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Assessment of Republic Act 10963: The 2017 Tax Reform for Acceleration and Inclusion

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Abstract

Despite various reform efforts over the years, the tax system in the Philippines continues to suffer from chronic weaknesses. Tax rates are high relative to the country's ASEAN neighbors, yet revenue productivity remains low. Filipino individual taxpayers are overburdened by personal income tax brackets that have not been indexed to inflation, resulting in bracket creep. The real value of excise tax rates on petroleum products have likewise been eroded by inflation, and the schedule is characterized by a number of exemptions and rates that are low by international standards. The value-added tax base has narrowed from excessive exemptions.

Package 1 of the Duterte administration's tax reform program was enacted into law as RA 10963, otherwise known as the "Tax Reform for Acceleration and Inclusion" (TRAIN) Act. It amended structure of the personal income tax, value-added tax, and excise tax on petroleum products, cigarettes, automobiles, sweetened beverages, coal and coke, and mineral products. While the RA 10963 reduced the personal income tax liability of both compensation income earners and the self-employed and professionals, it also raised the excise taxes on the aforementioned products and broadened the coverage of the VAT. This paper provides an assessment of the RA 10963's implications on the economic incentives in affected sectors, national government revenues, distribution of tax burden across income groups, and likely impact on tax compliance.

Keywords: tax reform, personal income tax, value-added tax, excise tax, sugar-sweetened beverages, tax progressivity/ regressivity, Reynolds-Smolensky index, tax compliance, negative externality

Assessment of Republic Act 10963:
The 2017 Tax Reform for Acceleration and Inclusion

Rosario G. Manasan*

1. Introduction

One of the Duterte administration's major initiatives is the reform of the country's tax system with the end in view of making it more simpler, more efficient, more equitable and also more revenue productive in support of its "build, build, build" infrastructure program. The restructured tax system is designed to have low tax rates and to be broad-based to enhance economic efficiency and promote higher and sustained growth, and poverty reduction. As planned, the comprehensive tax reform effort will be undertaken in stages. It is comprised of five packages, with each package focused on specific area/s of tax policy. Taken together, the five packages are designed to contribute to the overall objectives of tax reform while at the same time protecting the government's aggregate revenue take.

Package 1 of the administration's Comprehensive Tax Reform Program, otherwise known as "Tax Reform for Acceleration and Inclusion" (TRAIN), was filed as House Bill (HB) No. 4774 in January 2017 and as Senate Bill No. 1408 in March 2017.[1] The Department of Finance (DOF) originally intended TRAIN to (i) repeal current provisions on the personal income tax (i.e., address bracket creep, shift to a modified gross income PIT regime for simplicity, and reduce the top marginal rate to 25% over time); (ii) broaden the base of the value-added tax (i.e., by eliminating a number of exemptions and limiting zero-rating to direct exporters); (iii) increase the excise tax on petroleum products and automobiles; (iv) reduce the estate tax and the donor's tax); and (v) earmark a portion of the incremental revenues generated from the reform to fund targeted subsidies for the poor and vulnerable sectors. As HB No. 4774 and SB No. 1408 made their journey to the legislative mill, the version of TRAIN that was passed into law, Republic Act (RA) No. 10963, has come to include (i) the imposition of an excise tax on sugary drinks, and (ii) an increase in the excise tax on cigarettes.

This paper builds on Manasan (2017) which compares House Bill (HB) 4774 and Senate Bill 1408. It aims to assess RA No. 10963 in terms of their impact on equity, economic efficiency, national government revenues, and likely impact on tax compliance. The paper is organized as follows. For each type of tax, an overview of current provisions is provided, followed by the issues associated with the same. The pertinent provisions of RA No. 10963 are then presented. The section for any given tax type concludes with an assessment of the impact of the new law on economic objectives of the government's overall tax reform agenda.

2. Personal (or Individual) Income Tax

2.1. The personal income tax (PIT) system prior to TRAIN[2]

Personal income taxation prior to the passage of RA 10963 was defined under the National Internal Revenue Code of 1997 (or RA 8424). The personal income tax rate schedule under the old tax regime had seven tax brackets with marginal tax rates that ranged from 5% (applicable to annual taxable income not in excess of PhP 10,000) to 32% (applicable to annual taxable income in excess of PhP 500,000).

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[1] Manasan (2017) made a comparative assessment of HB No. 4774, HB No. 5636 (the compromise bill at the House of Representatives) and SB No. 1408 in terms of the distribution of tax burden across income groups, economic incentives in affected sectors, national government revenues, and likely impact on tax compliance.

[2] This subsection is drawn from Manasan (2017).

This rate schedule was applicable to the taxable income of both compensation income earners (CIEs) and the self-employed and professionals (SEPs). The system is *de jure* progressive, i.e., statutory tax rates rise with income. The tax code then did not include any provision for the indexation of the PIT brackets to inflation.

Taxable income for CIEs was defined to be equal to gross compensation income less personal exemptions and deductions. Each wage and salaried worker is entitled to a PhP 50,000 personal exemption and a PhP 25,000 additional exemption for each dependent (up to a maximum of four).[3] The additional exemption for dependents may be claimed by only one of the spouses in the case of married individuals. In addition, the following were excluded in reckoning gross income: life/ health/ and accident insurance benefits, retirement benefits, pensions, and gratuities, 13th month pay and other benefits not exceeding PhP 82,000,[4] and GSIS, SSS, PhilHealth, Pag-ibig, union dues, and other mandatory contributions. On the other hand, premium payments for health/ hospitalization insurance not exceeding PhP 2,400 per family per year was the only deductions from gross income that CIEs were allowed to make under RA 8424. Minimum wage earners were also exempt from personal income tax since 2008 under RA 9504.

On the other hand, SEPs were taxed on the basis of their net income from business or the practice of profession, with the following items being allowed as deductions from gross income: (i) ordinary and necessary expense directly attributable to the development, management, operation, and/ or conduct of trade, business or exercise of profession; (ii) depreciation allowance; (iii) research and development expenditures, (iv) interests and taxes paid, and (v) losses and bad debt incurred in connection with the taxpayer's profession, trade, or business; and (vi) charitable and other contributions. SEPs were given the option to apply an standard deduction equivalent to 40% of gross sales or receipts in lieu of the itemized deductions enumerated above. SEPs were also allowed to deduct personal and additional exemptions from their gross income after deducting allowable expenses.

2.2. Objectives of the personal income tax reform

The reform the personal income tax (PIT) system is aimed at addressing (i) the non-indexation of the tax brackets to inflation, resulting in bracket creep; and (ii) the high tax burden of Filipino taxpayers relative to their ASEAN counterparts.

Bracket creep. Until the enactment of RA 10963, the upper and lower boundaries of the tax brackets for the personal income tax have not been adjusted in line with inflation since 1997. This implies that taxpayers whose nominal incomes have increased in the interim have been pushed into higher tax brackets even if their real incomes have not increased, resulting in what is known as bracket creep.

Manasan (2016) showed that individual income taxpayers are not only unduly burdened relative to their real incomes because of bracket creep. The same study also found that the bracket creep tends to be regressive as the non-indexation of tax brackets to inflation effectively favors taxpayers with incomes falling in the higher income brackets compared to those whose incomes fall in the lower tax brackets.

High marginal tax rates relative to ASEAN neighbors. The proposal to amend the Philippine personal income tax system is also prompted by the need to ease the tax burden on Filipino individual income taxpayers, who are arguably the most heavily taxed in the ASEAN region. The Philippines' top marginal personal income tax rate of 32% is higher than that of all the ASEAN member countries except Thailand and Vietnam, and 3.4 percentage points higher than the average for the ASEAN-5, namely Malaysia, Indonesia, Philippines, Thailand, and Singapore (**Table 1**).

Acknowledging the importance of differences in the tax rate schedule and allowable personal exemptions and deductions in the assessing the comparative PIT burden among taxpayers in the

[3] The personal exemption and additional exemption levels were last adjusted in 2009.
[4] RA 10653 increased the ceiling on tax-free bonuses from PhP 30,000 to PhP 82,000 in 2016.

ASEAN region, Manasan (2016) simulated the effects of applying the different personal income tax rate schedules of ASEAN countries to alternative gross personal income levels by expressing the same in peso terms using the 2014 purchasing power parity (PPP) exchange rates.[5] The analysis found that both the effective tax rates (i.e., the ratio of tax liability to taxable income) and the nominal peso tax liability for <u>most</u> gross personal income levels are indeed higher when the Philippine rate schedule is applied relative to those of other ASEAN member countries (**Table 2**). However, the analysis shows that the Philippines ranks second to Lao PDR in terms of having the highest effective tax rates applicable to per capita GNI.

Table 1. Comparative statutory tax rates in the ASEAN region (2014)

	Personal Income Tax		Corporate Income Tax	VAT/GST
	Top marginal rate	Number of tiers		
Brunei Darussalam	a/	a/	20%	n/a
Cambodia	20%	5	20%	10%
Indonesia	30%	4	25%	10%
Lao PDR	24%	7	24%	10%
Malaysia	26%	7	25%	6%
Myanmar	25%	6	25%	b/
Philippines	32%	7	30%	12%
Singapore	20%	9	17%	7%
Thailand	35%	8	20%	7%
Vietnam	35%	7	22%	10%

a/ no personal income tax in Brunei

b/ turnover tax ; no standard rate

Source: Ernst and Young 2014; KPMG 2014

Note. Adapted from "Assessment of proposals to amend the personal income tax," by R.G. Manasan, 2016, *Revised Version of PIDS Discussion Paper 2015-48*, 7. 2016 by "Philippine Institute for Development Studies".

[5] The simulations were performed for an individual income taxpayer who is assumed to have two dependents and who is assumed to be the sole income earner in the family (Manasan 2016).

Table 2. Comparative tax liability and effective tax rates when the tax rate schedule of different ASEAN countries are applied to selected gross personal income levels (adjusted for purchasing power parity)

Selected gross income levels	Philippines	Cambodia	Lao PDR	Indonesia	Malaysia	Myanmar	Singapore	Thailand	Vietnam
Tax liability(in pesos)									
9,000	-	-	107		-	-	-	-	-
18,000	-	-	557		-	-	-	-	-
40,000	-	-	2,629		-	-	-	-	-
95,000	-	-	9,588		-	-	-	-	-
210,000	16,500	6,505	49,474	2,687	-	-	-	-	-
390,000	62,000	24,505	69,743	11,237	1,691	9,371	-	-	-
525,000	102,500	38,005	102,143	28,955	5,539	28,358	-	6,250	3,242
1,500,000	413,000	141,425	336,143	187,400	172,798	159,659	12,866	138,516	252,267
3,000,000	893,000	414,907	696,143	583,704	562,510	485,751	202,192	505,552	865,629
6,000,000	1,853,000	1,014,907	1,416,143	1,483,704	1,342,510	1,235,751	715,065	1,398,513	1,915,629
12,000,000	3,773,000	2,214,907	2,856,143	3,283,704	2,902,510	2,735,751	1,894,852	3,493,323	4,015,629
Effective tax rates									
9,000	-	-	1%	-	-	-	-	-	-
18,000	-	-	3%	-	-	-	-	-	-
40,000	-	-	7%	-	-	-	-	-	-
95,000	-	0%	10%	-	0%	0%	-	-	-
210,000	8%	3%	24%	1%	0%	0%	-	-	-
390,000	16%	6%	18%	3%	0%	2%	-	0%	-
525,000	20%	7%	19%	6%	1%	5%	-	1%	1%
1,500,000	28%	9%	22%	12%	12%	11%	1%	9%	17%
3,000,000	30%	14%	23%	19%	19%	16%	7%	17%	29%
6,000,000	31%	17%	24%	25%	22%	21%	12%	23%	32%
12,000,000	31%	18%	24%	27%	24%	23%	16%	29%	33%
Per capita GNI	4%	-	9%	2%	1%		3%	-	-
Marginal tax rate applicable to per capita GNI	15%	0%	12%	5%	6%		7%	0%	0%

Author's estimates

Note. Adapted from "Assessment of proposals to amend the personal income tax," by R.G. Manasan, 2016, *Revised Version of PIDS Discussion Paper 2015-48*, 8. 2016 by "Philippine Institute for Development Studies".

