum rate falling has led to a compression of income tax rates

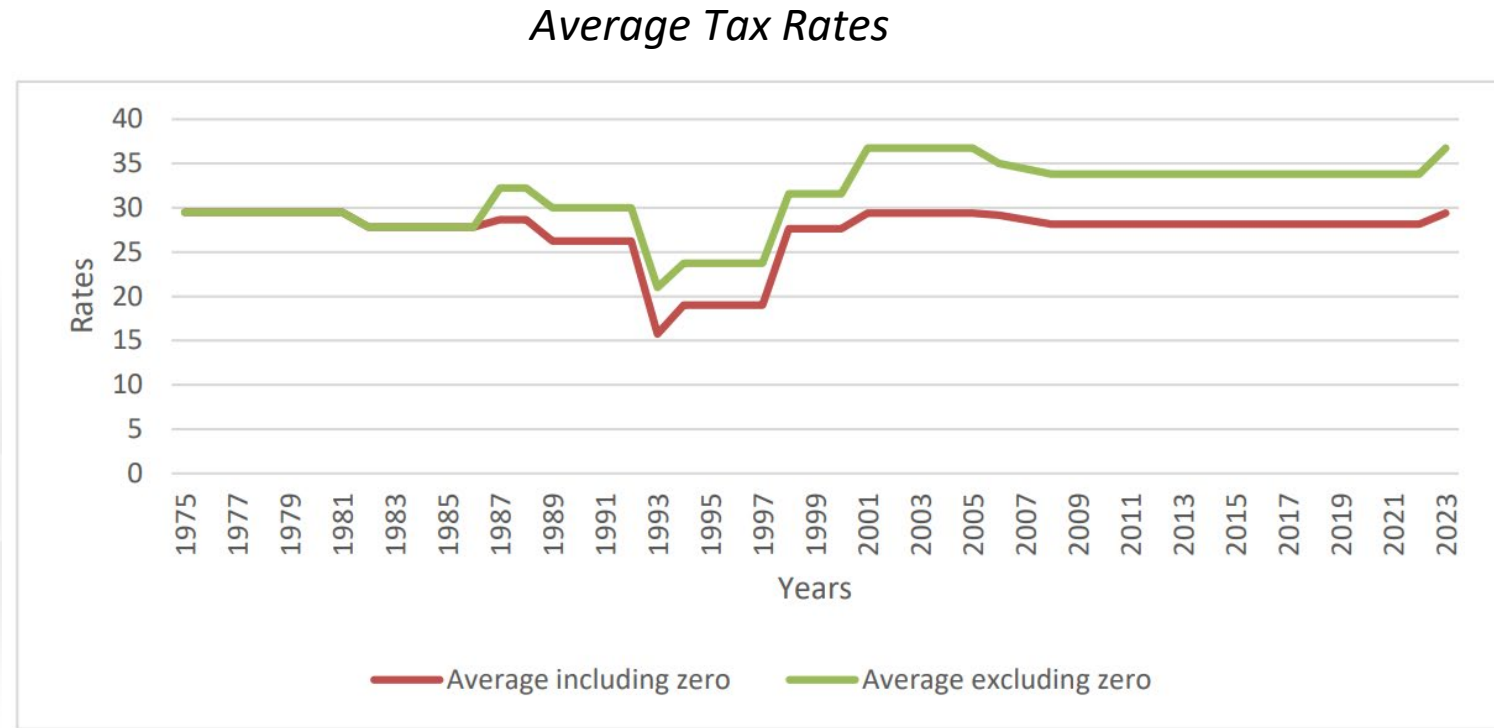
- Maximum minus minimum non-zero rate was 46 percentage points in 1975; now only 10 percentage points.

Maximum Minus Minimum Non-Zero Rate



8. Excluding zero as the first rate shows an increase in the average tax rate

- If zero is included, no change.



