

Technical Paper

First Year Apportionment

May 2019

Statistics & Economic Research Branch

Technical Paper

First Year Apportionment

The author is Jackie Mahon, Statistics & Economic Research Branch of the Office of the Revenue Commissioners (jmahon@revenue.ie). Any opinions expressed in this paper are the views of the author and do not necessarily reflect the views of the Office of the Revenue Commissioners.

Executive Summary

When preparing Income Tax estimates, Revenue generally provide two separate sets of estimates in respect of the yield or cost of any changes to the tax system. The 'First-Year' cost/yield is the estimated impact to the Exchequer of a proposed change in the first year after its introduction, the 'Full-Year' figure is the estimated impact to the Exchequer for each subsequent year.

Currently, Revenue ascribe the following split between the first-year cost/yield and the full-year cost/yield, where the first-year figures are represented as a percentage of the full-year cost/yield. Different apportionments are used for PAYE and self-assessed (Schedule D) Income Tax.

Current	PAYE	Schedule D
First-Year	89%	56%

As part of a review of the quality of statistical outputs, Revenue has undertaken a review of the first-year apportionments (which were last reviewed in June 2016). Based on an analysis of data across 4 years of payments received, Revenue will adjust the apportionments used to the following.

New	PAYE	Schedule D
First-Year	90%	54%

These adjusted first-year ratios will become operative with effect from June 2019 as the 2020 figures, based on Revenue's 2017 Tax Modeller base, commence being referenced in Budget 2020 estimates.

1 Introduction

When providing estimates of the cost or yield to the Exchequer of changes to the Income Tax system, Revenue generates full-year costs based on the projected liability for a reference year. This encompasses the cost/yield of any budget measure/proposal arising for a full twelve months irrespective of when the payments associated with the tax year will be made. Full-year costs/yields therefore specify the total annual impact of any tax change.

However, there is a time lag for the full impact of any Budget measure to be realised and the full-year cost/yield will not be incurred/received in the initial calendar year after introduction. Revenue is therefore required to provide a separate estimate of the proportion of the cost/yield that is expected to be realised in the initial year after the introduction of a measure, referred to as the first-year cost/yield.

If, for example, all the PAYE tax for the Income Tax year 2018 was collected within the 2018 calendar year, then the "First-Year" cost/yield would be the same as the "Full-Year" cost/yield (i.e., 100%). However, some of the tax due in respect of 2018 income will not be received by Revenue until 2019 (or later), such as tax due for December 2018 paid in January 2019 or balances of 2018 tax accompanying end year P35s due from employers in February 2019. Currently it is assumed that 89% of PAYE due for a tax year is paid in the associated calendar year. This is the percentage represented by the "first-year" cost/yield.

For Schedule D (self-assessed Income) taxpayers, many will not pay their full tax liability on their 2018 profits until 2019, due to the nature and timing of self-assessed tax returns and the basis on which preliminary tax is paid. There are several options with regards payment of preliminary tax, including the option of paying 100% of their 2017 tax liability as their preliminary tax for the tax year 2018. The balance of tax liability for 2018 will not fall due until October/November 2019, when the taxpayer files their Form 11 tax return for 2018 and will also be paying their preliminary tax for the current year (2019 in this example). Therefore, in any given year, payments received under Schedule D relate to liabilities for both the preceding year(s) (balances) and liabilities for the current year (preliminary basis). It is currently assumed that 56% the proportion of new costs/yields impact in the first year.

2 Review and Approach

The generation of the full-year costings across all aspect of Income Tax has evolved over the years using continually improving data resources and technology. In an exercise undertaken in 2016 several approaches to establishing the appropriate first-year ratios were assessed.

Initially the feasibility of breaking down the gross receipts for each tax-head along the lines of accounting period was assessed, however this matching could not be undertaken without significant investment of resources. In exploring alternative approaches, it was decided the best approach would be to analyse the distribution of payments from ITP (Revenue's tax payment processing system) within a given year across accounting periods. This approach enables Revenue to identify the proportion of payments received in a given year that were made in respect of that accounting year. Repeating this method, for the purpose of updating this analysis, is deemed the most suitable approach, and allows for consistency and comparability across each review.

It should be noted that payments for a taxhead for a year are not the same as the projected liability for that taxhead for that year. Nonetheless it was decided to use this model in the absence of the availability of a more appropriate metric and on the reasonable and evidence based assumption of a strong relationship between a taxhead liability for a year and the level of payment received in that year, for that year.

3 Schedule D

The following is a breakdown of the 2015 to 2018 ITP Schedule D payments retrieved through Revenue's CIF system.

Year Payments - Refunds made	Schedule D Payments & Refunds	Schedule D Payments & Refunds made in respect of same year	%
2015	€2,235,796,230.03	€1,387,149,565.57	62.04%
2016	€3,028,955,295.94	€1,611,390,782.27	53.20%
2017	€2,687,094,943.75	€1,709,155,256.60	63.61%
2018	€2,747,383,856.58	€1,783,912,001.33	64.93%
Average			60.94%

The above are net figures insofar as they are calculated on ITP payments and refunds for the years in question. The following are the gross figures for the same period.