2.3. Features of the personal income tax system under RA 10963

Under RA 10963, the personal income tax is levied on the gross income of CIEs reduced the number of income tax brackets in the graduated rate schedule to six from seven under the old regime. to promulgated a new graduated personal income tax schedule that has six brackets with marginal tax rates that range from 0% to 35% (**Table 3**). In contrast to the old personal income tax regime where the graduated rate schedule is applicable to both CIEs and SEPs, the graduated rate schedule under new tax law is applicable only to CIEs regardless of the level of their taxable income and to SEPs whose gross sales/ receipts exceed the VAT threshold. SEPs with gross sales/ receipts below the VAT threshold are given the option to either pay a tax equivalent to 8% of their gross sales/ receipts or on the basis of the graduated rate schedule.

Regime for compensation income earners. Under RA 10963, CIEs are taxed on the basis of their gross compensation income. That is, CIEs are no longer allowed to deduct from their gross income personal and additional exemptions and deductions that previously allowed under old tax regime. However, the exclusion of life/ health/ and accident insurance benefits, retirement benefits, pensions, and gratuities, 13th month pay and other benefits in reckoning gross income of CIEs under old system is retained, with the exception that the cap on the 13th month pay and other benefits is increased from PhP 82,000 to PhP 90,000.

The tax liability of CIEs is computed in accordance with a graduated tax rate schedule with marginal tax rates that varies from 0% (applicable to annual taxable income not in excess of PhP 250,000 per year) to 35% (applicable to annual taxable income in excess of PhP 8 million). RA 10963 adjusted the income tax brackets of the rate schedule such that a lower marginal tax rate than that under the old system will be applicable to comparable annual taxable income levels with the exception of annual taxable income greater than PhP 8 million which will be subject to the top marginal tax rate of 35% instead of 32% under the old system (**Table 3**). The higher top marginal tax rate of 35% under TRAIN applies to CIEs with a much higher annual taxable income (i.e., CIEs with taxable annual incomes in excess of PhP 8 million) under RA 10963. In comparison, HB 4774 and SB 1408 proposed to apply the top marginal rate of 35% to CIEs with annual taxable income in excess of PhP 5 million. However, unlike HB 4774 and SB 1408, RA 10963 does not include a provision that allows for the automatic indexation of the taxable income levels in the graduated rate schedule in line with the consumer price index (CPI).

*Regime for self-employed and professional*s. Under RA 10963, the tax liability of SEPs with gross sales/ receipts in excess of VAT threshold is computed by applying the same graduated rate schedule that is used for CIEs on their net income. In contrast, SEPs with gross sales/ receipts not exceeding the VAT threshold are given the option to either pay their PIT on the basis of the graduated rate schedule or to pay a tax equivalent to 8% of their gross sales/ receipts in lieu of the taxes under the graduated rate schedule and the 3% 'other percentage tax.'

Table 3. Comparison of PIT rate schedule under RA 10963 vis old tax regime

		II. After RA 10963 - applies to CIEs regardless of taxable income and to SEPs whose gross receipts/ sales is in excess of VAT threshold; SEPs with gross receipts/ sales below VAT threshold have the option to be taxed at 8% of their gross sales/ receipts or on the basis of their taxable income using the graduated rate		
			For taxable year 2018-2022	*For taxable year 2023 onwards*
For taxable income	**Tax due**	**For taxable income**	**Tax due**	**Tax due**
Not over PhP 10,000	5%	Not over PhP 250,000	0%	0%
Over PhP 10,000 but not over PhP 30,000	PhP 500 + 10% of the excess over PhP 10,000	Over PhP 250,000 but not over PhP 400,000	20% of the excess over PhP 250,000	15% of the excess over PhP 250,000
Over PhP 30,000 but not over PhP 70,000	PhP 2,500 + 15% of the excess over PhP 30,000	Over PhP 400,000 but not over PhP 800,000	PhP 30,000 +25% of the excess over PhP 400,000	PhP 22,500 +20% of the excess over PhP 400,000
Over PhP 70,000 but not over PhP 140,000	PhP 8,500 + 20% of the excess over PhP 70,000	Over PhP 800,000 but not over PhP 2,000,000	PhP 130,000 +30% of the excess over PhP 800,000	PhP 102,500 +25% of the excess over PhP 800,000
Over PhP 140,000 but not over PhP 250,000	PhP 22,500 + 25% of the excess over PhP 140,000	Over PhP 2,000,000 but not over PhP 8,000,000	PhP 490,000 +32% of the excess over PhP 2,000,000	PhP 402,500 +30% of the excess over PhP 2,000,000
Over PhP 250,000 but not over PhP 500,000	PhP 50,000 + 30% of the excess over PhP 250,000	Over PhP 8,000,000	PhP2,410,000 +35% of the excess over PhP 8,000,000	PhP2,202,500 +35% of the excess over PhP 8,000,000
Over PhP 500,000	PhP 125,000 + 32% of the excess over PhP 500,000			

2.4. Implications of PIT provisions under RA 10963

Effective tax rates and relative tax treatment of CIEs and SEPs

Tax treatment of CIEs. CIEs will effectively pay lower PIT under RA 10963 than under the earlier PIT regime except those with annual taxable income in excess of PhP 11.833 million in 2018-2022. However, from 2023 onwards, CIEs will effectively pay lower PIT under RA 10963 than under the earlier PIT regime regardless of their taxable income level. In comparison, CIEs will effectively pay lower PIT under under HB 4774 and SB 1408 than under the earlier PIT regime except those with annual taxable income in excess of PhP 8.833 million in 2018-2022 and PhP 13.75 million from 2023 onwards.

Tax treatment of SEPs. RA 10963 scores high in terms of providing the same tax treatment of similarly situated individuals. By allowing SEPs with annual net income below the VAT threshold to either pay an 8% tax based on their gross sales/ receipts or be taxed using the graduated PIT rate schedule, the horizontal inequity that is observed under HB 4774 and SB 1408 amongst SEPs with different profit margins is minimized.[6] At the same time, this provision tends to reduce the compliance cost of SEPs who have annual net income below the VAT threshold but who have relatively high profit margins like lawyers, doctors, accountants, and consultants.

Effective tax rates.[7] PIT reform under RA 10963 tends to favor CIEs over SEPs. The overall average effective tax rate on compensation income is estimated to decrease from 5.5% under the old system to 1.1% under RA 10963 in 2018-2022 and 0.9% from 2023 onwards (**Table 4**). On the other hand, the overall average ETR on net income of SEPs is expected to go down from 1.7% to 1.3% in 2018-2022 and 0.7% from 2023 onwards. In other words, the reduction in the average ETR of CIEs and SEPs is substantial under RA 10963 - 80% in 2018-2022 and 84% from 2023 onwards in the case of CIEs and 53% in 2018-2022 and 60% from 2023 onwards in the case of SEPs. Although the gap in the average ETR of CIEs and SEPs is projected to narrow, the average ETR of SEPs is projected to continue to be lower than that of CIEs from 2023 onwards. However, the substantial reduction in the average ETR of SEPs is a positive development as this will likely improve their tax compliance.

Impact on government revenues from the PIT. Assuming that the 2015 collection efficiency is maintained in 2018-2023, personal income tax revenue from compensation income is projected to decline by 1.5% of GDP in 2018-2022 and by 1.6% of GDP from 2023 onwards as a result of RA 10963. Meanwhile, PIT revenue from SEP income is projected to likewise go down by 0.07% of GDP in 2018, 0.17% of GDP in 2019-2022 and by 0.19% of GDP from 2023 onwards. Thus, overall, PIT revenues are estimated to contract by PhP 210 billion (or 1.6% of GDP) in 2018, PhP 223 (or 1.7% of GDP) in 2019-2022 and PhP 238 billion (or 1.8% of GDP) from 2023 onwards (**Table 5**).

[6] If the 8% tax on gross sales/ receipts were not made optional as originally proposed in the various bill filed in Congress in support of the TRAIN, SEPs with lower profit margins (e.g., small store owners, food service providers, public transport operators, small contractors, and small/ medium scale entrepreneurs, in general) will have higher effective tax rates than SEPs with higher profit margins (e.g., lawyers, doctors, accountants, and consultants). See Manasan (2017) for a more detailed discussion of this issue.

[7] The estimates of the ETRs and the revenue impact of the PIT reform under RA 10963 were computed using the 2015 Family Income and Expenditure Survey (FIES) with incomes of CIEs and SEPs recalibrated to the 2017 levels on the households' net operating surplus of households and compensation income from the National Accounts consolidated income and outlay account of households.

Table 4. Effective personal income tax rate (i.e., ratio of tax liability to taxable income), across income deciles [a/]

Income Decile	Effective tax rate (ETR)									Change in ETR - RA 10963 less old PIT regime					
	Prior to RA 10963			RA 10963 - 2018-2022			RA 10963 - 2023 onwards			RA 10963 - 2018-2022			RA 10963 - 2023 onwards		
	Wage income	SEP income	Total	Wage income	SEP income	Total	Wage income	SEP income	Total	Wage income	SEP income	Total	Wage income	SEP income	Total
First (poorest)	0.04	0.02	0.03	0.00	0.00	0.31	0.00	0.00	0.00	-0.04	-0.02	0.27	-0.04	-0.02	-0.03
Second	0.12	0.07	0.10	0.00	0.00	0.27	0.00	0.00	0.00	-0.12	-0.07	0.15	-0.12	-0.07	-0.10
Third	0.27	0.16	0.22	0.00	0.00	0.25	0.00	0.00	0.00	-0.27	-0.16	-0.02	-0.27	-0.16	-0.22
Fourth	0.74	0.23	0.55	0.00	0.00	0.23	0.00	0.00	0.00	-0.74	-0.23	-0.51	-0.74	-0.23	-0.55
Fifth	1.22	0.39	0.93	0.01	0.01	0.22	0.00	0.00	0.00	-1.21	-0.38	-1.00	-1.22	-0.38	-0.92
Sixth	1.95	0.62	1.52	0.04	0.02	0.24	0.03	0.01	0.03	-1.90	-0.60	-1.71	-1.91	-0.61	-1.49
Seventh	2.89	0.96	2.29	0.10	0.05	0.28	0.07	0.04	0.06	-2.79	-0.90	-2.62	-2.82	-0.91	-2.22
Eighth	4.13	1.44	3.29	0.22	0.16	0.39	0.17	0.13	0.15	-3.91	-1.28	-3.74	-3.97	-1.32	-3.14
Ninth	6.25	2.21	5.03	0.82	0.50	0.89	0.62	0.41	0.56	-5.43	-1.71	-5.37	-5.63	-1.80	-4.47
Tenth (richest)	12.01	3.48	8.78	3.52	2.33	3.17	2.72	1.97	2.44	-8.49	-1.15	-8.83	-9.29	-1.51	-6.35
Total	**5.38**	**1.66**	**4.07**	**1.12**	**0.78**	**1.18**	**0.86**	**0.66**	**0.79**	**-4.27**	**-0.88**	**-4.21**	**-4.52**	**-1.01**	**-3.28**
RS index [b/]	**0.0213**	**0.0072**	**0.0167**	**0.0056**	**0.0044**	**0.0052**	**0.0043**	**0.0037**	**0.0042**						
Change in RS index				**-0.016**	**-0.003**	**-0.011**	**-0.017**	**-0.004**	**-0.013**						

a/ assumes that 2015 PIT collection efficiency is maintained and that SEPs with profit margin of 80% or better and with gross sales/ receipts below PhP 3 M opt to pay the 8% tax on their gross sales/ receipts

b/ RS index refers to Reynolds-Smolensky index

Distribution of the tax burden across different income groups. PIT reform under RA 10963 tends to favor the individual income tax payers from the richer deciles over those from the poorer income deciles. Thus, the overall direction of PIT reform is not pro-poor.

