



REPUBLIC OF SLOVENIA

TECHNICAL ASSISTANCE REPORT—REVENUE ADMINISTRATION GAP ANALYSIS PROGRAM — CORPORATE INCOME TAX GAP

March 2023

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Republic of Slovenia

Revenue Administration Gap Analysis Program Corporate Income Tax Gap

Eric Hutton

Technical Assistance Report | February 2023



I N T E R N A T I O N A L M O N E T A R Y F U N D

Republic of Slovenia

Revenue Administration Gap Analysis Program — Corporate Income Tax Gap

Eric Hutton



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ABBREVIATIONS AND ACRONYMS

BEPS	Base Erosion and Profit Shifting
CIT	Corporate Income Tax
EU	European Union
FAD	Fiscal Affairs Department
GDP	Gross Domestic Product
GOS	Gross Operating Surplus
IMF	International Monetary Fund
RA-GAP	Revenue Administration Gap Analysis Program

GLOSSARY

Terminology and model specific acronyms used in the CIT gap analysis

Actual CIT	The net amount of CIT payments made by taxpayers, net of any refunds due to taxpayers, measured on an accrual basis
Assessed CIT	The amount of CIT self-assessed by taxpayers as being due, plus any additional amounts deemed by the tax authority to be due from taxpayers
CIT assessment gap	Difference between assessed CIT and potential CIT
CIT base gap	Difference between potential C-TB and declared C-TB, presenting how much taxpayers underreport their tax base, before considering deduction for carried-over losses and tax credits/additions
CIT collection gap	Difference between actual CIT and assessed CIT
CIT compliance gap	Difference between potential CIT liabilities and actual CIT liabilities
CIT-efficiency ratio	Ratio of actually declared CIT liability to gross operating surplus multiplied by the statutory rate. It indicates the overall efficiency of the CIT system.
CIT productivity	Ratio of actually declared CIT liability to GDP multiplied by the CIT statutory rate.
C-NTB	Current-year net tax base, showing taxable income before considering deductions for carried-over losses, netting out current year losses calculated for tax purpose
C-TB	Current-year tax base, showing taxable income before considering deductions for carried-over losses
FAP	Financial accounting profit/loss
S11	Non-financial corporation sector
S12	Financial corporation sector
S13	General government sector
S14	Households sector
S15	Non-profit institutions serving households
TB	tax base, showing taxable income after deducting carried-over losses

PREFACE

In response to a request from the Slovenian Ministry of Finance (MOF), a capacity development (CD) mission from the IMF's Fiscal Affairs Department (FAD) began work with the authorities in January 2022 and visited Ljubljana in October 2022. The mission's main purpose was to assist in the construction of a tax gap estimate for the Corporate Income Tax (CIT). The October 2022 mission was led by Mr. Eric Hutton of FAD.

During the course of this engagement, Mr. Hutton had productive meetings, virtual and in person, with a number of officials of the Republic of Slovenia Financial Administration (SFA), in particular Peter Grum, Danuška Bobek Gospodarič, Peter Jenko, Darija Šinkovec, Tomaž Perše, Tomaž Lešnik, Marjan Macek, Dušan Šafarič, Jurij Meze, and Dominik Kuzma. The mission also had useful discussions with officials from the Slovenia National Accounts office.

Mr. Hutton expresses his sincere appreciation for the excellent cooperation and kind hospitality that he received from MOF officials throughout his visit. Mr. Hutton also thanks the Slovenian National Accounts office for providing data necessary for implementing the analysis in this report. Finally, Mr. Hutton thanks the support provided under the EC's DG REFORM, and the coordination and cooperation provided by Ms. Elka Ilyova.

The report consists of an Executive Summary and the following three sections: (I) Background; (II) The Estimates; and (III) Observations and Next Steps.

EXECUTIVE SUMMARY

This report presents the estimates of tax gaps for corporate income tax (CIT) for non-financial corporations in Slovenia by applying the methodology of the IMF's RA-GAP (Revenue Administration – Gap Analysis Program). This work is being undertaken under the context of the larger project designed to strengthen the administration of corporate income tax (CIT) by the Slovenian Financial Administration (SFA). Providing support towards building the capacity of the SFA to estimate and analyze the CIT gap will assist in achieving the overall goals of the project to: (i) strengthen core tax administration functions, and (ii) strengthen revenue administration, management, and governance arrangements.

The RA-GAP methodology for CIT gap is based on a top-down approach, which estimates the potential tax base and liability from macroeconomic data. The estimation considers first the theoretical differences between the coverage of statistical macroeconomic data vis a vis the actual tax base of CIT, and then compares the estimated results for the potential CIT base and liability with actual declarations and revenues. It has the advantage of using available data, without the need of gathering additional information/data, to evaluate CIT noncompliance. Quality of macroeconomic data and tax records are crucial for the quality of the estimates.

To estimate the CIT gap, the RA-GAP CIT gap methodology was applied to available macroeconomic data for non-financial corporations from 2011 to 2020. The potential CIT base and liability were estimated from gross operating surplus (GOS) of non-financial corporations, with necessary adjustments for conceptual differences between GOS and tax base/liability of CIT. The potential CIT liabilities are then and compared with the actual CIT (accrued net CIT remitted) to determine the compliance gap. The potential CIT base is measured using two different approaches, an *absolute method*, and a *relative method*. The absolute method assumes that most non-compliance is related to under-declaration of income, so that all deductible expenses have been declared accurately. The relative method assumes that most non-compliance is from non-reporting, and so that both incomes and expenses may not be declared accurately. These two methods should then serve as “book ends” for the true level of non-compliance, as actual non-compliance is likely a blend of these two types of non-compliant activity (under-declaration and non-reporting), as such a final estimate for the compliance gap is produced by averaging the estimates from these two methods.

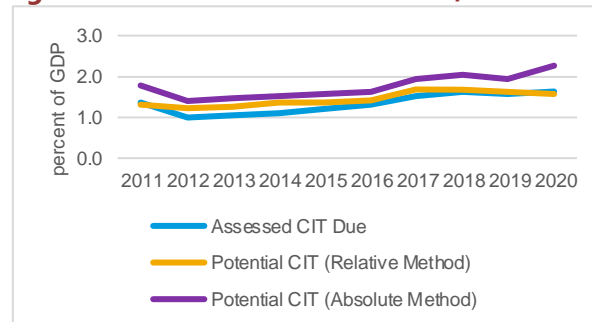
Main findings

Assessed CIT for non-financial corporations dropped from 2011 to 2012 then rose until 2020; potential CIT roughly followed the same pattern (Figure 1). Assessed CIT liabilities, the amount of CIT self-assessed due by taxpayers plus additional assessment by the tax authorities for a given year, as measured as a percentage of GDP, dropped from just a little below one and a half percent of GDP in 2011 to one percent in 2012, and has since risen to a little more than one and a half percent.

The two methods for estimating the potential CIT show similar trends for 2011 to 2016, with a drop from 2011 to 2012, and then a steady increase, from 2016 to 2020 the absolute method then indicates a lot more potential growth, but also with a lot more volatility. In comparing assessed CIT to potential CIT here, instead of actual CIT, because there were difficulties in compiling an accurate measure of accrued net CIT. If there are not significant amounts of arrears, then assessed CIT is a good proxy for actual CIT, however, this means that we can only estimate the *assessment gap* and not the full *compliance gap*. The compliance gap is composed of both an assessment gap and a collection gap, where the collection gap is the difference between assessed and actual CIT, while the assessment gap is the difference between assessed and potential CIT.

The estimates for the assessment gap for non-financial corporations indicate there may have been an increase in 2012, and then a decline back to the 2011 levels (Figure 2). While both methods do indicate that the gap has declined from 2012 to 2019, the results for 2020 indicate a broad divergence. Given the unprecedented change in economic activity in 2020, this broad divergence could reflect greater uncertainty, and a higher margin of error, in the national accounts estimates as much as they might represent a change in compliance behavior by taxpayers. COVID-19 related government policies, which included allowing for deferral of CIT payments, could also be affecting these results.¹ Looking forward, it is likely that the estimates of the trend in taxpayer compliance will be somewhat volatile until 2023 and caution will need to be exercised in interpreting any results.