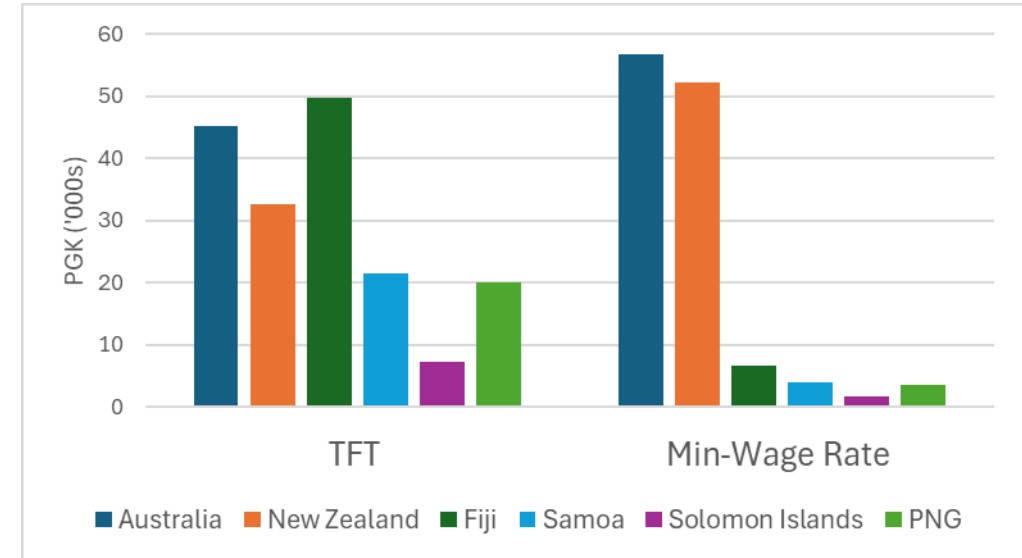
Calculated as simple average of rates.

Regional and international comparisons

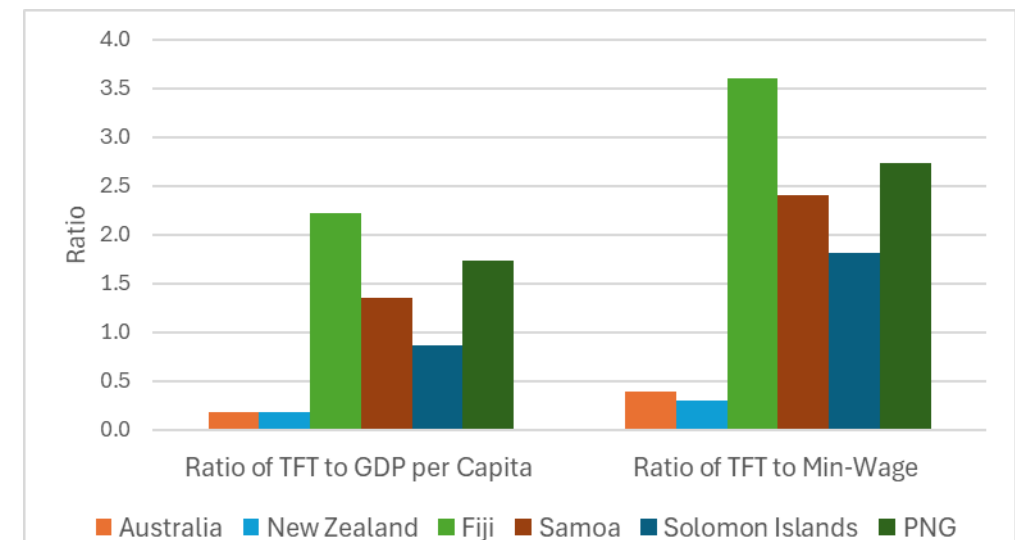
Country	TFT (Local Currency)	TFT (PGK Equivalent)	Minimum Non-Zero Rate (%)	Min-Wage rate (Local Currency)	Min-Wage Rate (PGK Equivalent)	Ratio of TFT to GDP per Capita	Ratio of TFT to Min-Wage
Australia	18,200	45,136	19	23.2	56.7	0.18	0.4
New Zealand	14,000	32,213	10.5	22.7	52.2	0.18	0.3
Indonesia	0	0	5	30,636.20	7.4	0	0
Fiji	30,000	49,800	18	4	6.6	2.22	3.6
Samoa	15,000	21,450	20	3	4.1	1.35	2.4
Solomon Islands	15,080	7,297	11	4	1.8	0.87	1.8
PNG	20,000	20,000	30	3.5	3.5	1.74	2.7