The change in the tax burden (i.e., the change in total PIT liability) of CIEs and SEPs expressed in absolute peso terms is projected to be negative for all income deciles under RA 10963 from 2019 onwards (**Table 5**).[8] However, the biggest gains from the PIT reform is expected to accrue to CIEs belonging to the tenth (or the richest) income decile who, as a group, are likely to receive the largest share in the total reduction in the PIT burden (**Table 6**) and to experience the highest reduction in their PIT liability expressed as a percentage of taxable income, i.e., change in effective tax rate **(Table 4)**.[9] In more specific terms, the average ETR for CIEs belonging to the tenth income decile is estimated to decline by more than 9 percentage points from 2023 onwards under RA 10963 (**Table 4**). While CIEs from the poorer deciles are also projected to face lower ETRs under RA 10963 relative to the old personal income tax regime, the reduction in their ETRs is significantly smaller than that for the richer deciles. In particular, the combined share of CIEs belonging to the 9 poorest deciles in the total reduction in the PIT burden is even smaller than that of the richest income decile alone (**Table 6**).

[8] These calculations were made using the 2015 Family Income and Expenditure Survey.
[9] This is surprising at first glance given the increase in the marginal tax rate applicable to the highest income bracket (i.e., CIEs whose annual gross income is above PhP million) from the present 32% to 35% under the TRAIN. However, the results of marketing research (e.g., Kantar 2016) suggests that less than 1% of the total number of households belong to this ultra-rich group.

Table 5. Change in the PIT burdena/ under RA 10963, by income decile, by type of income (in million pesos)

Income Decile	2018			2019-2022			2023		
	Wage income	SEP income	Total	Wage income	SEP income	Total	Wage income	SEP income	Total
First (poorest)	-46	728	682	-46	-18	-64	-46	-18	-64
Second	-228	812	584	-228	-96	-325	-229	-96	-325
Third	-621	715	94	-621	-242	-863	-621	-242	-863
Fourth	-2,121	649	-1,473	-2,121	-382	-2,503	-2,122	-383	-2,505
Fifth	-4,128	434	-3,695	-4,128	-701	-4,830	-4,133	-704	-4,836
Sixth	-7,952	38	-7,914	-7,952	-1,219	-9,171	-7,997	-1,228	-9,225
Seventh	-13,893	-644	-14,537	-13,893	-2,043	-15,935	-14,014	-2,066	-16,080
Eighth	-23,355	-1,830	-25,185	-23,355	-3,474	-26,829	-23,681	-3,558	-27,239
Ninth	-41,465	-3,887	-45,352	-41,465	-5,668	-47,133	-42,973	-5,977	-48,950
Tenth (richest)	-106,649	-6,632	-113,281	-106,649	-8,783	-115,432	-116,635	-11,493	-128,128
Total	**-200,459**	**-9,618**	**-210,077**	**-200,459**	**-22,626**	**-223,085**	**-212,450**	**-25,766**	**-238,216**
% to GDP	**-1.50**	**-0.07**	**-1.58**	**-1.50**	**-0.17**	**-1.67**	**-1.59**	**-0.19**	**-1.79**

a/ Estimates refers to total reduction for all taxpayers belonging to a given income decile and assumes that 2017 PIT collection efficiency is maintained and that SEPs with profit margin of 80% or better and with gross sales/ receipts below PhP 3 M opt to pay the 8% tax on their gross sales/ receipts. Negative number means reduction in the PIT burden.

Table 6. Percentage distribution of the reduction in PIT burden across income deciles under RA 10963

Income Decile	2018			2019-2022			2023		
	Wage income	SEP income	Total	Wage income	SEP income	Total	Wage income	SEP income	Total
First (poorest)	0.0	-7.6	-0.3	0.0	0.1	0.0	0.0	0.1	0.0
Second	0.1	-8.4	-0.3	0.1	0.4	0.1	0.1	0.4	0.1
Third	0.3	-7.4	0.0	0.3	1.1	0.4	0.3	0.9	0.4
Fourth	1.1	-6.7	0.7	1.1	1.7	1.1	1.0	1.5	1.1
Fifth	2.1	-4.5	1.8	2.1	3.1	2.2	1.9	2.7	2.0
Sixth	4.0	-0.4	3.8	4.0	5.4	4.1	3.8	4.8	3.9
Seventh	6.9	6.7	6.9	6.9	9.0	7.1	6.6	8.0	6.8
Eighth	11.7	19.0	12.0	11.7	15.4	12.0	11.1	13.8	11.4
Ninth	20.7	40.4	21.6	20.7	25.1	21.1	20.2	23.2	20.5
Tenth (richest)	53.2	69.0	53.9	53.2	38.8	51.7	54.9	44.6	53.8
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Likewise, SEPs from the poorest income decile are expected to gain the least from PIT reform under RA 10963. The reduction in the PIT liability of SEPs in the poorest decile is estimated to be the lowest when expressed as a percentage of their taxable income – 0.02 percentage point compared to the 0.04 percentage point reduction in the average ETR of CIEs in the poorest decile, the 1.5 percentage point reduction in the average ETR of SEPs in the richest income decile and the 9.3 percentage point reduction in the average ETR of CIEs in the richest income decile in 2023 (**Table 4**). Also, the combined share of individual income taxpayers belonging to the 9 poorest deciles in the total reduction in the PIT burden is even smaller than that of the richest income decile alone (**Table 6**).

Thus, the Reynolds-Smolensky (RS) index[10] for the personal income tax is estimated decline from 0.017 under the old PIT regime to 0.005 in 2018-2022 and to 0.004 in 2023 due to RA 10963 (**Table 4**), indicating that the PIT provisions of the TRAIN law are not pro-poor. Instead, the redistribution of

[10] The RS index is a summary measure of the redistributive capacity of the tax system. It is computed as the difference between the Gini coefficient of the pre-tax distribution of income and the after-tax distribution of income, where perfect equality would yield a Gini coefficient of 0 and perfect inequality would yield a Gini coefficient of 1. The RS index is greater than, equal to, or less than zero "depending on whether the tax is equalizing, neutral, or unequalizing, respectively" (Enami et al. 2017, p 17).

income due to the reform of the personal income tax system under RA 10963 is more favorable to the richer income deciles.

3. Value-Added Tax (VAT)

3.1. The value-added tax system prior to TRAIN

The Philippine VAT is a consumption type VAT. This means that in determining their VAT tax liability, firms are allowed to deduct all business purchases including purchases of capital goods from their sales. As such, the VAT does not distort the timing of firms' investment decisions nor does it discriminate against capital-intensive methods of production. At the same time, it minimizes the imposition of a tax on tax (or tax cascading) that is characteristic of the turnover tax and is, thus, neutral with respect to production and distribution methods.

The Philippine VAT is levied on the basis of the destination principle, i.e., goods and services are taxed on the basis of where they are consumed rather than where there are produced. As such, imported and domestically produced goods are treated symmetrically and, thus, compete on an equal footing with each other. The Bureau of Internal Revenue collects VAT on sales of goods and services in the domestic market, while the Bureau of Customs collects VAT on imports.

The 12% VAT is levied on the gross selling price or gross value in money of VAT-able goods or properties sold, bartered or exchanged, VAT-able services sold or exchanged or VAT-able goods imported. As such, all goods and services may fall under any one of the following three categories under the Philippine VAT system: (i) VAT-able; (ii) VAT-exempt; or (iii) zero-rated.

VAT-able goods and services. The VAT liability of firms producing or selling VAT-able goods/ services is computed using the tax credit or "invoice" method. That is, firms are entitled to subtract from the output VAT that is due on their sales of the VAT-able output (i.e. the VAT rate times the value of their sales before VAT) the input VAT they paid on all their VAT-able input purchases, including that of capital goods. In other words, their VAT due is equal to their output VAT less their input VAT). As such, the VAT borne by producers/ sellers is zero as (i) the VAT on their output is shifted forward to their buyers, and (ii) they are able to claim credit for the VAT they paid when they purchased their inputs.[11] On the other hand, the VAT borne by the final consumer of a VAT-able good is equal to the VAT levied on the selling price before VAT.

Under the "invoice" method of computing the VAT liability from VAT-able transactions, producers are allowed to claim credits for the taxes they paid on their inputs only if are able to support said claims with invoices from their suppliers. The VAT is, thus, said to have a self-policing feature as each firm is required to provide evidence regarding taxes that should have been paid by all its suppliers.

The National Internal Revenue Code (NIRC) defines "goods and properties" that may be VAT-able to include "all tangible and intangible objects which are capable of pecuniary estimation:

(a) Real properties held primarily for sale to customers or held for lease in the ordinary course of trade or business;
(b) The right or the privilege to use patent, copyright, design or model, plan, secret formula or process, goodwill, trademark, trade brand or other like property or right;
(c) The right or the privilege to use in the Philippines any industrial, commercial or scientific equipment;
(d) The right or the privilege to use motion picture films, tapes and discs; and
(e) Radio, television, satellite transmission and cable television time."

[11] Because of this feature of the VAT, it does not result in tax cascading (i.e., tax-on-tax) that is characteristic of the multi-stage sales tax or the turnover tax.

On the other hand, under the NIRC, "sale or exchange of services" means "the performance of all kinds of services in the Philippines for others for a fee, remuneration or consideration, including those performed or rendered by construction and service contractors; stock, real estate, commercial, customs and immigration brokers; lessors of property, whether personal or real; warehousing services; lessors or distributors of cinematographic films; persons engaged in milling processing, manufacturing or repacking goods for others; proprietors, operators or keepers of hotels, motels, rest houses, pension houses, inns, resorts; proprietors or operators of restaurants, refreshment parlors, cafes and other eating places, including clubs and caterers; dealers in securities; lending investors; transportation contractors on their transport of goods or cargoes, including persons who transport goods or cargoes for hire another domestic common carriers by land relative to their transport of goods or cargoes; common carriers by air and sea relative to their transport of passengers, goods or cargoes from one place in the Philippines to another place in the Philippines; sales of electricity by generation companies, transmission, and distribution companies; services of franchise grantees of electric utilities; telephone and telegraph, radio and television broadcasting and all other franchise grantees except those under section 119 of the NIRC; and non-life insurance companies (except their crop insurances), including surety, fidelity, indemnity, and bonding companies; and similar services regardless of whether or not the performance thereof calls for the exercise or use of the physical or mental faculties. The phrase "sale or exchange of services" shall likewise include:

(a) The lease or the use of or the right or privilege to use any copyright, patent, design or model, plan secret formula or process, goodwill, trademark, trade brand or other like property or right;
(b) The lease of the use of, or the right to use of any industrial, commercial or scientific equipment;
(c) The supply of scientific, technical, industrial or commercial knowledge or information;
(d) The supply of any assistance that is ancillary and subsidiary to and is furnished as a means of enabling the application or enjoyment of any such property, or right as is mentioned in subparagraph (b) or any such knowledge or information as is mentioned in subparagraph (c);
(e) The supply of services by a nonresident person or his employee in connection with the use of property or rights belonging to, or the installation or operation of any brand, machinery or other apparatus purchased from such nonresident person.
(f) The supply of technical advice, assistance or services rendered in connection with technical management or administration of any scientific, industrial or commercial undertaking, venture, project or scheme;
(g) The lease of motion picture films, films, tapes and discs; and
(h) The lease or the use of or the right to use radio, television, satellite transmission and cable television time."