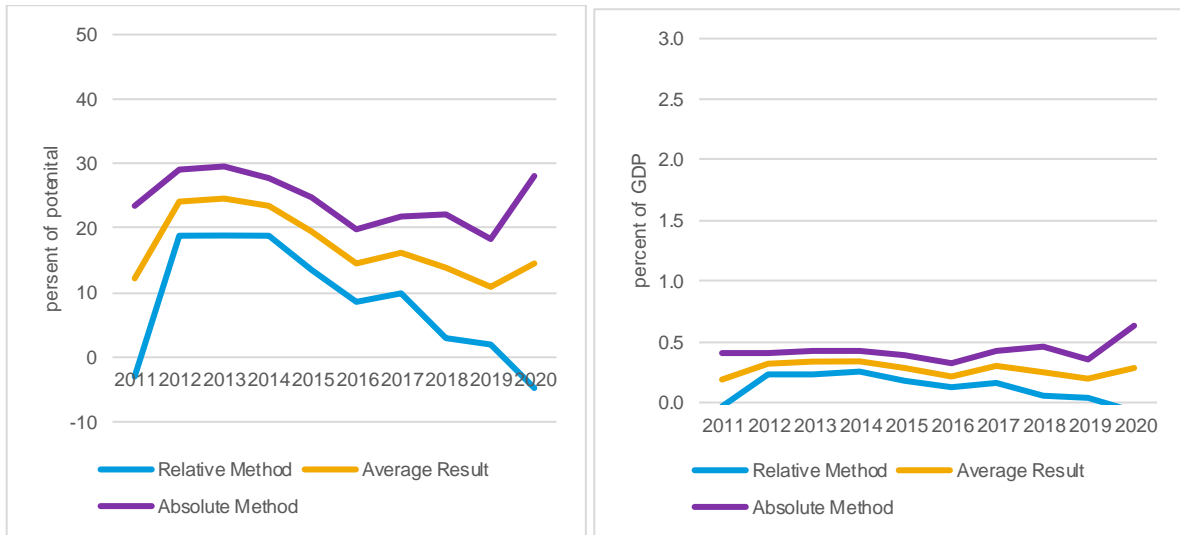
Figure 1. Assessed vs Potential CIT, 2011–2020



Source: Staff calculations based on data from MOF and Slovenia National Accounts

¹ The full list of COVID-19 related measures taken can be found in Annex I of the [2021 IMF Article IV Staff Report](#).

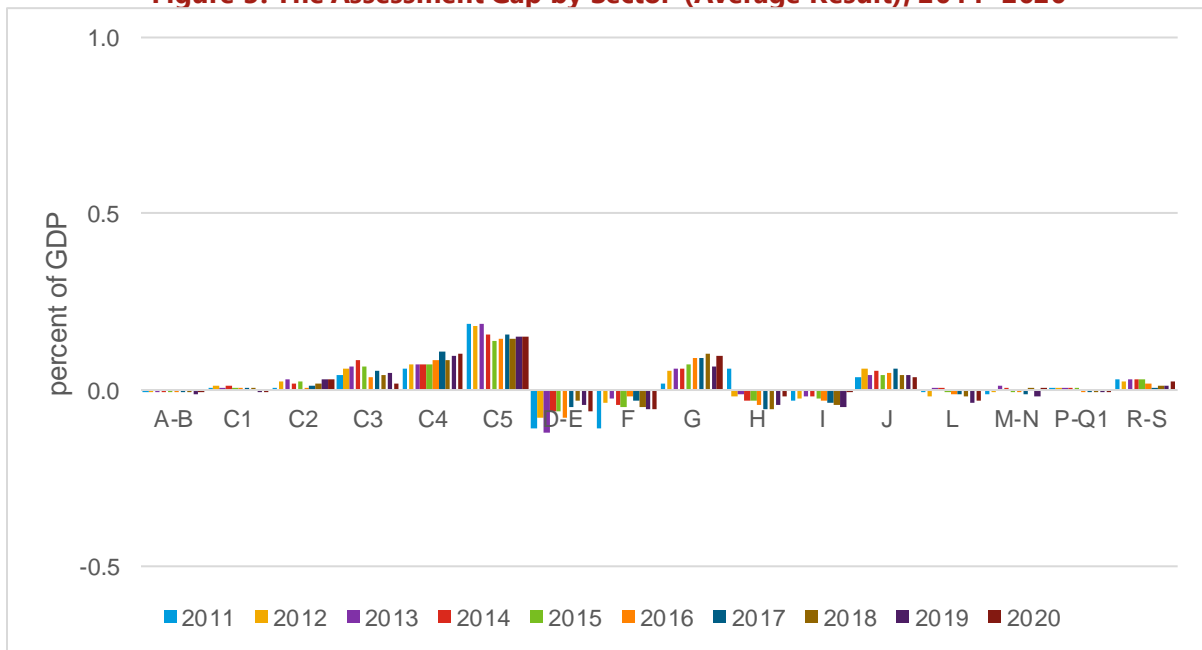
Figure 2. The Assessment Gap, 2011–2020



Source: Staff calculations based on data from MOF and Slovenia National Accounts

Under either method the bulk of the assessment gap appears to be in the manufacturing sector (Figure 3). It should be noted that the margin of error for the results from this model are probably around 0.4 to 0.5 percent of GDP, and so the gap for any of the sectors as shown in Figure 3 are not significant. That said, there is a general indication that the bulk of the gap is in the manufacturing sector, and in particular in the automotive vehicle and vehicle parts sector.

Figure 3. The Assessment Gap by Sector (Average Result), 2011–2020



Code	Description	Code	Description
A-B	01-09. Agriculture, Forestry, Mining	G	45-47. Trade
C1	10-15. Food-Textiles Manufacturing	H	49-53. Transportation

C2	16-18,23-25. Basic Materials Manufacturing	I	55-56. Hospitality
C3	19-22. Chemical, Rubber, Petroleum Manufacturing	J	58-63. Information, Communication
C4	26-29. Machinery & Equipment Manufacturing	L	68. Real Estate
C5	30-33. Vehicles, Vehicle Parts, Other Manufacturing	M-N	69-82. Professional and Support Services
D-E	35-39. Utilities	P-Q1	85-87. Health and Education
F	41-43. Construction	R-S	90-96. Other Services

Source: Staff calculations based on data from MOF and Slovenia National Accounts

Comments on the Findings

Some significant assumptions were needed to enable the RA-GAP estimation of potential CIT base and liability; therefore, CIT gap estimates should be interpreted with caution. The definition for “non-financial corporations” used in national accounts includes some unincorporated enterprises, so there is not a perfect match to the corporate income tax base. Some assumptions had to be made as to the impact of these differences, which may be affecting both the level and trend in the resulting gap estimates. There is also an issue with the tax declaration data; the methodology requires being able to fully distinguish between operating revenues and costs and other revenues and costs from the declaration data, but the current tax declaration has some lines which might be blending operating and capital costs.

Work Needed to Enhance CIT Gap Estimation

The top-down estimation of the CIT gap provides an initial evaluation of the level and change in taxpayers’ compliance; however, further work in some areas is needed to improve the application of the methodology and reliability of results.

- **More detailed statistical data.** The gross operating surplus data used in the estimation needs to be obtained at a more detailed sector of activity level will help a better sectoral estimate of potential and actual bases. In addition, more information on the proportion of GOS from non-corporate income tax filers will help improve the estimate of potential base.
- **Better classification of businesses sector of activity.** Feedback on the classification by Statistics Sweden of businesses activity code and institutional sector codes is needed. The relative method gap estimates in particular are being biased upwards due to differences in the classification of activity codes used.
- **Better accounting of accrued tax arrears should be made.** Some simple assumptions regarding allocations could be made for this purpose.

In addition to the above work, a bottom-up approach to estimate CIT gap is recommended to complement the top-down RA-GAP approach; work is underway by Fund staff to produce such an estimate, the results of which will be provided in a follow-up report. A bottom-up approach, which estimates gaps by using results of random/operational audits, will provide valuable information, and will complement the top-down estimates. It is recommended to use both the top-down and the bottom-up results, combined with internal knowledge and

information about taxpayers' compliance, to strengthening compliance risk management in the tax administration. Work is underway by Fund staff to analyze operational data provided in order to produce a bottom-up estimate.

I. BACKGROUND

1. The IMF's RA-GAP (Revenue Administration Gap Analysis Program) provides a comprehensive quantitative analysis of the tax gap between potential revenues and actual collections. The program is conducted by the Revenue Administration Divisions of the Fiscal Affairs Department and aims to provide an evaluation of tax gap for a specific tax. This report is part of a pilot program to extend this framework to cover Corporate Income Tax (CIT).

2. The main purpose of this report is to provide the estimates of the compliance gap for CIT by applying the methodology of the RA-GAP. The RA-GAP methodology for CIT gap follows a top-down approach by estimating the potential tax base and liability from macroeconomic data. The estimation considers first the theoretical differences between the coverage of statistical macroeconomic data vis a vis the actual tax base of CIT, and then compares the estimated results for the potential CIT base and liability with actual declarations and revenues. It has the advantage of using available data, without the need of gathering additional information/data, to evaluate the overall CIT noncompliance in a country. The basis for the model and methodology used in assessing the CIT gap are detailed in Appendix II. ²

3. There are several caveats for the top-down estimation of the CIT gaps. In this report, the potential CIT liability is not associated with the concept of 'tax capacity' showing the maximum level of revenue achieved by changing tax policies, including raising statutory rate. The estimated gaps do not consider behavioral changes by taxpayers under different policies and administrative measures, assuming a static model, and therefore indicate the efficiency of tax administration and policy, rather than show potential additional revenues. It is also important to note that the potential CIT base is estimated from national accounts data and does not consider the CIT base in a country before the effects of cross-border base erosion and profit shifting (BEPS) activities of multinational enterprises unless national accounts data incorporate the adjustments for these effects.

A. Main Features of CIT in Slovenia

4. The analysis covers the period 2011-2020 and there were some significant rate changes for the CIT over this period. The rate changed from 20 percent in 2011 to 19 percent in 2012, then dropped to 17 percent in 2013, before being increased back to 19 percent in 2017. There have been no significant changes in the coverage of the tax base over the period. The main feature of the CIT policy on corporate profit is outlined below:

- **Rate:** Since 2017 a flat rate of 19 percent is applied to taxable income. Prior to that, from 2013 to 2016, the rate was 17 percent. For 2012 the rate was 18 percent, and it was 20 percent in 2011 (Figure 4).