- PNG has the highest minimum non-zero tax rate at 30%. (12% average for middle-income countries, 15% for low-income countries)
- PNG's TFT and minimum-wage is only higher than Solomon Islands

Regional Comparisons of Tax-free Threshold (TFT) and Minimum-Wage Rate



Regional Comparisons of Ratios of TFT to GDP pc and to Minimum-Wage Rate



Regional and international comparisons (cont.)

Regional Comparisons of Maximum Thresholds and Rates

Country	Max Threshold (Local Currency)	Max Threshold (PGK equivalent)	Maximum Tax (%)	Ratio of Max Threshold to GDP per Capita
Australia	180,000	446,400	45	1.8
New Zealand	180,000	418,680	39	2.3
Indonesia	5,000,000,000	1,200,000	35	63.4
Fiji	1,000,000	1,660,000	39	73.9
Samoa	25,000	35,750	27	2.3
Solomon Islands	75,080	36,331	40	4.3
PNG	250,000	250,000	42	21.8

- Australia has the highest maximum tax rate of 45% followed by PNG at 42% in the region. (45% average for developed countries and 25% for low-income countries)

Progressivity

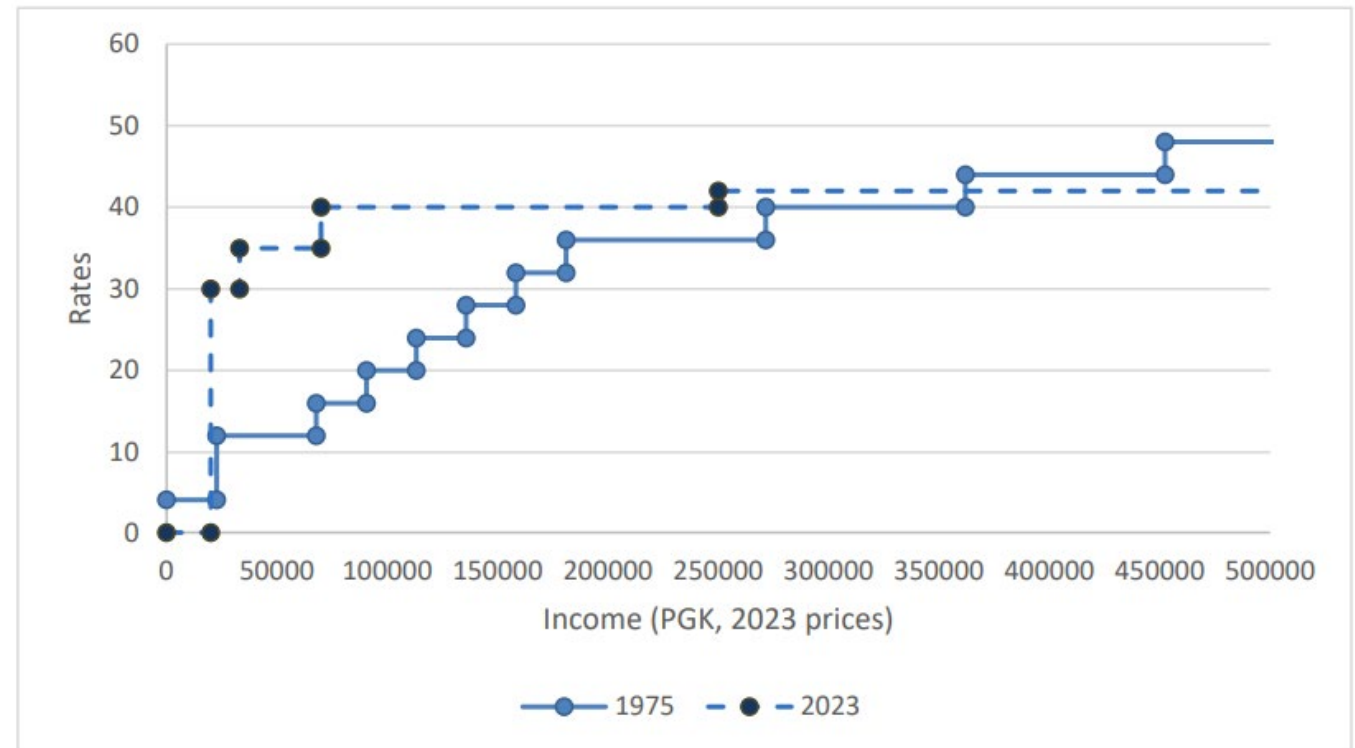
- Tax progressivity is an attractive feature of the personal income tax as it collects proportionately more from those who are better off
- What do these tax schedule changes over time imply for its progressivity?
- We can examine the impact of these changes in two ways.