VAT-exempt goods and services. VAT-exempt firms do not pay VAT on their sales nor can they claim credit for the VAT for their input purchases. If the seller of VAT-exempt goods is able to shift the VAT he paid on his VAT-able inputs forward to his buyers: (i) the price of a VAT-exempt good/ service goes up by the amount of the VAT paid on its inputs; (ii) producers who make use of a VAT-exempt good as intermediate input will not be able to claim credit for the VAT embedded in the price of their VAT-exempt inputs and will have less incentive to buy inputs from VAT-exempt sellers or to use these VAT-exempt inputs if substitutes are available; (iii) final consumers of VAT-exempt goods will bear the burden of the VAT paid on the VAT-able inputs going into the production of the VAT-exempt good; and (iv) the price of output of intermediate users of VAT-exempt goods and all producers/ sellers down the production-distribution chain rises. On the other hand, if the seller of VAT-exempt goods is not able to shift the VAT he paid on his VAT-able inputs forward to his buyers: (i) there is no change in the price of the VAT-exempt good/ service; and (ii) the profit of producers of VAT-exempt goods goes down by the amount of the VAT on its inputs.

Prior to RA 10963, the following goods, properties and services are exempt from VAT:

(a) Sale or importation of agricultural and marine food products in their original state, livestock and poultry of or king generally used as, or yielding or producing foods for human consumption; and breeding stock and genetic materials therefor; Products classified under this paragraph shall be considered in their original state even if they have undergone the simple processes of preparation or preservation for the market, such as freezing, drying, salting, broiling, roasting, smoking or stripping. Polished and/or husked rice, corn grits, raw cane sugar and molasses, ordinary salt and copra shall be considered in their original state;

(b) Sale or importation of fertilizers; seeds, seedlings and fingerlings; fish, prawn, livestock and poultry feeds, including ingredients, whether locally produced or imported, used in the manufacture of finished feeds (except specialty feeds for race horses, fighting cocks, aquarium fish, zoo animals and other animals generally considered as pets);

(c) Importation of personal and household effects belonging to the residents of the Philippines returning from abroad and nonresident citizens coming to resettle in the Philippines: Provided, That such goods are exempt from customs duties under the Tariff and Customs Code of the Philippines;

(d) Importation of professional instruments and implements, wearing apparel, domestic animals, and personal household effects (except any vehicle, vessel, aircraft, machinery other goods for use in the manufacture and merchandise of any kind in commercial quantity) belonging to persons coming to settle in the Philippines, for their own use and not for sale, barter or exchange, accompanying such persons, or arriving within ninety (90) days before or after their arrival, upon the production of evidence satisfactory to the Commissioner, that such persons are actually coming to settle in the Philippines and that the change of residence is bona fide;

(e) Services subject to percentage tax under Title V;

(f) Services by agricultural contract growers and milling for others of palay into rice, corn into grits and sugar cane into raw sugar;

(g) Medical, dental, hospital and veterinary services except those rendered by professionals.

(h) Educational services rendered by private educational institutions, duly accredited by the Department of Education(DepED), the Commission on Higher Education (CHED), the Technical Education and Skills Development Authority (TESDA)and those rendered by government educational institutions;

(i) Services rendered by individuals pursuant to an employer-employee relationship;

(j) Services rendered by regional or area headquarters established in the Philippines by multinational corporations which act as supervisory, communications and coordinating centers for their affiliates, subsidiaries or branches in the Asia-Pacific Region and do not earn or derive income from the Philippines;

(k) Transactions which are exempt under international agreements to which the Philippines is a signatory or under special laws, except those under Presidential Decree No. 529;

(l) Sales by agricultural cooperatives duly registered with the Cooperative Development Authority to their members as well as sale of their produce, whether in its original state or processed form, to non-members; their importation of direct farm inputs, machineries and equipment, including spare parts thereof, to be used directly and exclusively in the production and/or processing of their produce;

(m) Gross receipts from lending activities by credit or multi-purpose cooperatives duly registered with the Cooperative Development Authority;

(n) Sales by non-agricultural, non- electric and non-credit cooperatives duly registered with the Cooperative Development Authority: Provided, That the share capital contribution of each member does not exceed PhP 15, 000 and regardless of the aggregate capital and net surplus ratably distributed among the members;

(o) Export sales by persons who are not VAT-registered;

(p) Sale of real properties not primarily held for sale to customers or held for lease in the ordinary course of trade or business or real property utilized for low-cost and socialized housing as defined by Republic Act No. 7279, otherwise known as the Urban Development and Housing Act of 1992, and other related laws, residential lot valued at PhP 1,500,000 and below, house and lot, and other residential dwellings valued at PhP 2,500,000 and below: Provided, That not later than January 31, 2009 and every three (3) years thereafter, the amount herein stated shall be adjusted to their present values using the Consumer Price Index, as published by the National Statistics Office (NSO);

(q) Lease of a residential unit with a monthly rental not exceeding PhP 10,000: Provided, That not later than January 31, 2009 and every three (3) years thereafter, the amount herein stated shall be adjusted to its present value using the Consumer Price Index as published by the National Statistics Office (NSO);

(r) Sale, importation, printing or publication of books and any newspaper, magazine review or bulletin which appears at regular intervals with fixed prices for subscription and sale and which is not devoted principally to the publication of paid advertisements;
(s) Transport of passengers by international carriers;
(t) Sale, importation or lease of passenger or cargo vessels and aircraft, including engine, equipment and spare parts thereof for domestic or international transport operations;
(u) Importation of fuel, goods and supplies by persons engaged in international shipping or air transport operations;
(v) Services of bank, non-bank financial intermediaries performing quasi-banking functions, and other non-bank financial intermediaries;
(w) Sale or lease of goods or properties or the performance of services other than the transactions mentioned in the preceding paragraphs, the gross annual sales and/or receipts do not exceed the amount of PhP 1,500,000: Provided, That not later than January 31, 2009 and every three (3) years thereafter, the amount herein stated shall be adjusted to its present With footnote in the book value using the Consumer Price Index, as published by the National Statistics-Office (NSO)."

In addition to the exemptions from the VAT enumerated above, numerous other exemptions from the VAT are provided by a number of special laws. Moreover, firms with gross sales/ gross receipts below PhP 1.9 million per year (i.e., the VAT threshold) are not required to register for VAT. [12] If they elect to be exempted from the VAT, they are required to pay "other percentage tax" (OTP) equivalent to 3% of their annual gross sales/ gross receipts.

Zero-rated goods and services. The seller of a zero-rated VAT-able good does not pay government any VAT on its output and is also able to claim credit/refund/rebate for the VAT he paid on his VAT-able inputs. Firms that produce zero-rated goods and services can apply for a VAT refund on their inputs. In practice, however, the government issues tax credit certificates which firms can use within two years of the quarter in which they were issued but which they cannot apply to redeem their VAT refund in full until the 2012 when EO 68 gave VAT-registered taxpayers the option to redeem their outstanding tax credit certificates for their full cash value (World Bank 2016).

Under the NIRC, prior to the RA 10963, the following sales of goods and services are zero-rated:

(a) Export sales (i.e., sale and actual shipment from the Philippines to a foreign country and paid for in foreign currency;
(b) Sale of raw materials or packaging materials to a nonresident buyer for delivery to a resident local export-oriented enterprise to be used in manufacturing, processing, packing or repacking in the Philippines of the said buyer's goods and paid for in acceptable foreign currency;
(c) Sale of raw materials or packaging materials to export-oriented enterprise whose export sales exceed seventy percent (70%) of total annual production;
(d) Sale of gold to the Bangko Sentral ng Pilipinas (BSP); and
(e) Those considered export sales under Executive Order NO. 226, otherwise known as the "Omnibus Investment Code of 1987", and other special laws; and
(f) The sale of goods, supplies, equipment and fuel to persons engaged in international shipping or international air transport operations."
(g) Processing, manufacturing or repacking goods for other persons doing business outside the Philippines which goods are subsequently exported, where the services are paid for in acceptable foreign currency;
(h) Services other than those mentioned in the preceding paragraph, rendered to a person engaged in business conducted outside the Philippines or to a nonresident person not engaged in business who is outside the Philippines when the services are performed, the consideration for which is paid for in acceptable foreign currency;

[12] BIR Revenue Regulation No. 3-2012 raised the VAT threshold from PhP 1,500,000 to PhP 1,919,500.

(i) Services rendered to persons or entities whose exemption under special laws or international agreements to which the Philippines is a signatory effectively subjects the supply of such services to zero percent (0%) rate;
(j) Services rendered to persons engaged in international shipping or international air transport operations, including leases of property for use thereof;
(k) Services performed by subcontractors and/or contractors in processing, converting, of manufacturing goods for an enterprise whose export sales exceed seventy percent (70%) of total annual production.
(l) Transport of passengers and cargo by air or sea vessels from the Philippines to a foreign country; and
(m) Sale of power or fuel generated through renewable sources of energy such as, but not limited to, biomass, solar, wind, hydropower, geothermal, ocean energy, and other emerging energy sources using technologies such as fuel cells and hydrogen fuels."

3.2. Objectives of the VAT reform under TRAIN

The proposal to reform the value-added tax system is anchored on the need to eliminate numerous exemptions that have significantly narrowed the VAT base which has resulted in numerous breaks in the VAT chain, thereby making it more difficult to collect the VAT efficiently and resulted in a substantial tax gap (i.e., the difference between actual and potential tax revenues). The World Bank (2016) estimates that the average VAT gap from 2006 to 2013 represented almost 63% of potential VAT revenues. Of this, 28% percent was a result of legal exemptions and special treatment while 35% may be associated with noncompliance. The same study found that some exemptions under the current VAT system tend to create economic distortions. For instance, the VAT-exempt treatment of cooperatives and may have provided an incentive for corporations to restructure themselves as cooperatives in order to reduce tax liability even if such an action is not economically efficient. Further, the study argues that the exemption for cooperatives may be redundant as small cooperatives are already protected by the VAT threshold.

3.3. Features of the value added tax reform under RA 10963

Relative to the original TRAIN proposal sponsored by the Department of Finance (DOF), the success of RA 10963 in minimizing the number of exemptions from the VAT and expanding the VAT base is fairly limited. In fact, RA 10963 added two more exemptions from the VAT, namely: (i) association dues, membership fees, and other assessments and charges collected by homeowners associations and condominium corporations; and (ii) sale of drugs and medicines prescribed for diabetes, high cholesterol and high blood pressure. RA 10963 also raised the VAT threshold from PhP 1.9 million to PhP 3 million. In contrast, the TRAIN law imposed provisions that restricted the application of the VAT-exemption of certain goods, properties and services. For instance, the personal and household effects belonging to residents of the Philippines returning from abroad and nonresident citizens coming to resettle in the Philippines shall be treated as VAT-exempt only if such persons are able to provide evidence that they are coming to settle in the Philippines and that goods are coming from their former place of abode. In like manner, RA 10963 provides that the VAT-exemption of the sale of properties not primarily held for sale to customers or held for lease in the ordinary course of trade or business or real property utilized for low-cost and socialized housing shall be limited solely to socialized housing starting January 1, 2021 while the VAT-exemption of sale of residential units shall be restricted to those with monthly rental of PhP 15,000 instead of PhP 10,000 under the previous VAT regime. Likewise, the VAT exemption of the importation of fuel, goods and supplies by persons engaged in international shipping or air transport operations is now limited to such persons' international shipping or air transport operations.