Receipt Year	Schedule D Payments Only	Schedule D Payments only made in respect of same year	%
2015	€2,665,489,308.44	€1,440,114,542.15	54.03%
2016	€3,368,641,070.86	€1,623,679,845.26	48.20%
2017	€3,101,107,846.50	€1,713,688,413.05	55.26%
2018	€3,154,298,509.47	€1,787,164,561.76	56.66%
Average			53.54%

This analysis suggests that the current first-year Schedule D ratio should be adjusted from its current level of 56% to 54%. As the first-year figure relates to the apportionment of the cost/yield associated with changes to the tax regime in the initial year of introduction, in the year after the estimate is provided, the relevant figure is the gross figure, since repayments would not be a significant feature in-year in the initial year of the change. This can be seen by comparing the gross and net figures from the tables above, for example, the difference in the gross and net payments in 2018 amounts to €406.9m, but the difference in gross and net payments in 2018 which are made in respect of 2018 is only €3.3m. This is in-line with the approach taken in 2016. It should be noted that in the preceding 14 years prior to the 2016 review, the first-year ratio used for Schedule D was 30%. Further breakdowns of the analysis of the Schedule D figures are available in the Annex to this document.

4 PAYE

The following is a breakdown of the 2018 ITP PAYE payments.

Period	Amount	% of 2018 PAYE ITP Payments
All ITP PAYE payments – 2018	€14,571,173,177.31	
Prepayments	€5,966.00	0.00%
For 2018	€13,075,883,929.99	89.74%
For 2017	€1,468,705,906.77	10.08%
For 2016	€12,770,704.03	0.09%
For 2015	€5,145,570.13	0.04%
For 2014 and earlier	€8,661,100.39	0.06%

Based on these figures it is proposed to adjust the first-year PAYE ratio from 89% to 90%. Also found in the 2016 Revenue, the PAYE shares are relatively stable year to year. It should be noted that in the preceding 14 years prior to the 2016 review, the first-year ratio used for PAYE was 78%.

5 Recommendations

Based on the above analysis, the following approach to first-year apportionment is will be adopted by Revenue:

- Adjust the First-Year Schedule D ratio from 56% to 54%.
- Adjust the First-Year PAYE ratio from 89% to 90%.

The new adjusted first-year ratios to be operative with effect from June 2019 as the 2020 figures, based on Revenue's 2017 Tax Modeller base, commence being referenced in Budget 2020 estimates.

This periodic analysis of first-year apportionment ratios is undertaken as part of Revenue's ongoing work to test the assumptions and parameters used in modelling work. It will be reviewed again in the future, this will be particularly important with PAYE Modernisation having come into effect from 1 January 2019 (the 2018 analysis herein is the final year under the old system).

6 Annex

Year Payments - Refunds made	Schedule D Payments & Refunds	Schedule D Payments & Refunds made in respect of same year	%	Pre Payments	%	Year -1	%	Year -2	%	Year -3	%
2015	€2,235,796,230.03	€1,387,149,565.57	62.04%	-€6,698,244.34	-0.30%	€675,273,170.40	30.20%	€94,037,472.14	4.21%	€28,530,714.22	1.28%
2016	€3,028,955,295.94	€1,611,390,782.27	53.20%	€510,880.42	0.02%	€1,222,487,470.80	40.36%	€115,125,972.30	3.80%	€27,865,417.37	0.92%
2017	€2,687,094,943.75	€1,709,155,256.60	63.61%	€347,004.36	0.01%	€785,043,450.58	29.22%	€118,505,984.64	4.41%	€21,541,815.58	0.80%
2018	€2,747,383,856.58	€1,783,912,001.33	64.93%	€1,786,396.70	0.07%	€817,622,236.76	29.76%	€83,228,978.25	3.03%	€17,929,676.43	0.65%
Average			60.94%		-0.05%		32.38%		3.86%		0.91%
2015 Profile	Total Schedule D Payments & Refunds in 2015	Paid in 2015 in respect of 2015		Paid in 2016 in respect of 2015		Paid in 2017 in respect of 2015		Paid in 2018 in respect of 2015			
2015	€2,235,796,230.03	€1,387,149,565.57	62.04%	€1,222,487,470.80	54.68%	€118,505,984.64	5.30%	€17,929,676.43	0.80%		
Cululative		€1,387,149,565.57	62.04%	€2,609,637,036.37	116.72%	€2,728,143,021.01	122.02%	€2,746,072,697.44	122.82%		
Receipt Year	Schedule D Payments only	Schedule D Payments only made in respect of same year	%	Pre Payments	%	Year -1	%	Year -2	%	Year -3	%
2015	€2,665,489,308.44	€1,440,114,542.15	54.03%	€255,748.66	0.01%	€947,562,320.63	35.55%	€161,110,274.57	6.04%	€43,074,517.22	1.62%
2016	€3,368,641,070.86	€1,623,679,845.26	48.20%	€510,880.42	0.02%	€1,469,901,120.54	43.63%	€169,053,454.57	5.02%	€40,731,556.52	1.21%
2017	€3,101,107,846.50	€1,713,688,413.05	55.26%	€350,791.96	0.01%	€1,078,231,370.38	34.77%	€192,239,663.13	6.20%	€39,398,755.54	1.27%
2018	€3,154,298,509.47	€1,787,164,561.76	56.66%	€1,786,396.70	0.06%	€1,115,425,286.53	35.36%	€154,451,790.49	4.90%	€36,674,844.17	1.16%
Average			53.54%		0.02%		37.33%		5.54%		1.31%
2015 Profile	Total Schedule D Payments in 2015	Paid in 2015 in respect of 2015		Paid in 2016 in respect of 2015		Paid in 2017 in respect of 2015		Paid in 2018 in respect of 2015			
2015	€2,665,489,308.44	€1,440,114,542.15	54.03%	€1,469,901,120.54	55.15%	€192,239,663.13	7.21%	€36,674,844.17	1.38%		
Cululative		€1,440,114,542.15	54.03%	€2,910,015,662.69	109.17%	€3,102,255,325.82	116.39%	€3,138,930,169.99	117.76%		