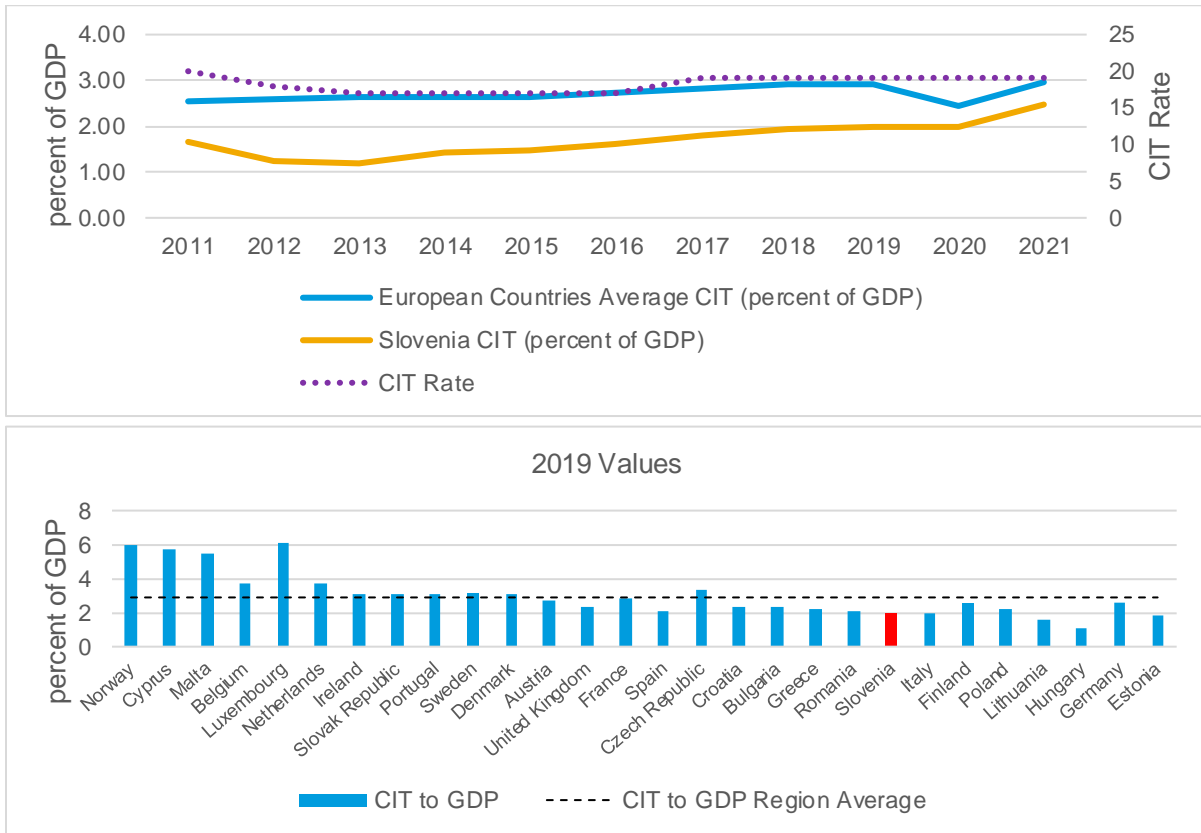
² For a more complete discussion of the RA-GAP approach to estimating the tax gap for corporate income tax see [Jeda, 2018](#).

- **Coverage:** Legal entities carrying out business in Slovenia are liable to corporate income tax. Local (resident) legal entities are taxed on their worldwide income, whereas foreign legal entities are taxed on Slovenia-source income only.
- **Tax base:** Taxable income is determined by transforming financial accounting results (profit/loss) with adjustments for permanent and temporary differences for tax purposes. Taxable capital gains are added to the other business income.
- **Exemptions:** No exemptions apply. All legal entities are liable to CIT.
- **Losses:** Tax losses may be carried forward to be offset against future taxable profits. The carryback of losses is not allowed. Restrictions apply for change in ownership.
- **Threshold:** There is no quantitative threshold for registration.
- **Tax period:** The tax period for determining the corporate income tax is depending on when the company financial year ends. For most companies this aligns with the calendar year.
- **Advance payments:** Taxable legal persons make monthly advance payments for corporate tax which are determined by a preliminary tax assessment. The preliminary prognosis of tax revenue for the current year is based on the latest final tax assessment or on the preliminary return filed by the company.

B. Revenue Performance of CIT

5. **Reported CIT collection on net basis relative to GDP has been lower than the average for European countries for the past decade, but it has been getting closer (Figure 4).** The level has been around 2 percent of GDP for most years, although it was a little lower for the period 2012 to 2016. The increase in the CIT rate had an effect on revenue performance, with the revenue level increasing since 2017.

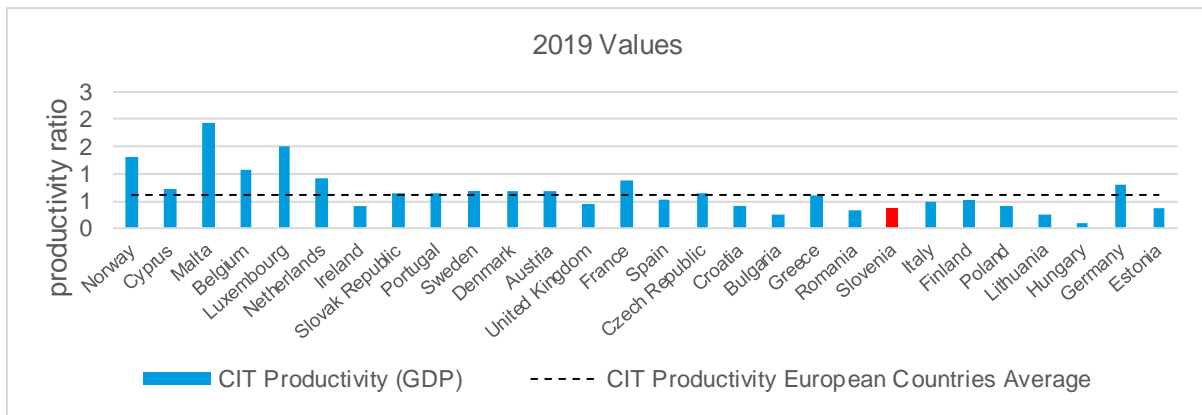
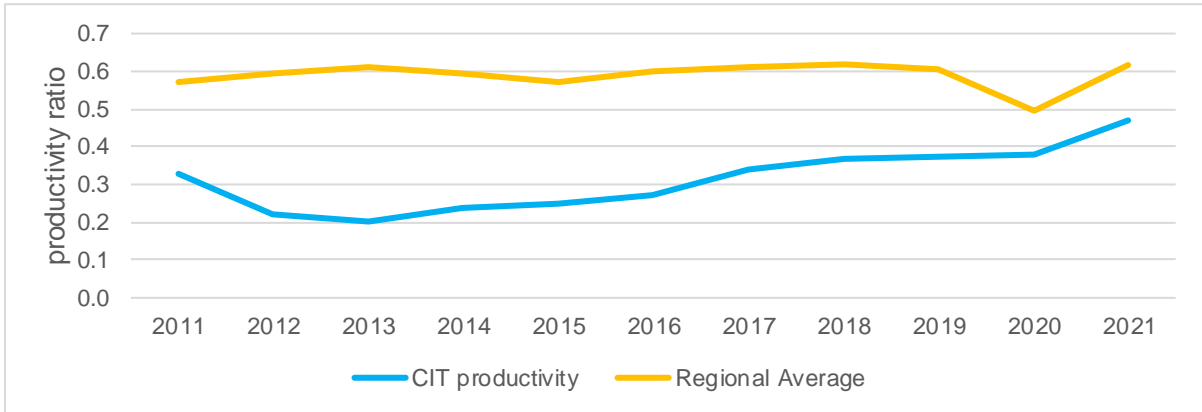
Figure 4. CIT Revenue to GDP Ratio, with Comparison to Regional Average



Source: Staff Calculations based on data from WEO, Eurostat, OECD

6. CIT productivity has also been lower than the European average for most of the past decade (Figure 5). The CIT productivity shows how much one percent point CIT statutory rate can generate in CIT revenue relative to GDP, indicating a country's overall efficiency of CIT for revenue mobilization. In 2019, the average of the CIT productivity in Slovenia was 0.37 percent, which was lower than the average of European countries of 0.61 percent. During the first few years of the past decade productivity was much lower than the regional average. Since 2017 productivity has been rising, as has the average level for the region.