Similarly, RA 10963 provides that the continued zero-rating of indirect exports (i.e., the sale of raw materials or packaging materials to a nonresident buyer for delivery to a resident local export-oriented enterprise to be used in manufacturing, processing, packing or repacking in the Philippines of the said buyer's goods and paid for in acceptable foreign currency; the sale of raw materials or packaging materials to export-oriented enterprise whose export sales exceed seventy percent (70%) of total annual production; and those considered export sales under Executive Order NO. 226, otherwise known as the "Omnibus Investment Code of 1987", and other special laws) will be withdrawn upon the satisfactory satisfaction of the following conditions: (i) the satisfactory establishment and implementation of an enhanced VAT refund system that grants refunds of creditable input VAT within 90 days of the filing of the VAT refund application, and (ii) all pending VAT refund claims as of December 31, 2017 shall fully be paid in cash by December 31, 2019. In addition, the VAT treatment of sale of gold to the BSP was changed from zero-rated to VAT-exempt.

However, the proposed lifting of some of the prevailing exemptions from the VAT of the sales/ gross receipts of various types of cooperatives (i.e., agricultural cooperatives, credit and multi-purpose cooperatives non-agricultural, non-credit and non-electric cooperatives) as well as the proposal to change the VAT treatment of the sale of power or fuel generated from renewable energy sources from zero-rated to VAT exempt under the original DOF TRAIN proposal failed to pass muster in Congress. The implications of the proposals to change the VAT treatment of sales of cooperatives, indirect exporters, and renewable energy producers are discussed in some detail in (Manasan 2017).

3.4. Implications of the VAT provisions under RA 10963

Impact on government revenues from the VAT

VAT revenues are projected to increase by PhP 15.5 billion (or 0.1% of GDP) as a result of the proposed expansion of the VAT base under RA 10963, just about half of the projected revenue impact of VAT amendments under HB 4744. This estimate is derived by applying the net VAT rate (expressed as a percentage of the value of sectoral output as derived from the input-output table) that is implied by the VAT provisions under RA 10963 to GDP-based estimates of sectoral output/s.

Distribution of the tax burden across different income groups

The VAT under RA 10963 is found to be slightly more regressive than the existing VAT system when measured using the Reynolds-Smolensky (RS) index (**Table 7**). However, the share of the households in the total increase in the VAT burden as a result of the enactment of RA 10963 rises as household per capita income goes up. Also, the change in the effective VAT rates as result of RA 10963 increases with household income.

Table 7. Change in VAT liability due to RA 10963 expressed as a percentage of household income and in absolute peso terms, by income decile

Income decile	VAT liability as % of household income			Change in VAT liability (in million pesos)	Change in VAT liability (Percent distribution)
	Old VAT regime	RA 10963	Change in effective VAT rate		
First	9.1	9.3	0.222	536	3.5
Second	8.5	8.8	0.334	698	4.5
Third	8.3	8.5	0.335	801	5.2
Fourth	8.2	8.4	0.355	969	6.3
Ffith	8.3	8.5	0.369	1,132	7.3
Sixth	8.3	8.5	0.370	1,376	8.9
Seventh	8.1	8.4	0.400	1,615	10.4
Eighth	8.1	8.3	0.407	1,960	12.7
Ninth	7.9	8.2	0.412	2,500	16.2
Tenth	6.9	7.1	0.362	3,875	25.1
Total	**7.9**	**8.1**	**0.376**	**15,461**	**100.0**
RS index [b/]	**-0.00301**	**-0.00304**			
Change in RS index		**-0.00003**			

4. Excise Tax on Petroleum Products[13]

4.1. Excise tax on petroleum products before and after TRAIN

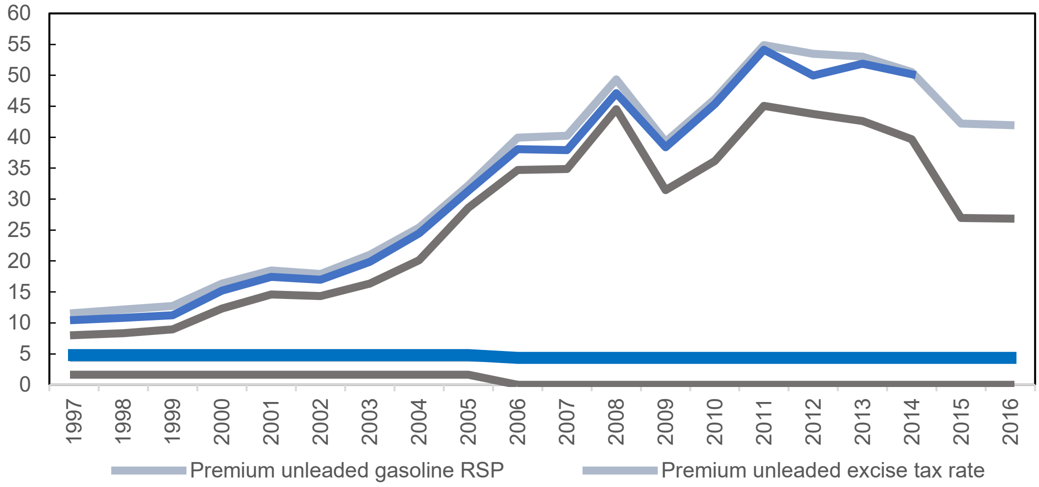
Since 1997, excise tax rates on petroleum products have either been fixed in nominal peso terms (e.g., gasoline, avturbo/ jet fuel) or reduced to zero in the interim (e.g., diesel, kerosene and bunker fuel oil in 2005).[14] As such, the revenue take from the source has contracted over time due to the erosion of the peso denominated tax rates by inflation even as retail prices of petroleum prices have risen at a faster than inflation (**Figure 1**). Also, country's excise tax rates on petroleum products are significantly lower than international standards (**Figure 2**). In particular, the excise tax on premium unleaded gasoline in most OECD countries amount to 25% - 40% of the pump price, compared with 9% in the Philippines (World Bank 2016). Given this perspective, the phased increase the petroleum excise tax rates starting in 2018 under RA 10963 is well justified (**Table 8**).[15]

4.2. Implications of the petroleum excise tax provisions of RA 10963

Economic implications

The increase in the excise tax rates on petroleum products under RA 10963 are also likely to have positive economic efficiency implications: (i) reducing road congestion and pollution from public and private transportation; and (ii) reducing the use of 'dirtier' fuel as the tax on diesel increases from zero.[16]

Figure 1. Average retail sales price of and excise tax rates on selected petroleum products, 1997-2016 (in PhP per L)



Source of basic data: Department of Energy
Note: Updated and adapted from "Philippine Economic Update," by The World Bank, Philippine Economic Update 2016, 35. 2016 by "World Bank Office Manila".

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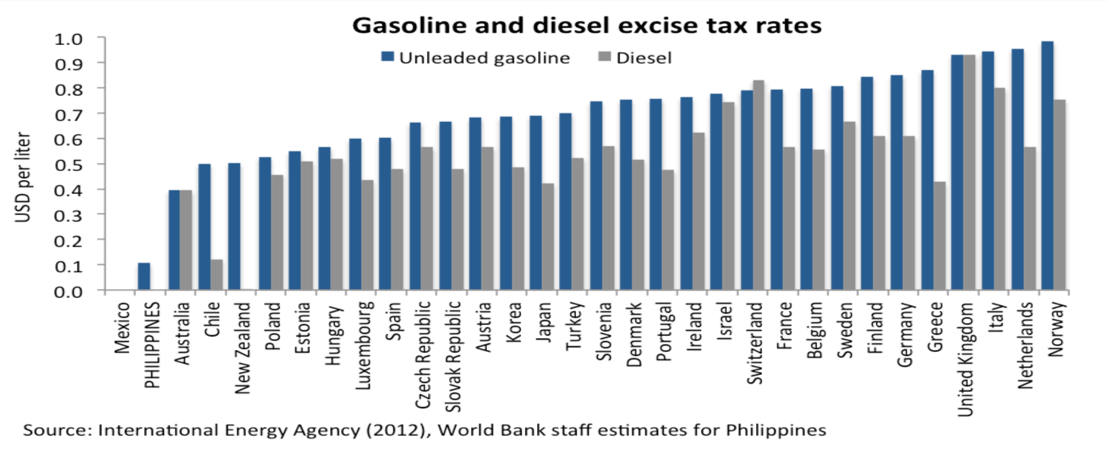
[13] This subsection is drawn from Manasan (2017).
[14] Liquefied petroleum gas (LPG) has been exempt from the excise tax since 1997.
[15] Originally, under HB 4774, the proposal is to implement the first phase of the increase in July 2017.
[16] In other countries, the excise tax rates for diesel are close to that of premium unleaded gasoline (World Bank 2016). The exemption of diesel from the excise tax effectively contributed to the reversal of the diesel consumption trend from -1.4% to 3.4% between 2006 and 2013, likely working against the government's efforts to encourage the use of cleaner energy resources (ibid 2016).

Figure 2. Petroleum excise tax rates for gasoline and diesel in selected countries (2012)



Note. Adapted from "Philippine Economic Update," by The World Bank, Philippine Economic Update 2016, 37. 2016 by "World Bank Office Manila".

However, the increase in the excise tax on petroleum products will naturally result in an increase in the overall price level because petroleum products are inputs in the production and distribution of most goods and services. The Consumer Price Index (CPI) is estimated to increase by 0.5% in 2018 (and an additional increase of 0.4% in 2019 and .02% in 2020) from its end of December 2017 level because of the increase in the excise tax on petroleum products under RA 10963. It is perhaps unfortunate that when RA 10963 came into effect the peso depreciated faster relative to the dollar while the world price of oil likewise started to rise at an accelerated pace after declining from July 2013 to March 2016 and remaining fairly stable between April and August 2017. The confluence of these two events contributed to the surge in the inflation rate in 2018. It should be emphasized that the increase in the CPI due to the change in the excise tax is a one-off event in each of the three years immediately after the enactment of RA 10963 in 2017.[17] Thus, the contribution of the increase in the excise tax on petroleum to inflation varies depending on the period being studied. For instance, while 44% of the average increase in petroleum product prices between the end of December 2017 and the end of March 2018 is estimated to be due to the increase in the excise tax on these products which came into effect in January 1, 2018 while the rest is due the combined effects of the peso depreciation and higher world oil prices in January-March 2018. In contrast, the share of the change in the excise tax to the average increase in petroleum product prices between the end of December 2017 and the end of May 2018 is down to 21%.