First approach: Qualitatively examine the impact of the changes described

Income Tax Schedules: 1975 and 2023

- For example, compare the 1975 v 2023 schedules.
 - On one hand, the introduction of the tax-free threshold was a progressive measure
 - On the other, the reduction in the maximum rate and the increase in the lowest non-zero rate were regressive measures.
- A tax schedule that is proportional (neither progressive nor regressive) would be a horizontal straight line. Comparing the most recent (2023) schedule to the first (1975), the 2023 one is much closer to a horizontal line. The schedule is however, more progressive at the lower end.
- Therefore, it is not obvious which is more progressive.



Second approach: Quantitatively measure the impact of the changes

- A single income distribution for 2014 is available from the 2015 PNG Tax Review.
- Various tax schedules were applied to this distribution to examine whether the income tax has become more or less progressive over time.
- The Gini coefficient is a commonly-used measure of inequality.
- The Reynolds-Smolensky or RS index of progressivity is the difference between after-tax and pre-tax Gini coefficient.

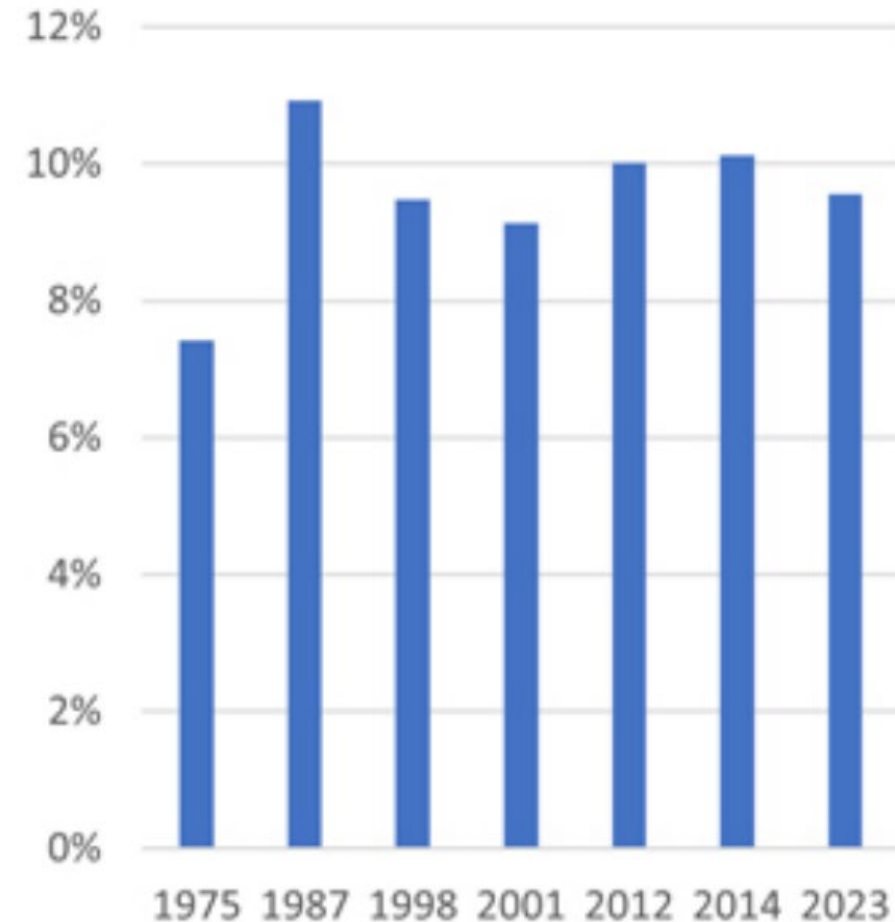
Gini Coefficients, Progressivity and Average Tax Rates for Different Tax Schedules