Figure 5. CIT Productivity, with Comparison to Regional Average



Source: Staff calculations based on data from Eurostat

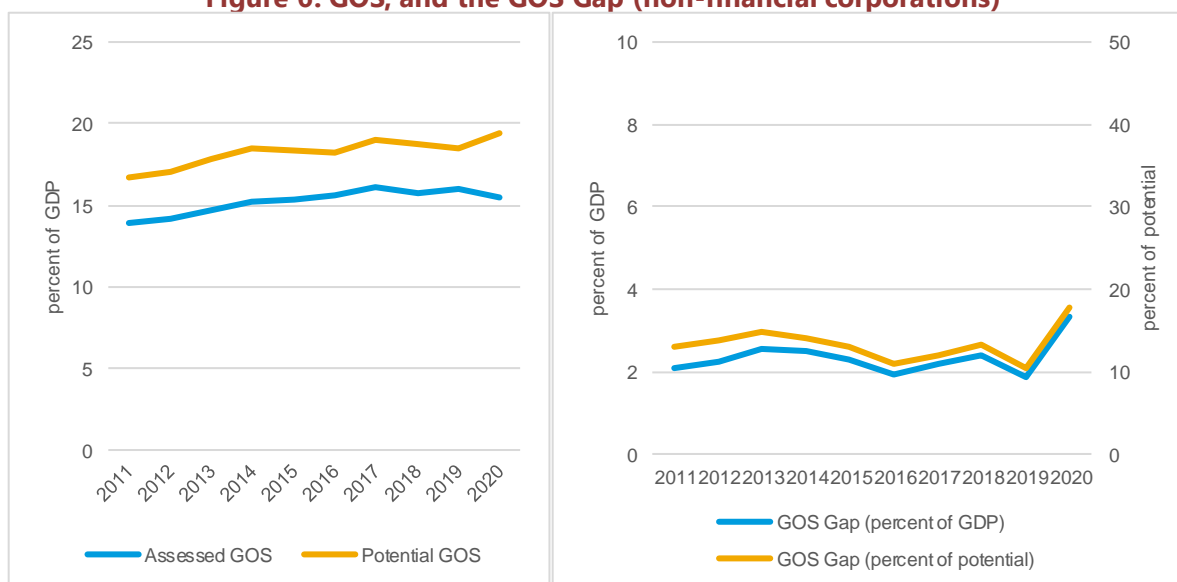
II. THE ESTIMATES

A. The GOS Gap

7. **The GOS gap is the difference between the potential GOS, derived from national accounts, and the assessed GOS, derived from the tax declarations.** The concept and measures of GOS are the foundation upon which the compliance gap estimates are built. The underlying assumption is that there is a strong relationship between the CIT tax base and GOS.³ Given this relationship, the trends and levels in the GOS are an important indicator of what might be influencing the trends and levels of the compliance gap.

8. **The GOS gap, for non-financial corporations, appears to have declined slightly over the period, as a percent of GDP and as a percent of potential before a sharp uptick in 2020 (Figure 6).** The decline has not been smooth. While there appeared to be a notable decrease from 2013 to 2016, the gap then appears to have returned to its 2013 levels before declining again. The uptick in 2020 is the result of a divergence in the trend in the assessed GOS and the potential GOS, which, as noted above, may not be due to a true change in compliance activity during the period, but is rather an artifact of the volatile changes in the nature of many economic activities during this period.

Figure 6. GOS, and the GOS Gap (non-financial corporations)



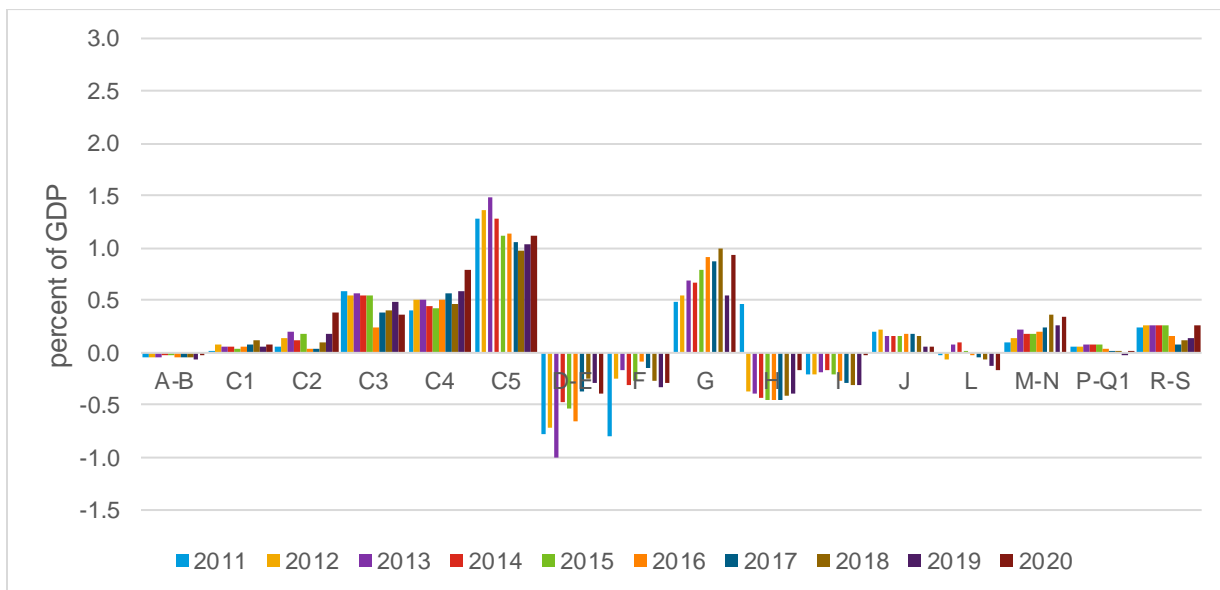
Source: Staff calculations based on data from MOF and Slovenia National Accounts

9. **The GOS gap appears to be largely concentrated in the manufacturing sector, but with significant contributions from the Trade sector as well (Figure 7).** The gap appears to

³ It would of course be prudent to examine the strength of this relationship statistically, but, unfortunately, a sufficient time series of data on the structure of the tax base could not be compiled.

be particularly concentrated in the manufacture sector for motor vehicles and motor vehicle parts. The negative gap in the utilities sector, sector code "D-E", could be due to the misclassification of taxpayers, and so a comparison of the classification of sector of activity used by the revenue authority and the codes used for national accounts should be conducted.

Figure 7. The GOS Gap by Sector



Code	Description	Code	Description
A-B	01-09. Agriculture, Forestry, Mining	G	45-47. Trade
C1	10-15. Food-Textiles Manufacturing	H	49-53. Transportation
C2	16-18,23-25. Basic Materials Manufacturing	I	55-56. Hospitality
C3	19-22. Chemical, Rubber, Petroleum Manufacturing	J	58-63. Information, Communication
C4	26-29. Machinery & Equipment Manufacturing	L	68. Real Estate
C5	30-33. Vehicles, Vehicle Parts, Other Manufacturing	M-N	69-82. Professional and Support Services
D-E	35-39. Utilities	P-Q1	85-87. Health and Education
F	41-43. Construction	R-S	90-96. Other Services

Source: Staff calculations based on data from MOF and Slovenia National Accounts

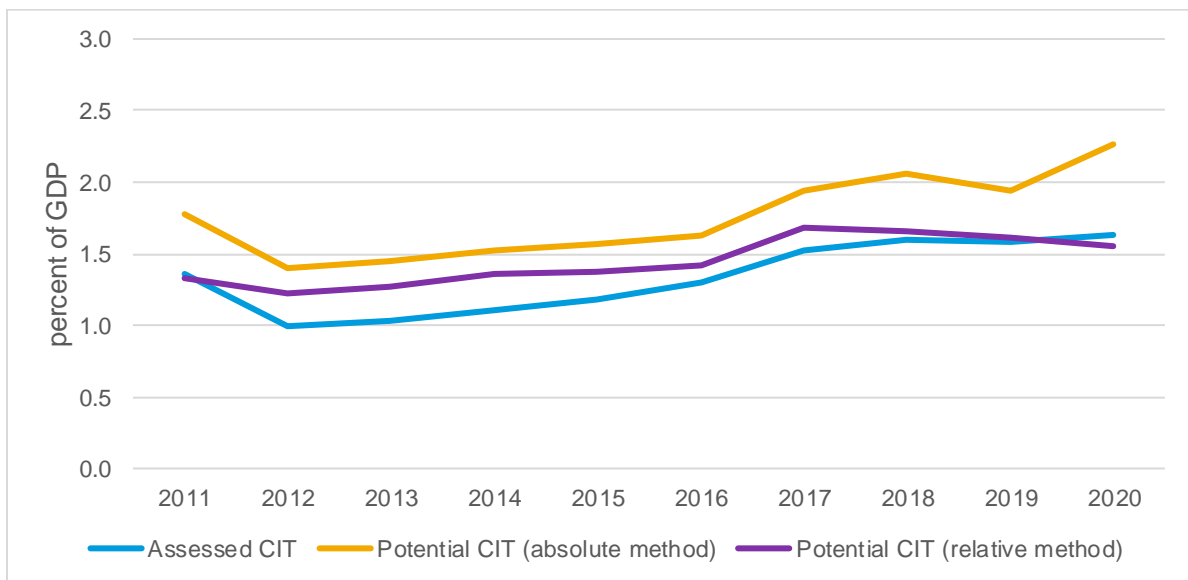
B. Actual vs Potential CIT

10. As the compliance gap is the difference between actual and potential revenue, where actual revenue is measured on an accrual basis, comparing actual CIT to potential CIT can give an indication where changes in the compliance gap may be arising. Knowing if changes in the compliance gap are being driven by changes in tax being declared and paid by taxpayers, or by changes in the economic activity being measured can provide insight into what factors might be affecting the change in the gap.