Table 8. Petroleum excise tax rates before and after RA 10963

Type of Petroleum	Tax prior to RA 10963 (peso per liter)	Tax after RA 10963 (peso per liter)			Tax-inclusive price per liter (2015)	Tax-inclusive price per liter (2017)	Increase in the price due to the change in the excise tax relative to end-2017		
		2018	2019	2020			2018	2019	2020
Diesel	0.00	2.50	4.50	6.00	26.98	36.35	7.70	13.87	18.49
Fuel oil	0.00	2.50	4.50	6.00	31.57	36.35	7.93	14.28	19.04
Unleaded gasoline	4.35	7.00	9.00	10.00	42.21	36.35	6.20	10.88	13.22
LPG	0.00	1.00	2.00	3.00	30.38	36.35	3.20	6.41	9.61
Kerosene	0.00	3.00	4.00	5.00	32.24	36.35	7.72	10.30	12.87
Aviation turbo, jet fue	3.67	4.00	4.00	4.00	41.40	36.35	0.81	0.81	0.81
Others [a/]	2.48	7.71	9.00	10.00	38.00	36.35	13.89	17.31	19.96
Average							**7.08**	**12.21**	**15.90**

a/ refers to lubricating oils and greases, waxes, denatured alcohol, naptha, and asphalts

Source: Department of Energy

Impact on government revenues from the petroleum excise tax

[17] The methodology used to estimate the impact on inflation of the increase in petroleum excise tax is described in **Annex 1**.

Assuming that the demand for petroleum products remains at the 2015 level, the increase in petroleum excise tax rates under RA 10963 is projected to generate incremental revenues of PhP 51.0 billion in 2018, PhP 87.5 billion in 2019, and PhP 113.2 billion from 2020 onwards.

Distribution of tax burden across income groups

Contrary to conventional wisdom, the incidence of the excise tax on petroleum products is marginally progressive as indicated by the very low but positive Reynolds-Smolensky index (second to the last row of **Table 9**). The tax incidence analysis undertaken for this study also suggests that the increase in the excise tax rates on petroleum products under RA 10963 will make the tax even more progressive, albeit only slightly, compared to the situation prior to the passage of TRAIN. Nonetheless, it is notable that the change in the tax burden borne by the poorest decile as a result of the increase in the excise tax on petroleum products when expressed as a percentage of household income is even higher than those of the second, third and fourth income deciles.

5. Excise Tax on Automobiles

5.1. Features of the excise tax on automobiles before and after RA 10963

The excise tax on automobiles is levied on the basis of the manufacturer's/ importer's selling price net of applicable excise and value added tax. Prior to the passage of RA 10963, the excise tax schedule for automobiles had four brackets with marginal tax rates ranging from 2% to 60%. In contrast, automobiles are taxed at an ad valorem rate of 4%, 10%, 20% and 50% depending on the manufacturer's/ importer's net selling price **(Table 10)**.

Table 9. Excise tax burden (petroleum products) as % of household income

Income decile	Old tax regime	RA 10963 - 2018	Change[a/] in excise tax - 2018	RA 10963 - 2019	Change[a/] in excise tax - 2019	RA 10963 - 2020	Change[a/] in excise tax - 2019
First	0.33	0.99	0.659	1.47	1.131	1.80	1.463
Second	0.32	0.96	0.635	1.41	1.090	1.73	1.410
Third	0.33	0.97	0.642	1.43	1.102	1.75	1.425
Fourth	0.33	0.98	0.649	1.44	1.114	1.77	1.441
Ffith	0.35	1.04	0.690	1.53	1.184	1.88	1.531
Sixth	0.36	1.07	0.708	1.58	1.216	1.93	1.573
Seventh	0.36	1.07	0.713	1.59	1.224	1.94	1.583
Eighth	0.37	1.09	0.724	1.61	1.243	1.98	1.608
Ninth	0.37	1.10	0.729	1.62	1.251	1.99	1.619
Tenth	0.36	1.08	0.714	1.59	1.226	1.95	1.586
Total	0.36	**1.06**	**0.702**	**1.56**	**1.205**	1.91	**1.558**
RS index [b/]	**0.00007**	**0.00021**		**0.00031**		**0.00038**	
Change in RS index		**0.00014**		**0.00024**		**0.00031**	

a/ change measured relative to old tax regime
b/ RS index refers to Reynolds-Smolensky index

Table 10. Excise tax rates on automobiles, before and after RA 10963

Prior to RA 10963		Under RA 10963	
Manufacturer's or importers net selling price	Tax	Manufacturer's or importers net selling price	Tax
up to PhP 600,000	2%	up to PhP 600,000	4%
over PhP 600, 000 to PhP 1.1 million	PhpP 12,000 + 20% of excess over PhP 600,000	over PhP 600, 000 to PhP 1 million	10%
over PhP 1.1 million to PhP 2.1 million	PhP 112,000 + 40% of excess over PhP 1.1 million	over PhP 1 million to PhP 4 million	20%
Over PhP 2.1 million	PhP 512,000 +60% of excess over PhP 2.1 million	Over PhP 4 million	50%

5.2. Implications of the increase in the excise tax on automobiles under RA 10963

On the CARS Program

RA 10963 effectively doubles the excise tax due on automobiles whose net selling price does not exceed PhP 600,000. On the other hand, the percentage increase in the excise tax due declines from a high of 400% to a low of almost 0% as the net selling price of automobiles goes up from PhP 600,001 to PhP 1,639,999 and from 21% to a low of almost 0% as the net selling price of automobiles goes up from PhP 4,000,001 to PhP 7,480,000. In contrast, the excise tax due actually declines if the net selling price of automobiles falls between PhP 1,640,001 and PhP 4,000,000.

Thus, RA 10963 is likely to have a negative impact on government's Comprehensive Automotive Resurgence Strategy (CARS) program which was established in 2015. The program aims to provide a time-bound, and performance-based fiscal support to attract strategic investments in the manufacturing of motor vehicles and parts. To date, two auto manufacturers have signed up to participate in the program: Mitsubishi for the manufacture of the Mirage and Toyota for the manufacture of the Vios.

While some may be skeptical of the prospects of the CARS program, the doubling of the excise tax that on the very models that will be produced under the program (i.e., those in first two brackets of the tax rate schedule) is indicative of policy reversal that foreign investors are wary about. But beyond bad signaling, the higher taxes under the TRAIN will surely dampen demand for automobiles and work against the objectives of the CARS program. This represents a classic case of government taking away with its left hand what it has given with its right hand.

Impact on government revenues from the excise tax on automobiles

The Department of Finance (DOF) estimates the revenue impact of the change in the excise tax on automobiles under RA 10963 at PhP 12.9 billion a year. Due to lack of access to data on automobile sales by price bracket, this study is unable to arrive at an independent estimate of revenue impact of the propose increase in the excise tax on automobiles.

Distribution of tax burden across income groups

Table 11 shows that the poorest 60% of households accounted for less than 3% of total household spending on the purchase of cars in 2015 while the share of the households belonging to the remaining income deciles rises as their per capita income level increases. With the percentage change in the excise tax on automobiles under RA 10963 declining as the net selling price of automobiles rises from PhP 600,001 to PhP 4 million, RA 10963 will likely make the excise tax on automobiles less progressive than before.

Table 11. Percent distribution of total household spending on the purchase of cars, 2015 FIES

Income Decile	%
First (Poorest)	0.14
Second	0.38
Third	0.30
Fourth	0.18
Fifth	1.12
Sixth	0.53
Seventh	1.55
Eigth	1.81
Ninth	15.05
Tenth	78.93
Total	**100.00**

6. Excise Tax on Sweetened Beverages[18]

6.1. The excise tax on sweetened beverages (SBs) under RA 10963

The imposition of the excise tax on sugar sweetened beverages was not originally part of the Package 1 of the TRAIN, and thus, not included in HB 4774 and SB 1408. It was introduced during the House deliberations on the TRAIN.

RA 10963 imposes an excise tax equal to PhP 12 per liter of volume capacity on SBs using purely high fructose corn syrup or in combination with any caloric or non-caloric sweeteners and a tax equal to PhP 6 per liter of volume capacity on SBs using purely caloric, and purely non-caloric sweeteners, or a mix of caloric and non-caloric sweeteners. On the other hand, RA 10963 exempts SBs that use purely coconut sap sugar or purely steviol glycosides from the excise tax on SBs.

[18] This subsection draws from Manasan (2017).

6.2. Justification for the introduction of an excise tax on SBs[19]

Proponents of a tax on SBs, not only in the Philippines but also in other parts of the globe, argue that its imposition will help reduce the consumption of SBs and, thus, reduce the risk of obesity and associated diseases like diabetes, cardiovascular diseases and some types of cancer.[20]

The science behind it

A good number of studies provide empirical evidence linking higher intake of SBs, on the one hand, and weight gain, diabetes, metabolic syndrome, and lower intakes of healthier diet options, on the other.[21]

- A meta-analysis of 32 original articles (20 in children and 12 in adults) on SB-weight gain relationship found (i) reductions in body mass index (BMI) gain when SBs are reduced in randomized control trials (RCTs) in children, (ii) showed increases in body weight when SBs were added in RCTs in adults, and (iii) more pronounced benefits in preventing weight gain in SB substitution trials in RCTs in children (Malik VS, Pan A, Willett WC, and Hu FB 2013).

- A random-effects meta-analysis of cohort studies comparing SB intake in the highest to lowest quantiles in relation to the risk of metabolic syndrome and type 2 diabetes found that (i) individuals in the highest quantile of SSB intake (most often 1-2 servings/day) had a 26% greater risk of developing type 2 diabetes than those in the lowest quantile of SB intake (none or than 1 serving per month), and (ii) individuals in the highest quantile of SB intake had a 20% greater risk of developing metabolic syndrome than those in the lowest quantile of SB intake (Malik VS, Popkin BM, Bray GA, Després JP, Willett WC, and Hu FB 2010).

- A meta-analysis of 88 studies on the association between SB intake and nutrition and health outcomes found clear associations between SB intake and (i) increased energy intake and body weight, (ii) lower intakes of milk, calcium, and other nutrients and with an increased risk of several medical problems like diabetes (Vartanian LR, Schwartz MB, and Brownell KD 2007). Moreover, this study documents larger effect sizes in studies with stronger methods (longitudinal and experimental vs cross-sectional studies).

Importance of obesity, diabetes and cardiovascular disease in the Philippines

- In 2013, 8.3% of children aged 10-19 and 31.1% of all adults are either overweight or obese based on the WHO BMI classification (FNRI 2015). Prevalence of overweight/ obesity among adults increased persistently from 16.6% in 1993 to 31.1% in 2013.

- In 2013, about 66% of the female adult population exhibits a high waist to hip ratio (WHR) which is indicative of android obesity or adiposity, a major risk factor in the development of non-communicable diseases. Moreover, the percentage of female adults with high WHR increased from 39.5% in 1998 to 63.2% in 2013. In contrast, the prevalence of high WHR among males adults went up from 6.9% in 2011 to 8.0% in 2013 (FNRI 2013).

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[19] This subsection is drawn from Manasan (2017).
[20] A number of countries have imposed a SSB tax – Norway in 2017, Mexico in 2014, France in 2012, and Finland and Hungary in 2011. A soda tax will take effect in Ireland and the United Kingdom in 2018. A soda tax has also been in place in a number of US cities including Berkeley, San Francisco, Oakland, Albany in California, Boulder in Colorado, Seattle in Washington, Cook County in Illinois and Philadelphia.
[21] Metabolic syndrome is a cluster of conditions - increased blood pressure, high blood sugar, excess body fat around the waist, and abnormal cholesterol or triglyceride levels - that occur together, increasing your risk of heart disease, stroke and diabetes (http://www.mayoclinic.org/diseases-conditions/metabolic-syndrome/home/ovc-20197517 accessed Aug 24, 2017).

- Diseases of the heart and diseases of the vascular system ranked first and second and diabetes sixth among the 10 leading causes of mortality in the Philippines in 2013. On the other hand, hypertension ranked third among the 10 leading causes of morbidity in 2013 (DOH 2013).