Year and distribution	Gini	RS redistributive index	Average tax take
Before tax distribution			
2014	41.8%		
After tax distributions			
1975	34.3%	7.4%	17.5%
1987	30.8%	10.9%	21.2%
1998	32.3%	9.5%	21.4%
2001	32.6%	9.1%	24.6%
2012	31.7%	10.0%	24.7%
2014	31.6%	10.1%	24.5%
2023	32.2%	9.6%	24.6%

Results

1. Average tax take has increased over time from 18% to 25% of formal sector payroll.
2. Overall, PNG's income tax is significantly progressive, reducing inequality in the wage distribution by about 10 percentage points or 25%.
3. The income tax has become more progressive overtime due to the introduction of the tax-free threshold in 1987. That's when the schedule was at its most progressive, i.e., when the RS index was at it's maximum.
4. Progressivity has reduced since 1987. This may be because the rate facing those just above the tax-free threshold has doubled (15% to 30%)

RS Index (difference in Gini before and after tax)



Policy discussion

- The income tax schedule has become less progressive since 1987 due to the increases in the minimum non-zero rate. To restore tax progressivity to its 1987 level, consideration should be given to reducing the minimum non-zero rate.
- Everyone likes a tax cut. The priority in PNG should be to cut the minimum non-zero rate because it is so high both historically and compared to other countries.
- This would be of the greatest benefit to the working class (i.e. everyone earning more than K20,000 a year).
- In 2015, the PNG Tax Review recommended the minimum non-zero rate be reduced to 20%. Instead, it has since been increased to 30%.
- How could this reform be paid for?
 - One way would be reducing the income threshold at which the top tax rate starts to apply (currently at K250,000).
 - Alternatively, GST on non-essential items could be increased or expenditure cut to pay for this important reform.

Limitations

- We have not looked at the taxation of non-resident income, or at fringe benefits or deductions.
- The analysis is based on a single income distribution, 2014. This is standard practice so that progressivity variations depend only on changes in the tax schedule. However, it would have been better to have a more up-to-date income distribution.
- IRC has this income distribution data and it would be great to have access to more recent data.

To find out more

Download our 2025 discussion paper “[Income tax in Papua New Guinea: changes over time](https://devpolicy.org/publications_directory/)”
Devpolicy DP 113, Australian National
University, available at
https://devpolicy.org/publications_directory/

Income tax in Papua New Guinea: changes over time

Anna Kapil and Stephen Howes

Abstract

PNG's income tax schedule has been changed 17 times since independence. These changes can be summarised as follows: the number of rates has been reduced by two-thirds; the maximum rate has fallen slightly; there is no trend in the minimum (tax-free) threshold after its introduction in 1987; there is a downward trend in the maximum threshold; there has been a steep increase in the minimum non-zero rate and a sharp compression in the non-zero tax rates; and the average tax rate has increased if the zero rate is excluded. Overall, the tax schedule is more progressive than at independence because of the introduction of the tax-free threshold. However, the tax schedule has become less progressive since 1987 because of the massive increase in the minimum non-zero income tax rate. PNG in fact has the highest minimum non-zero tax rate in the region at 30%. Other minimum non-zero rates in the region are in the range of 5-20%, and the global average for developing countries is around 15%. Despite the recommendations of the Tax Review Committee (2015), the minimum non-zero tax rate has continued to rise. Today, the tax-free threshold, adjusted for inflation, is the same as when it was introduced (1987), but the rate facing those just above the tax-free threshold has doubled, from 15% to 30%. To restore the progressivity of the income tax to its 1987 level, the minimum non-zero income tax rate should be reduced.

Tenkyu tru!