11. Values for accrued collections of CIT were not available, and so assessed CIT is being used instead for comparison against the potential CIT. Collections could only be compiled on a year of collection basis, not a true accruals basis. This is a common issue with CIT revenues which largely arises due to the fact that filing is typically done based on the fiscal year ends of corporations, and these can not only differ from the calendar year, but they will differ from corporation to corporation, so a common year of accrual doesn't exist. A review of the arrears data indicates that the accrual values do not differ significantly from the assessed revenue values in any case.

12. Assessed CIT for non-financial corporations exhibits an overall increasing trend for the period, while the overall trend for the potential is relative flatter for both approaches up to 2017, then the absolute method indicates bigger potential growth (Figure 8). As discussed above, in general it would be expected that the absolute method should produce a higher estimate than the relative method. In comparing the trends in the series, it is notable that both the assessed CIT and relative method potential show a fairly flat trend from 2019 to 2020, but the potential under the absolute method shows a spike in 2020. In general, the relative method presents a more volatile series. The assessed CIT shown here is significantly less than the values for CIT collections reviewed in section I.B. because we are only looking at assessed CIT for non-financial corporations whereas the collections data is for all corporations.

Figure 8. Assessed vs Potential CIT

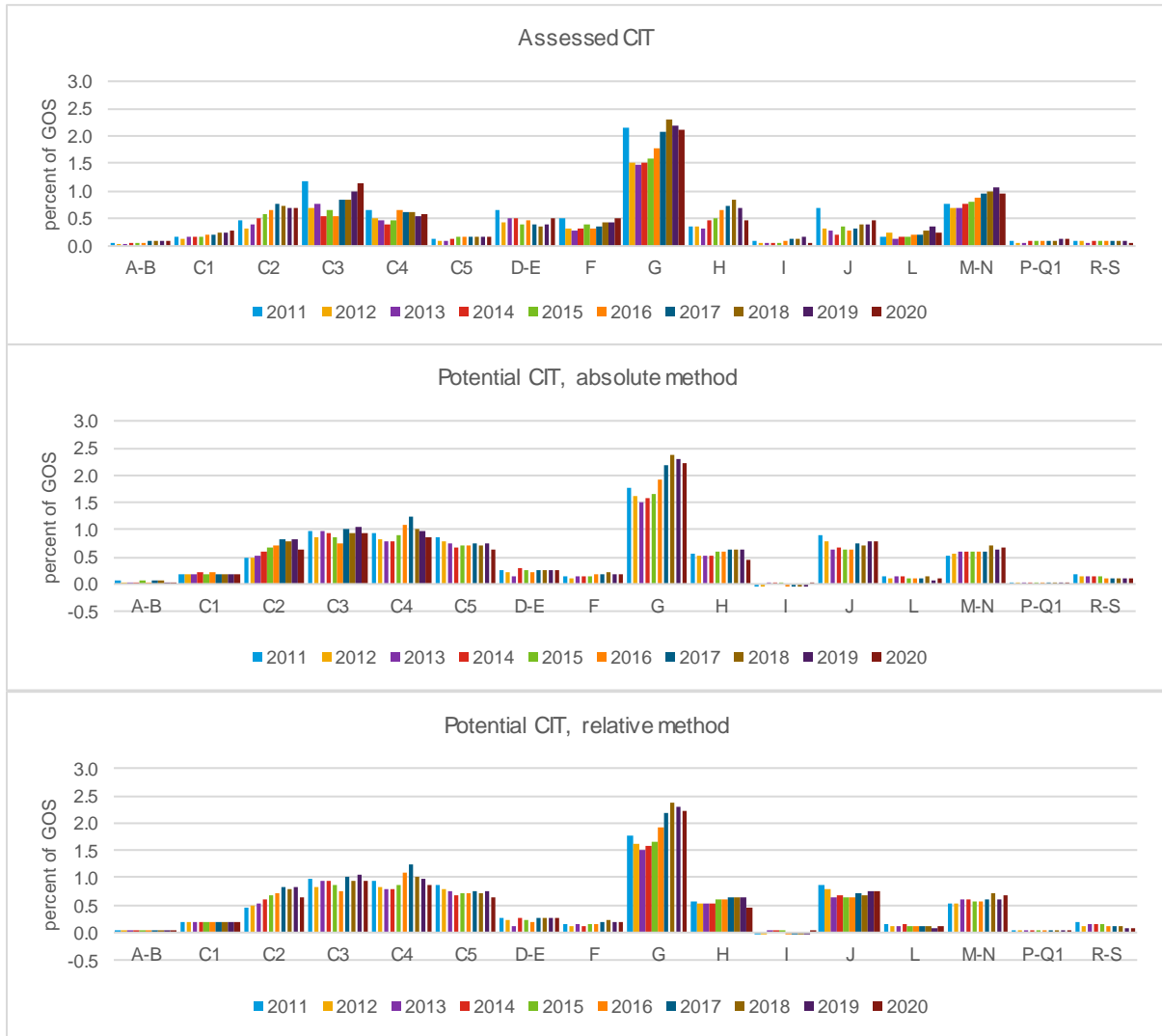


Source: Staff calculations based on data from MOF and Slovenia National Accounts

13. Both the potential CIT under the relative method and the absolute method show that the C5 sector (vehicles etc.) should be producing more revenue than is being assessed (Figure 9). The GOS gap in the C5 sector is evident in the results for the estimates for the potential CIT, where this sector shows that, due to their economic significance, there should be significant revenues. There is, however, very little assessed CIT from the sector. This figure

presents the results as a percent of gross operating surplus as opposed to percent of GDP given that the share as a percent of GDP by sector is very small.

Figure 9. Assessed and Potential CIT by Sector



Code	Description	Code	Description
A-B	01-09. Agriculture, Forestry, Mining	G	45-47. Trade
C1	10-15. Food-Textiles Manufacturing	H	49-53. Transportation
C2	16-18,23-25. Basic Materials Manufacturing	I	55-56. Hospitality
C3	19-22. Chemical, Rubber, Petroleum Manufacturing	J	58-63. Information, Communication
C4	26-29. Machinery & Equipment Manufacturing	L	68. Real Estate
C5	30-33. Vehicles, Vehicle Parts, Other Manufacturing	M-N	69-82. Professional and Support Services
D-E	35-39. Utilities	P-Q1	85-87. Health and Education
F	41-43. Construction	R-S	90-96. Other Services

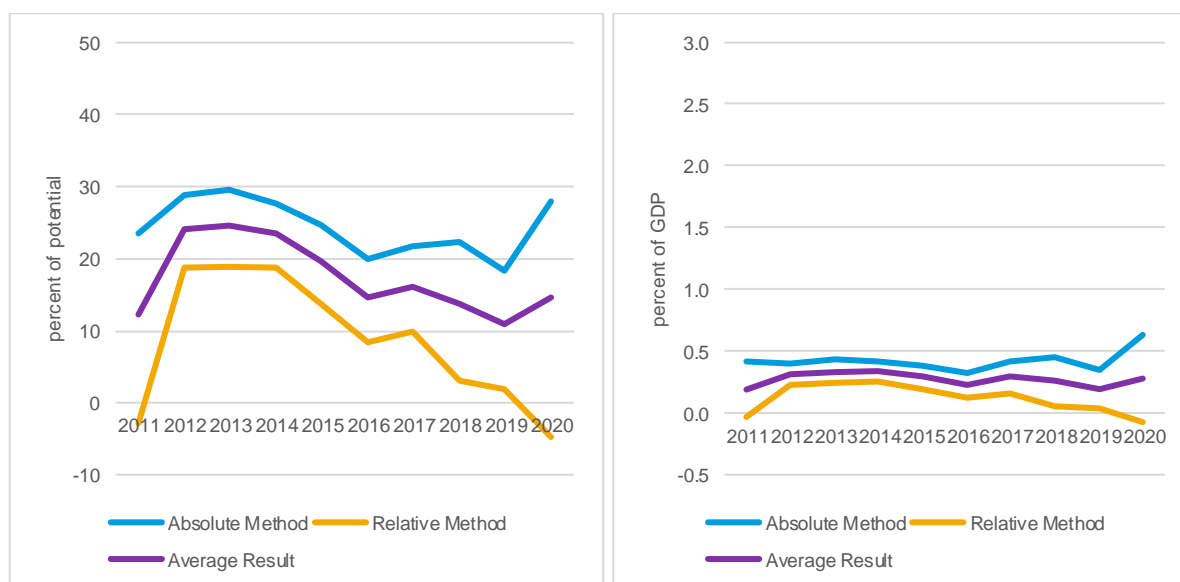
Source: Staff calculations based on data from MOF and Slovenia National Accounts

C. The Compliance Gap

14. Without data for accrued revenue or accrued arrears, the full compliance gap cannot be estimated, only the assessment gap. The compliance gap is composed of both an assessment gap and a collection gap, where the collection gap is the difference between assessed and actual CIT, while the assessment gap is the difference between assessed and potential CIT. As noted above, difficulty in properly determining accrued revenue is not unusual in the case of the CIT. It should be noted, however, that work is being undertaken by the authorities to construct such a series.