Negative externality of consumption of SBs to justify the imposition of an excise tax on SBs

For a tax on SBs to be justifiable on economic grounds, it is not enough to establish the link between the intake of SBs, on the one hand, and weight gain, diabetes, metabolic syndrome and cardiovascular disease, on the other hand. It is essential as well that the consumption of SBs to create negative externality/ ies. That is, the consumption of SBs should not only result in health problems for the consumers themselves but should also cause the wider public to bear the burden of the economic costs of the same.

Some analysts have argued that such negative externality is absent in the Philippines primarily because a large part of health care cost is borne by households themselves in the form of out-of-pocket expense. While this is true, it should be pointed out that the burden of non-communicable diseases associated with weight gain and the intake of SBs is also borne by taxpayers in general to the extent that the majority of the less well-off population rely on the public health system which is largely financed by general taxation. At the same, the national government has been paying for the health insurance premiums of indigents and senior citizens since 2013. This move has allowed the Philhealth to broaden its coverage from 82% in 2011 to 91% in 2016 with 55% of all Philhealth beneficiaries accounted for indigents and senior citizens. The national government has set aside PhP 37 billion for the health insurance premium of indigents and PhP 13 billion for senior citizens in 2017.[22] Furthermore, excessive consumption of SBs and the associated higher prevalence of the various non-communicable diseases (NCDs) also results in loss in economy-wide productivity in terms of absenteeism and overall ill-health of the workforce.

Effectiveness of the tax on SBs in reducing consumption of SBs

Evidence from the Mexico experience suggests that (i) the consumption of SBs is responsive to the tax on SBs (i.e., the 10% tax on resulted in a 10% reduction in consumption); and (ii) the elasticity of demand for SBs is greatest among the poor. Arguably, the latter finding would tend to mute the regressive impact of the SB tax to the extent that "if the poor consume much less soda when its price increases, the poor pay less in tax revenue and will suffer fewer health care costs" (Pratt 2016). However, international experience also indicates that the SB tax will be more effective if the tax is imposed on the sugar content of SBs rather than volume of liquid.

6.3. Implications of the imposition of the excise tax on SBs under RA 10963

On government revenues

The DOF estimates revenue gain from the introduction of this tax to be equal to PhP 49 billion in 2018, PhP 51 billion in 2019 and PhP 55 billion in 2020. This study is unable to arrive at an independent estimate of the revenue impact of the excise tax on SBs.

Distribution of tax burden from the imposition of the excise tax on SBs

The excise tax on SBs is mildly regressive with the tax liability due from each income decile declining as per capita household income increases. At the same time, the share of households belonging to different income deciles goes up as per capita household income increases (**Table 12**).

[22] Admittedly, however, the poor's utilization of social health insurance remains limited to date due to various implementation issues.

Table 12. Tax burden from excise tax on SBs as % of household income and distribution of tax burden across income deciles

Income decile	Tax burden as % of household income			% distn of tax burden - all years
	2018	2019	2020	
First	0.83	0.88	0.93	4.11
Second	0.84	0.90	0.95	5.72
Third	0.86	0.92	0.97	6.78
Fourth	0.84	0.90	0.95	7.87
Ffith	0.84	0.90	0.95	9.01
Sixth	0.82	0.87	0.92	10.42
Seventh	0.77	0.82	0.87	11.43
Eighth	0.74	0.79	0.83	13.17
Ninth	0.63	0.67	0.71	14.08
Tenth	0.42	0.45	0.47	17.39
Total	**0.67**	**0.72**	**0.76**	**100.00**
RS index	**-0.00079**	**-0.00085**	**-0.00121**	

7. Excise Tax on Cigarettes

7.1. Features of the excise tax on cigarettes before and after RA 10963

Prior to the enactment of RA 10963, cigarettes were taxed at a unified rate of PhP 30 per pack regardless of whether of price and whether they were packed by hand or machine. RA 10963 provided that the excise tax on cigarettes be equal to PhP 32.50 per pack effective January 1, 2018 until June 30, 2018, PhP 35 per pack effective July 1, 2018 until December 31, 2019, PhP 37.50 per pack effective January 1, 2020 until December 31, 2021 and PhP 40 per pack effective January 1, 2022 until December 31, 2023. Just like the RA 10351, otherwise known as the Sin Tax Reform Act of 2012, the TRAIN law included a provision that the excise tax rate on cigarettes be increased by 4% every year thereafter effective January 1, 2024.

The increase in the excise tax on cigarettes was not part of the original Package 1 of the DOF's Tax Reform but was added much later on during the bicameral deliberations on the TRAIN bill.

7.2. Implications of the increase in the excise tax on cigarettes under RA 10963

In general, the excise tax on sin products like cigarettes is imposed with the objective of (i) raising revenues and (ii) discouraging their consumption on the assumption that higher excise taxes on these products will "induce some smokers to quit, reduce consumption of continuing smokers, and prevent others from starting" (Sunley 2009). Demand for cigarette has appears to have been responsive to the higher excise tax rates imposed under of the Sin Tax Reform law in 2012. Thus, cigarette consumption has gone down from 4.6 billion packs in 2013 to 3.5 billion packs in 2017.

On government revenues

If consumption of cigarettes is maintained at their 2017 levels, government revenues from the excise tax on cigarettes is expected to increase by PhP 13.3 billion in 2018, PhP 17.7 billion in 2019, PhP 26.5 billion in 2020 and 2021, and PhP 35.3 billion in 2022 and 2023, all reckoned relative to the 2017 collection level.

Distribution of tax burden from the increase in the excise tax on cigarettes

The excise tax on cigarettes is regressive with the tax liability due from each income decile declining as per capita household income increases. Moreover, the increase in the excise tax on cigarettes has made the tax more regressive in 2018-2020 as indicated by the negative change in RS index during these years (**Table 13**).

Table 13. Tax burden from excise tax on cigarettes as % of household income and distribution of tax burden across income deciles

Income decile	Old tax regime	RA 10963 - 2018	Change[a/] in excise tax - 2018	RA 10963 - 2019	Change[a/] in excise tax - 2019	RA 10963 - 2020	Change[a/] in excise tax - 2019
First	3.70	4.09	0.389	4.22	0.519	4.48	0.779
Second	3.27	3.61	0.344	3.73	0.459	3.96	0.688
Third	3.12	3.45	0.328	3.56	0.438	3.78	0.657
Fourth	2.81	3.10	0.295	3.20	0.394	3.40	0.591
Ffith	2.64	2.92	0.278	3.01	0.370	3.19	0.556
Sixth	2.37	2.62	0.249	2.70	0.332	2.87	0.499
Seventh	2.10	2.32	0.221	2.39	0.294	2.54	0.441
Eighth	1.61	1.78	0.169	1.83	0.226	1.94	0.338
Ninth	1.18	1.31	0.125	1.35	0.166	1.43	0.249
Tenth	0.53	0.59	0.056	0.61	0.075	0.65	0.113
Total	**1.73**	**1.92**	**0.183**	**1.98**	**0.243**	**2.10**	**0.365**
RS index [b/]	**-0.00530**	**-0.00587**		**-0.00606**		**-0.00644**	
Change in RS index		**-0.00057**		**-0.00076**		**-0.00114**	

a/ change measured relative to old tax regime

b/ RS index refers to Reynolds-Smolensky index

8. Excise Tax on Coal and Coke and Non-Metallic and Metallic Minerals

8.1. Features of the excise tax on coal and coke and non-metallic and metallic minerals before and after RA 10963

RA 10963 raised the excise tax on coal and coke from PhP 10 per metric ton to PhP 50 per metric ton effective January 1, 2018, PhP 100 per metric ton effective January 1, 2019 and PhP 150 per metric ton effective January 1, 2020. On the other hand, it doubled the excise tax rates applicable on: (i) non-metallic minerals from 2% to 4% of the actual market value of the gross output, (ii) chrome, gold and other metallic minerals from 2% to 4% of the actual market value of the gross output, and (iii) indigenous petroleum from 3% to 6% of the fair international market price thereof.

8.2. Implications of the increase in the excise tax on coal and coke and non-metallic and metallic minerals under RA 10963

The higher excise tax on coal and coke is intended to discourage the use of the dirtier source of energy while the higher tax on metallic and non-metallic minerals is aimed at capturing some of the resource rents from the extraction of these minerals.

On government revenues

The DOF projects the incremental revenues from the tax on coal and coke to be equal to PhP 696 million in 2018, PhP 1.5 billion in 2019 and PhP 2.4 billion in 2020. On the other hand, the incremental revenues from the higher excise tax on mineral products is likewise estimated to be equal to PhP 2.1 billion in 2018 and 2019 and PhP 2.2 billion in 2020.

Distribution of the tax burden due to excise tax on coal and coke across income groups

While the proportional rate of increase in the excise tax on coal and coke appear to be high, the excise tax on coal and coke remains low when reckoned relative to household income. In particular, the total tax take from the excise tax on coal and coke barely reaches 0.01% of total household income in 2018, 0.02% of total household income in 2019 and 0.03% of total household income in 2020 (**Table 14**).

The excise tax on coal and coke is marginally progressive with the tax liability due from each income decile declining as per capita household income increases. Moreover, the increase in the excise tax on cigarettes increases the progressivity of the tax in 2018-2020 as indicated by the positive change in RS index during these years (**Table 14**).

9. Summary and Conclusions[23]

The overarching objective of RA 10963 is laudable. It seeks to improve the fairness, efficiency, and simplicity of the tax system while at the same time protecting the national government's aggregate revenue take. The package is a mix of revenue increasing and revenue losing measures. As such, the risk of Congress enacting solely the revenue losing measures is minimized. The inclusion of compensatory measures (i.e., targeted subsidies) for adversely affected sectors is also worth noting.

Table 14. Tax burden from excise tax on coal and coke as % of household income and distribution of tax burden across income deciles

Income decile	Old tax regime	RA 10963 - 2018	Change[a/] in excise tax - 2018	RA 10963 - 2019	Change[a/] in excise tax - 2019	RA 10963 - 2020	Change[a/] in excise tax - 2019
First	0.0014	0.0068	0.0055	0.0136	0.0123	0.0205	0.0191
Second	0.0015	0.0073	0.0058	0.0146	0.0131	0.0219	0.0204
Third	0.0016	0.0078	0.0062	0.0156	0.0141	0.0234	0.0219
Fourth	0.0016	0.0081	0.0064	0.0161	0.0145	0.0242	0.0226
Ffith	0.0017	0.0087	0.0070	0.0175	0.0157	0.0262	0.0245
Sixth	0.0019	0.0095	0.0076	0.0190	0.0171	0.0285	0.0266
Seventh	0.0018	0.0091	0.0073	0.0183	0.0165	0.0274	0.0256
Eighth	0.0019	0.0097	0.0077	0.0193	0.0174	0.0290	0.0271
Ninth	0.0021	0.0103	0.0083	0.0206	0.0186	0.0310	0.0289
Tenth	0.0022	0.0109	0.0088	0.0219	0.0197	0.0328	0.0306
Total	**0.0019**	**0.0096**	**0.0077**	**0.0192**	**0.0173**	**0.0288**	**0.0268**
RS index [b/]	**0.0000013**	**0.0000065**		**0.0000129**		**0.0000194**	
Change in RS index		**0.0000052**		**0.0000116**		**0.0000181**	

a/ change measured relative to old tax regime
b/ RS index refers to Reynolds-Smolensky index

Overall, this study estimates the reforms under RA 10963 to result in a reduction in total tax revenues of the national government of PhP 66 billion (or 0.4% of GDP) in 2018 and PhP 33 billion (or 0.2% of GDP) in 2019. However, RA 10963 is projected to generate additional revenues of PhP 6 billion (or 0.03% of GDP) in 2020 onwards **(Table 15)**. These estimates of the incremental revenues are very much lower than the official estimates which place the revenue gains from the TRAIN law at PhP 63 billion in 2018, PhP 104 billion in 2019 and PhP 140 billion in 2020.