15. The assessment gap appears to have been falling (Figure 10). While both methods show a jump in the gap in 2012, and a roughly declining trend over the period 2012 to 2019, there is a stark difference for 2020, where there is a spike in the value under the absolute method, and a dip for the relative method. It is notable that if we look back at the regional average performance for CIT, as discussed in section I.B., there is a dip for 2020. As mentioned before, the unprecedented shift in economic activity that occurred in 2020, in addition to COVID-19 related policies such as allowing for a deferment for CIT payments, are likely distorting the results for this period, driving these divergent interpretations for potential CIT. Overall, as a percent of potential, the gap looks to have recovered from the spike it saw in 2012.

Figure 10. The Assessment Gap

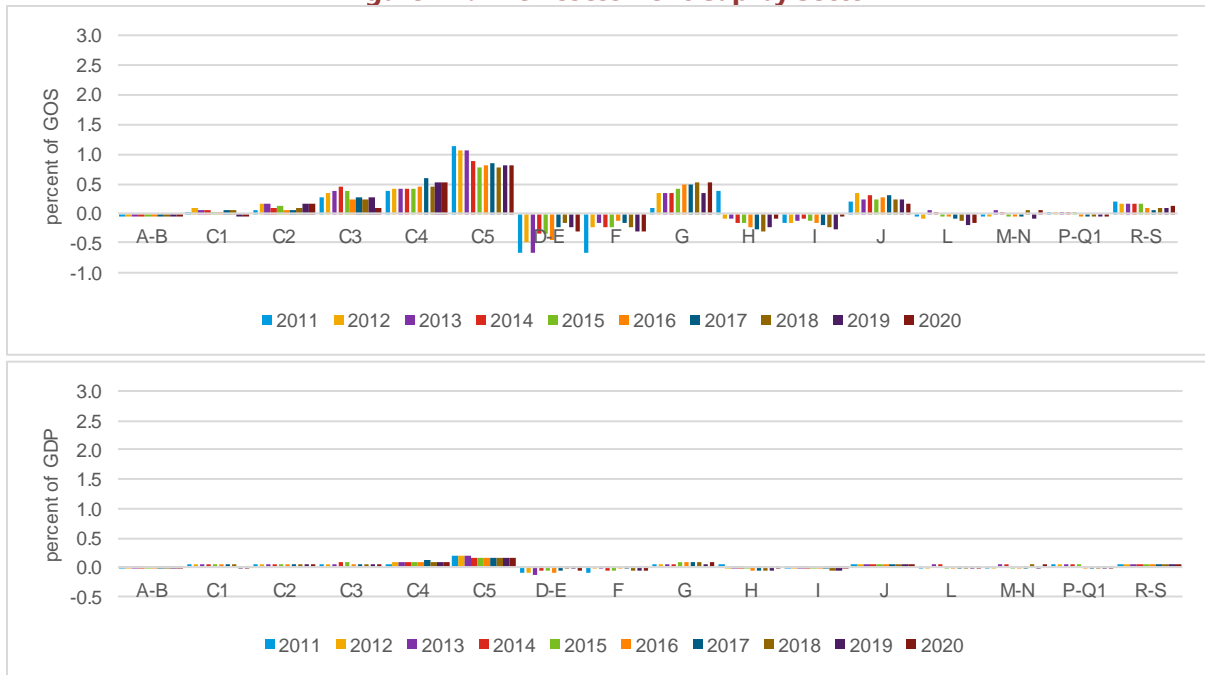


Source: Staff calculations based on data from MOF and Slovenia National Accounts

16. Both methods indicate that the bulk of the assessment gap is in the same sectors where the GOS gap is appearing; manufacturing, in particular motor vehicle manufacturing and motor vehicle parts, and trade services (Figure 11). The breakdown of the average results for non-financial corporations are presented here as a percent of GOS and as a percent of GDP; the former method gives a sense of the relative size across sectors, while the latter gives a sense

of the absolute size. As a percent of GOS, the assessment gap follows the same general trend as the GOS gap, with the dominance on sectors C5 (motor vehicle and motor vehicle parts manufacturing) and G (wholesale and retail trade). There is also the result of a negative gap in the D-E sector (electricity, water, and other public utilities), which is likely arising to taxpayers mistakenly being classified as being part of this sector when they should be in another sector. As a percent of GDP, however, we can see that no sector, at this level of aggregation, reaches the threshold of significance by having a gap of at least 0.5 percent of GDP; although if the manufacturing sector was aggregated into a single sector for this presentation, it would meet that mark.

Figure 11. The Assessment Gap by Sector



Code	Description	Code	Description
A-B	01-09. Agriculture, Forestry, Mining	G	45-47. Trade
C1	10-15. Food-Textiles Manufacturing	H	49-53. Transportation
C2	16-18,23-25. Basic Materials Manufacturing	I	55-56. Hospitality
C3	19-22. Chemical, Rubber, Petroleum Manufacturing	J	58-63. Information, Communication
C4	26-29. Machinery & Equipment Manufacturing	L	68. Real Estate
C5	30-33. Vehicles, Vehicle Parts, Other Manufacturing	M-N	69-82. Professional and Support Services
D-E	35-39. Utilities	P-Q1	85-87. Health and Education
F	41-43. Construction	R-S	90-96. Other Services

Source: Staff calculations based on data from MOF and Slovenia National Accounts

III. OBSERVATIONS AND NEXT STEPS

A. Observations

17. Some assumptions were needed to be made to enable the RA-GAP estimation of potential CIT base and liability; therefore, CIT gap estimates should be interpreted with caution. The definition for “non-financial corporations” used in national accounts includes some unincorporated enterprises, so there is not a perfect match to the corporate income tax base. Some assumptions had to be made as to the impact of these differences, which may be affecting both the level and trend in the resulting gap estimates.

18. It is recommended that the top-down estimates be cross-checked against a bottom-up based estimate of the tax gap. Work is underway to produce this bottom-up based estimate, the results of which will be provided in a follow-up report.

B. Next Steps

19. The following actions are necessary to improve the current estimates:

- Obtain more information on the value in the national accounts GOS for non-financial corporations which is coming from entities not required to file or pay CIT.
- Obtain a more detailed and current breakdown of GOS for non-financial corporations by sector of economic activity.
- Reconcile the sector codes for the main sector of activity being used for tax purposes with the codes being assigned for national accounts purposes.
- Attempt to construct a measure of either accrued CIT or accrued CIT arrears.

20. Going forward, the SFA should be working towards making annual updates to the CIT gap estimates. Tracking movements in the level of compliance for the CIT (and other taxes) will assist the authorities in gauging how successful they are being at managing compliance risks, and provide possible insights into where more resources need to be allocated to manage those compliance risks.

Appendix I. Data Tables for Included Figures

Table 1. Data for Figure 1, 8: Assessed vs Potential CIT,

Year	Assessed CIT Due	Potential CIT (relative method)	Potential CIT (absolute method)
2011	1.36	1.32	1.78
2012	0.99	1.22	1.40
2013	1.02	1.26	1.45
2014	1.10	1.35	1.52
2015	1.18	1.37	1.57
2016	1.30	1.42	1.62
2017	1.52	1.68	1.94
2018	1.60	1.65	2.06
2019	1.58	1.61	1.93
2020	1.63	1.56	2.26

Table 2. Data for Figure 2, 10: The Assessment Gap,

Year	Relative Method	Average Result	Absolute Method	Relative Method	Average Result	Absolute Method
	(percent of potential)			(percent of GDP)		
2011	-2.84	12.21	23.41	-0.04	0.19	0.42
2012	18.72	24.19	28.97	0.23	0.32	0.41
2013	18.86	24.59	29.57	0.24	0.33	0.43
2014	18.80	23.56	27.79	0.25	0.34	0.42
2015	13.66	19.59	24.76	0.19	0.29	0.39
2016	8.49	14.62	19.98	0.12	0.22	0.32
2017	9.88	16.21	21.71	0.17	0.29	0.42
2018	3.12	13.72	22.23	0.05	0.25	0.46
2019	2.01	10.91	18.32	0.03	0.19	0.35
2020	-4.77	14.62	27.96	-0.07	0.28	0.63

Table 3. Data for Figure 3, 11: The Assessment Gap Absolute Method by Sector,

Reporting Sector Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
A-B	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01	-0.01	-0.01	-0.01
C1	0.00	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.00	0.00
C2	0.01	0.03	0.03	0.02	0.03	0.01	0.01	0.02	0.03	0.03
C3	0.04	0.06	0.06	0.08	0.07	0.04	0.05	0.05	0.05	0.02
C4	0.06	0.07	0.07	0.07	0.07	0.08	0.11	0.08	0.10	0.10
C5	0.19	0.18	0.18	0.16	0.14	0.15	0.16	0.14	0.15	0.15
D-E	-0.11	-0.08	-0.12	-0.06	-0.06	-0.08	-0.05	-0.03	-0.04	-0.06
F	-0.11	-0.04	-0.03	-0.04	-0.05	-0.02	-0.03	-0.05	-0.05	-0.06
G	0.02	0.06	0.06	0.06	0.07	0.09	0.09	0.10	0.06	0.10
H	0.06	-0.02	-0.01	-0.03	-0.03	-0.04	-0.05	-0.06	-0.04	-0.02
I	-0.03	-0.03	-0.02	-0.02	-0.02	-0.03	-0.04	-0.04	-0.05	-0.01
J	0.04	0.06	0.04	0.06	0.04	0.05	0.06	0.04	0.04	0.03
L	0.00	-0.02	0.01	0.01	0.00	-0.01	-0.01	-0.02	-0.04	-0.03
M-N	-0.01	0.00	0.01	0.00	-0.01	-0.01	-0.01	0.01	-0.02	0.01
P-Q1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01	-0.01
R-S	0.03	0.03	0.03	0.03	0.03	0.02	0.01	0.01	0.01	0.03