[23] This is an updated version of a similar subsection in Manasan (2017).

Table 15. Revenue impact of RA 10563 (in million pesos)

	2018	2019	2020
PIT on wage income*	(200,459)	(200,459)	(200,459)
PIT on income of SEPs**	(9,618)	(22,626)	(22,626)
PIT	(210,077)	(223,085)	(223,085)
VAT	15,461	15,461	15,461
Excise tax on petroleum prod	50,980	87,482	113,169
Excise tax on cigarettes	13,256	17,675	26,513
Excise tax on automobiles[a/]	12,875	13,651	14,474
Excise tax on SBs[a/]	48,643	51,973	54,947
Excise tax on coal and coke[a/]	696	1,495	2,411
Excise tax on mineral products[a]	2,070	2,130	2,200
Total	**-66,097**	**-33,218**	**6,090**
% to GDP	-0.38	-0.19	0.03

Actual tax collection of the BIR and the BOC in January – October 2018 indicates that these two agencies may fall short of their collection targets for the entire year of 2018 by a combined total of PhP 88 billion. In particular, actual revenue from the personal income tax is likely to below its 2018 target by PhP 43 billion which suggests that the revenue loss from PIT reform may actually be closer to PhP 190 billion, larger than the DOF's PhP 146 billion estimate by PhP 43 billion and higher than this paper's PhP 210 billion estimate by PhP PhP 20.5 billion.

At the same time, actual tax collection of the BIR and the BOC in January – October 2018 indicates that excise and VAT revenues may fall short of their collection targets for the entire year of 2018 by a combined total of PhP 36 billion. These developments provide a more conservative view on the ability of the TRAIN to fund the present administration's ambitious "build, build, build" program.

On the other hand, the overall distributional impact of the TRAIN is regressive when one abstracts from the proposed targeted subsidies under the program. To wit, the change in the tax burden as a percentage of household income as a result of RA 10963 is highest for the poorest decile (i.e., an increase of 3.5% of household income) and declines as income rises (e.g., a decrease of 2.8% of household income for the richest decile), indicating the overall regressive character of the reform prior to the introduction of the proposed targeted subsidies **(Table 16)**. The aggregate tax burden of households belonging to deciles 1-8 is projected to increase as result of the combined effect of the reduction in the personal income tax, the expansion of the coverage of the VAT and the increase in the excise tax on petroleum products, cigarettes, sweetened beverages, and coal under RA 10963 while that of households belonging to deciles 9 and 10 is projected to decrease **(Table 16)**.

These findings highlight the need for compensatory transfers to protect those who are most negatively affected by the TRAIN, especially the poorest two or the poorest four deciles, through targeted subsidies for 3-4 years. The size of the targeted subsidies that will be required to help the poorer deciles cope with adverse impact of the TRAIN is estimated to range from about PhP 300 per month for the poorest decile to about PhP 400 per month for households belonging to deciles 2-4.

RA 10963 provides that part of the incremental revenues from the TRAIN law shall finance "a social welfare and benefits program where qualified beneficiaries shall be provided with a social benefits card to avail of the following social benefits:

(i) Unconditional cash transfer[24] to households in the first to seventh income deciles fo the National Household Targeting System for Poverty Reduction (NHTS-PR), Pantawid Pamilyang Pilipino

[24] The value of the cash transfer shall be PhP 200 per month for the first year and PhP 300 per month for the second and third year.

Program, and the social pension program for a period of 3 years from the date of effectivity of the Act;

(ii) Fuel vouchers to qualified franchise holders of public utility jeepneys (PUJs);

(iii) For minimum wage earners, the unemployed and the poorest 50% of the population:
- Fare discounts from all public utility vehicles ….,
- Discounted purchase of NFA rice …., and
- Free skill training from TESDA …..”

The first year of the implementation of RA 10963 has been controversial when it failed it live up to its promise to reduce the tax bite on the poorest/ poorer households despite the aforementioned social welfare and benefits program. First, while the impact of the TRAIN on prices as a result of higher indirect taxes was felt almost immediately at the start of 2018, the implementation of the unconditional cash transfer program for the 4Ps beneficiaries was only started in March 2018 while that of the fuel voucher program started much later. Second, fare discounts for minimum wage earners, the unemployed and the poorest 50% of the population has not been implemented to date because of the absence of implementing mechanisms. Third, the increase in the price of basic goods as a result of RA 10963 was confounded by three extraneous events – the depreciation of the peso, the rise in the world price of oil and the shortage of NFA rice in the market.

Beyond compensatory transfers to the poor, it is also crucial to ensure that government spending financed from the incremental revenues from tax reform engenders growth that benefit the poor in the medium term given sunset clause on said transfers. In this regard, the inclusive growth literature (e.g., WB 2016; CAFOD 2014) suggests that the list of high-impact poverty-/ inequality-reducing public spending includes those related to: (i) early childhood development interventions, (ii) universal access to quality education, (iii) universal health coverage, (iv) conditional cash transfers to poor families,[25] and (v) basic rural infrastructure, particularly in roads, transport and electrification. Related to the item (v) above, the World Bank (2006) points out that “there is solid evidence that infrastructure investments broaden opportunities for people and communities by integrating them into regional and national systems of production and commerce, and by improving their access to public services”. However, poverty reduction and inequality are not always a consideration in deciding the location of infrastructure investments and some affirmative action may be needed in this regard, e.g., by combining conventional criteria like vehicular traffic and population density with the size of the poor population in the catchment area of the specific road that will be constructed so as to allow relevant road infrastructure serving poverty areas to be upgraded to a level that will allow connection to a main road network (Hettige 2006).

Finally, it is equally important to guard against the dissipation of the revenue gains from tax reform in favor of specific programs that will cater to specific collectives at the expense of more strategic public investment programs/ projects.

[25] A rigorous impact evaluation (which applied the randomized control trial (RCT) method) of the conditional cash transfer (CCT) program, otherwise known as the Pantawid Pamilyang Pilipino Program or 4Ps, found that the program has a strong impact on (i) school enrollment of young children as evidenced by higher rates of enrollment of children aged 3-11 years in Pantawid areas relative to non-Pantawid areas (by 10 percentage points for children 3-5 years old and by 4 percentage points for children 6-11 years old), (ii) on nutritional status of children 6-36 months old as indicated by the lower prevalence of stunting in Pantawid areas relative to non-Pantawid areas (by 10 percentage points), and (iii) household spending on health and education.

Table 16. Change in the tax burden due to RA 10963 as a percentage of household income across income deciles, 2018

Income decile	PIT (in million pesos)	as % of HH income	Other taxes (in million pesos)	as % of HH income	All taxes (in million pesos)	as % of HH income
First	614.98	0.3	7,737	3.2	8,352	3.5
Second	526.53	0.2	10,061	3.0	10,587	3.2
Third	85.01	0.0	11,631	3.0	11,716	3.0
Fourth	-1,328.76	-0.3	13,494	3.0	12,165	2.7
Ffith	-3,333.99	-0.6	15,803	3.0	12,469	2.4
Sixth	-7,141.44	-1.2	18,604	3.0	11,462	1.8
Seventh	-13,117.19	-1.8	21,160	2.9	8,043	1.1
Eighth	-22,726.10	-2.6	24,523	2.8	1,797	0.2
Ninth	-40,922.97	-3.7	29,396	2.7	-11,527	-1.1
Tenth	-102,219.45	-5.1	46,656	2.3	-55,564	-2.8
Total	-189,563.37	-2.6	199,063	2.7	9,500	0.1

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ANNEX 1. Methodology for estimating the price effect of the proposed increase in petroleum excise tax rates under RA 10963[26]

The methodology has two major steps. First, price-cost analysis was used to estimate the price effect of the increase in petroleum excise tax. The 2006 Input-Output (I-O) table was utilized for the analysis. The second step involved computing total household expenditures on items relevant to petroleum products. Source of the data for total expenditures was the 2012 Family Income and Expenditure Survey (FIES). Selected variables from the FIES were later on mapped to the IO sectors. Finally, to arrive at the tax take, the sectoral price effect was multiplied to the corresponding FIES expenditure data of the mapped items. A more detailed explanation of the two steps are provided in the next sections.

Price cost analysis. The methodology for the price cost analysis was adapted from Mijares and Samson (1980). Main data set used for this analysis is the 2006 Input-Output table. The method assumes that output prices of a particular sector would adjust to offset the increase in input prices. This is shown in the following equation:

(1) $$p = (I - A')^{-1}(wl + v')$$

Where p represents price, wl represent wages and labor, v are the value added items, and (I-A) corresponds to the identity matrix less the technology matrix. The inverse of the transposed (I-A) would account for both direct and indirect output needed to satisfy final demand.

In terms of percentage change in prices with no assumed increase in wages, Equation 1 is equivalent to the following matrix notation form:

(2) $$\begin{bmatrix} \Delta p_1 \\ \Delta p_2 \\ \vdots \\ \Delta p_3 \end{bmatrix} = \begin{bmatrix} r_{11} & r_{21} & \cdots & \cdots \\ r_{12} & r_{22} & \cdots & \cdots \\ \vdots & \vdots & & \vdots \\ r_{1n} & r_{2n} & \cdots & \cdots \end{bmatrix} \begin{bmatrix} \Delta v_1 \\ \Delta v_2 \\ \vdots \\ \Delta v_n \end{bmatrix}$$

Where Δp refers to the change in price, Δv is the change in value added, and r_{ij} represents the coefficients of the inverse of the (I-A) matrix. Since we are only concerned with the impact of the price increase in petroleum, we could already set $\Delta v=0$ for other sectors. For the petroleum sector (code 107 in the I-O table), Δv is computed as:

(3) $$\Delta v_{107} = \frac{\Delta p_{107}}{r_{107,107}}$$

Using the computed value of Δv_{107} , the impact of the change in the price of petroleum by sector could now be simply estimated through the following equation:

(4) $$\Delta p_i = r_{i,107}\Delta v_{107} \qquad i = 1, 2, ..., 240.$$

Where Δp_i refers to the change in price of sector i, and $r_{i,107}$ represents the coefficient of sector i in column 107 (manufacture of petroleum) of the inverse of the transposed (I-A).

[26] This is drawn from Manasan (2017).

Note that the price effect was computed for each year indicated in the schedule. The weighted average of the change in excise tax rates by petroleum type was used to estimate Δp_{107} in Equation 3; changes were relative to existing tax rates and prices of petroleum products in 2015. Meanwhile, the weights were derived from 2015 petroleum consumption data from the Department of Energy (DOE). The same method was employed to compute for the baseline price effect; however, it was assumed here that initial excise tax on petroleum is zero for all products.

Mapping of the FIES to the Input-Output tables of 2006. The value of household consumption of goods relevant to petroleum products was generated from the 2015 Family Income and Expenditure Survey dataset. The data was further broken down into income deciles to determine whether the new taxes are progressive or regressive.

The selected variables from the FIES were then mapped with the IO sectors. The IO sectors that have no equivalent match in FIES variables were dropped. After the matching process, the computed price effects were multiplied with the structure of household consumption derived from the FIES.