Table 4. Data for Figure 4: CIT Revenue to GDP Ratio in Slovenia, with Comparison to Regional Average

Year	CIT to GDP	CIT to GDP European Countries Average	CIT Rate
2011	1.65	2.53	20
2012	1.23	2.61	18
2013	1.19	2.65	17
2014	1.40	2.63	17
2015	1.46	2.63	17
2016	1.59	2.72	17
2017	1.78	2.84	19
2018	1.93	2.91	19
2019	1.96	2.89	19
2020	1.99	2.44	19
2021	2.47	2.96	19

Table 5. Data for Figure 4: CIT Revenue to GDP Ratio in Slovenia, with Comparison to Regional Average, 2019

Year	CIT to GDP	CIT to GDP Region Average
Norway	6.02	2.89
Cyprus	5.67	2.89
Malta	5.50	2.89
Belgium	3.71	2.89
Luxembourg	6.06	2.89
Netherlands	3.69	2.89
Ireland	3.08	2.89
Slovak Republic	3.06	2.89
Portugal	3.12	2.89
Sweden	3.14	2.89
Denmark	3.15	2.89
Austria	2.76	2.89
United Kingdom	2.27	2.89
France	2.82	2.89
Spain	2.07	2.89
Czech Republic	3.32	2.89
Croatia	2.30	2.89
Bulgaria	2.30	2.89
Greece	2.22	2.89
Romania	2.10	2.89
Slovenia	1.96	2.89
Italy	1.95	2.89
Finland	2.53	2.89
Poland	2.21	2.89
Lithuania	1.55	2.89
Hungary	1.14	2.89
Germany	2.65	2.89
Estonia	1.83	2.89

Table 6. Data for Figure 5: CIT Productivity in Slovenia, with Comparison to Regional Average

Year	CIT Productivity	Regional Average CIT Productivity
2011	0.33	0.57
2012	0.22	0.59
2013	0.20	0.61
2014	0.24	0.59
2015	0.25	0.57
2016	0.27	0.60
2017	0.34	0.61
2018	0.37	0.62
2019	0.37	0.61
2020	0.38	0.50
2021	0.47	0.61

Table 8. Data for Figure 5: CIT Productivity in Slovenia, with Comparison to Regional Average, 2019

Year	CIT Productivity	CIT Productivity Region Avg
Norway	1.32	0.61
Cyprus	0.71	0.61
Malta	1.93	0.61
Belgium	1.08	0.61
Luxembourg	1.51	0.61
Netherlands	0.92	0.61
Ireland	0.39	0.61
Slovak Republic	0.64	0.61
Portugal	0.65	0.61
Sweden	0.67	0.61
Denmark	0.69	0.61
Austria	0.69	0.61
United Kingdom	0.43	0.61
France	0.87	0.61
Spain	0.52	0.61
Czech Republic	0.63	0.61
Croatia	0.41	0.61
Bulgaria	0.23	0.61
Greece	0.62	0.61
Romania	0.34	0.61
Slovenia	0.37	0.61
Italy	0.47	0.61
Finland	0.51	0.61

Poland	0.42	0.61
Lithuania	0.23	0.61
Hungary	0.10	0.61
Germany	0.79	0.61
Estonia	0.37	0.61

Table 9. Data for Figure 6: GOS, and the GOS Gap

Year	Assessed GOS	Potential GOS	GOS Gap (percent of GDP)	GOS Gap (percent of Potential)
2011	13.9	16.7	2.1	13.0
2012	14.1	17.1	2.3	13.7
2013	14.7	17.9	2.5	14.7
2014	15.3	18.5	2.5	14.0
2015	15.4	18.3	2.3	13.0
2016	15.6	18.2	1.9	10.9
2017	16.1	19.0	2.2	12.1
2018	15.7	18.7	2.4	13.3
2019	16.0	18.5	1.9	10.4
2020	15.4	19.4	3.3	17.8

Table 10. Data for Figure 7: The GOS gap percent of GDP by Sector,

Reporting Sector Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
A-B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
C1	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1
C2	0.1	0.1	0.2	0.1	0.2	0.0	0.0	0.1	0.2	0.4
C3	0.6	0.5	0.6	0.6	0.6	0.2	0.4	0.4	0.5	0.4
C4	0.4	0.5	0.5	0.4	0.4	0.5	0.6	0.5	0.6	0.8
C5	1.3	1.4	1.5	1.3	1.1	1.1	1.1	1.0	1.0	1.1
D-E	-0.8	-0.7	-1.0	-0.5	-0.5	-0.7	-0.4	-0.2	-0.3	-0.4
F	-0.8	-0.2	-0.2	-0.3	-0.3	-0.1	-0.1	-0.3	-0.3	-0.3
G	0.5	0.5	0.7	0.7	0.8	0.9	0.9	1.0	0.5	0.9
H	0.5	-0.4	-0.4	-0.4	-0.5	-0.5	-0.4	-0.4	-0.4	-0.2
I	-0.2	-0.2	-0.2	-0.2	-0.2	-0.3	-0.3	-0.3	-0.3	0.0
J	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1
L	0.0	-0.1	0.1	0.1	0.0	0.0	0.0	-0.1	-0.1	-0.2
M-N	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.4	0.3	0.3
P-Q1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
R-S	0.2	0.3	0.3	0.3	0.3	0.2	0.1	0.1	0.1	0.3

Table 11. Data for Figure 8: Assessed CIT vs Potential CIT, percent of GDP

Year	Assessed CIT	Potential CIT (absolute method)	Potential CIT (relative method)
2011	1.36	1.78	1.32
2012	0.99	1.40	1.22
2013	1.02	1.45	1.26
2014	1.10	1.52	1.35
2015	1.18	1.57	1.37
2016	1.30	1.62	1.42
2017	1.52	1.94	1.68
2018	1.60	2.06	1.65
2019	1.58	1.93	1.61
2020	1.63	2.26	1.56

Table 12. Data for Figure 9: Assessed and Potential CIT by Sector, Assessed CIT percent of GOS

Sector Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
A-B	0.05	0.03	0.03	0.04	0.05	0.07	0.10	0.09	0.09	0.08
C1	0.17	0.12	0.17	0.15	0.17	0.19	0.20	0.23	0.25	0.28
C2	0.46	0.33	0.38	0.52	0.57	0.67	0.77	0.72	0.69	0.69
C3	1.18	0.71	0.77	0.55	0.64	0.53	0.84	0.86	1.01	1.15
C4	0.67	0.51	0.46	0.41	0.46	0.65	0.64	0.61	0.53	0.58
C5	0.12	0.11	0.10	0.13	0.19	0.18	0.18	0.17	0.16	0.16
D-E	0.64	0.41	0.52	0.52	0.39	0.45	0.38	0.37	0.39	0.50
F	0.51	0.31	0.27	0.33	0.39	0.30	0.34	0.44	0.44	0.50
G	2.15	1.50	1.47	1.53	1.60	1.79	2.09	2.30	2.17	2.12
H	0.37	0.35	0.31	0.47	0.50	0.67	0.74	0.83	0.69	0.48
I	0.08	0.07	0.06	0.06	0.08	0.10	0.12	0.14	0.16	0.06
J	0.69	0.33	0.29	0.22	0.37	0.30	0.30	0.38	0.38	0.48
L	0.18	0.23	0.13	0.15	0.15	0.21	0.22	0.28	0.35	0.26
M-N	0.78	0.69	0.70	0.76	0.81	0.87	0.94	0.99	1.07	0.94
P-Q1	0.09	0.07	0.07	0.08	0.08	0.08	0.09	0.11	0.12	0.12
R-S	0.11	0.10	0.07	0.08	0.08	0.10	0.09	0.09	0.09	0.08

Table 12. Data for Figure 9: Assessed and Potential CIT by Sector, Potential CIT absolute method percent of GOS

Sector Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
A-B	0.06	0.04	0.03	0.03	0.05	0.05	0.06	0.06	0.04	0.04
C1	0.18	0.19	0.19	0.21	0.19	0.20	0.19	0.20	0.19	0.18
C2	0.47	0.49	0.52	0.60	0.68	0.72	0.82	0.79	0.82	0.63
C3	0.99	0.84	0.96	0.95	0.88	0.74	1.03	0.94	1.05	0.94
C4	0.94	0.83	0.80	0.80	0.89	1.08	1.23	1.03	0.98	0.86
C5	0.86	0.80	0.76	0.69	0.70	0.72	0.76	0.71	0.76	0.63
D-E	0.27	0.23	0.13	0.28	0.24	0.20	0.26	0.27	0.26	0.25
F	0.16	0.11	0.14	0.13	0.14	0.16	0.19	0.22	0.19	0.18
G	1.77	1.60	1.52	1.58	1.66	1.92	2.18	2.36	2.30	2.23
H	0.55	0.53	0.51	0.54	0.59	0.60	0.62	0.64	0.63	0.45
I	0.00	-0.01	0.01	0.02	0.00	0.00	-0.01	-0.01	-0.02	0.01
J	0.88	0.78	0.64	0.68	0.65	0.64	0.73	0.69	0.77	0.77
L	0.15	0.10	0.13	0.14	0.11	0.10	0.11	0.13	0.07	0.10
M-N	0.53	0.54	0.61	0.60	0.59	0.58	0.61	0.71	0.62	0.68
P-Q1	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
R-S	0.19	0.14	0.15	0.15	0.15	0.12	0.11	0.11	0.09	0.09

Table 13. Data for Figure 9: Assessed and Potential CIT by Sector, Potential CIT relative method percent of GOS

Sector Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
A-B	0.06	0.04	0.03	0.03	0.05	0.05	0.06	0.06	0.04	0.04
C1	0.18	0.19	0.19	0.21	0.19	0.20	0.19	0.20	0.19	0.18
C2	0.47	0.49	0.52	0.60	0.68	0.72	0.82	0.79	0.82	0.63
C3	0.99	0.84	0.96	0.95	0.88	0.74	1.03	0.94	1.05	0.94
C4	0.94	0.83	0.80	0.80	0.89	1.08	1.23	1.03	0.98	0.86
C5	0.86	0.80	0.76	0.69	0.70	0.72	0.76	0.71	0.76	0.63
D-E	0.27	0.23	0.13	0.28	0.24	0.20	0.26	0.27	0.26	0.25
F	0.16	0.11	0.14	0.13	0.14	0.16	0.19	0.22	0.19	0.18
G	1.77	1.60	1.52	1.58	1.66	1.92	2.18	2.36	2.30	2.23
H	0.55	0.53	0.51	0.54	0.59	0.60	0.62	0.64	0.63	0.45
I	0.00	-0.01	0.01	0.02	0.00	0.00	-0.01	-0.01	-0.02	0.01
J	0.88	0.78	0.64	0.68	0.65	0.64	0.73	0.69	0.77	0.77
L	0.15	0.10	0.13	0.14	0.11	0.10	0.11	0.13	0.07	0.10
M-N	0.53	0.54	0.61	0.60	0.59	0.58	0.61	0.71	0.62	0.68
P-Q1	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
R-S	0.19	0.14	0.15	0.15	0.15	0.12	0.11	0.11	0.09	0.09

Table 14. Data for Figure 10: Assessment Gap

Year	Absolute Method	Relative Method	Average Result	Absolute Method	Relative Method	Average Result
	(percent of potential)			(percent of GDP)		
2011	23.41	-2.84	12.21	0.42	-0.04	0.19
2012	28.97	18.72	24.19	0.41	0.23	0.32
2013	29.57	18.86	24.59	0.43	0.24	0.33
2014	27.79	18.80	23.56	0.42	0.25	0.34
2015	24.76	13.66	19.59	0.39	0.19	0.29
2016	19.98	8.49	14.62	0.32	0.12	0.22
2017	21.71	9.88	16.21	0.42	0.17	0.29
2018	22.23	3.12	13.72	0.46	0.05	0.25
2019	18.32	2.01	10.91	0.35	0.03	0.19
2020	27.96	-4.77	14.62	0.63	-0.07	0.28

Table 15. Data for Figure 11: Assessment Gap by Sector, Average Result, percent of GOS

Sector Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
A-B	-0.02	-0.01	-0.02	-0.01	-0.01	-0.04	-0.04	-0.03	-0.05	-0.03
C1	0.01	0.08	0.04	0.05	0.03	0.03	0.04	0.05	0.00	-0.01
C2	0.04	0.15	0.17	0.10	0.14	0.04	0.05	0.09	0.16	0.16
C3	0.26	0.36	0.36	0.46	0.38	0.22	0.29	0.24	0.28	0.08
C4	0.38	0.43	0.42	0.40	0.41	0.45	0.58	0.45	0.53	0.53
C5	1.14	1.07	1.04	0.87	0.78	0.81	0.83	0.77	0.83	0.79
D-E	-0.66	-0.47	-0.67	-0.34	-0.32	-0.44	-0.24	-0.17	-0.22	-0.31
F	-0.66	-0.23	-0.14	-0.25	-0.25	-0.11	-0.15	-0.24	-0.29	-0.30
G	0.10	0.34	0.35	0.33	0.40	0.49	0.48	0.54	0.35	0.51
H	0.38	-0.11	-0.08	-0.17	-0.17	-0.25	-0.28	-0.30	-0.23	-0.09
I	-0.17	-0.15	-0.11	-0.10	-0.13	-0.18	-0.21	-0.23	-0.25	-0.03
J	0.22	0.35	0.25	0.31	0.22	0.25	0.31	0.24	0.22	0.18
L	-0.01	-0.09	0.04	0.04	-0.02	-0.07	-0.08	-0.11	-0.21	-0.16
M-N	-0.06	0.00	0.06	0.00	-0.03	-0.05	-0.05	0.05	-0.09	0.04
P-Q1	0.00	0.00	0.01	0.00	0.00	-0.02	-0.02	-0.04	-0.05	-0.04
R-S	0.18	0.16	0.17	0.15	0.16	0.09	0.05	0.07	0.08	0.13

Table 16. Data for Figure 11: Assessment Gap by Sector, Average Result, percent of GDP

Sector Code	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
A-B	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01	-0.01	-0.01	-0.01
C1	0.00	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.00	0.00
C2	0.01	0.03	0.03	0.02	0.03	0.01	0.01	0.02	0.03	0.03
C3	0.04	0.06	0.06	0.08	0.07	0.04	0.05	0.05	0.05	0.02
C4	0.06	0.07	0.07	0.07	0.07	0.08	0.11	0.08	0.10	0.10
C5	0.19	0.18	0.18	0.16	0.14	0.15	0.16	0.14	0.15	0.15
D-E	-0.11	-0.08	-0.12	-0.06	-0.06	-0.08	-0.05	-0.03	-0.04	-0.06
F	-0.11	-0.04	-0.03	-0.04	-0.05	-0.02	-0.03	-0.05	-0.05	-0.06
G	0.02	0.06	0.06	0.06	0.07	0.09	0.09	0.10	0.06	0.10
H	0.06	-0.02	-0.01	-0.03	-0.03	-0.04	-0.05	-0.06	-0.04	-0.02
I	-0.03	-0.03	-0.02	-0.02	-0.02	-0.03	-0.04	-0.04	-0.05	-0.01
J	0.04	0.06	0.04	0.06	0.04	0.05	0.06	0.04	0.04	0.03
L	0.00	-0.02	0.01	0.01	0.00	-0.01	-0.01	-0.02	-0.04	-0.03
M-N	-0.01	0.00	0.01	0.00	-0.01	-0.01	-0.01	0.01	-0.02	0.01
P-Q1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01	-0.01
R-S	0.03	0.03	0.03	0.03	0.03	0.02	0.01	0.01	0.01	0.03

Appendix II. The Model and Methodology used to Estimate the CIT Gap

1. **The IMF's RA-GAP (Revenue Administration – Gap Analysis Program) methodology for CIT gap is based on the top-down approach.** This aims to estimate the potential CIT base and liability from existing macroeconomic data, with thorough considerations for theoretical differences between the macroeconomic data and the actual tax base of CIT, and then compare the estimated results with actual declarations and payments.

2. **The top-down approach requires a basic condition: that the macroeconomic data are compiled independently of the assessed tax base and liability.** In Finland, national accounts data are compiled by Finland Statistics using various statistical surveys, annual accounts of economic units and administrative data. Tax declarations are not the initial source of determining production, value-added, and operating surplus in the national accounts. As a result, the basic condition for conducting the top-down approach is being met.

Theoretical Framework for Estimation

3. **The general approach used in the RA-GAP top-down CIT gap estimation involves using Gross operating surplus (GOS) of corporations in national accounts as a starting point for estimating the potential CIT base in a country.** A detailed discussion about how GOS from the national accounts can be used to estimate potential CIT is provided in Ueda 2018⁴.

4. **The RA-GAP framework applies three different concepts of CIT base to allow careful consideration of treating the results of loss-making corporations and deductions for carried-over losses.**

- **Current-year net tax base (C-NTB):** An aggregated result for the current year reflecting both profit-making corporations and loss-making corporations.
- **Current-year tax base (C-TB):** An aggregated result for the current year of profit-making corporations only; this is before deducting carried-over losses. C-TB is generally bigger than C-NTB because losses made by loss-making corporations are netted out from aggregate profits in C-NTB, but not deducted in C-TB.
- **Tax base (TB):** An aggregate result for the current year of profit-making corporations only, after deducting carried-over losses from previous years. This is the base for calculating aggregate CIT liability in a year.

5. **In theory, estimation of the potential CIT base starts from GOS and would then need to make appropriate adjustments to reflect conceptual differences from the potential**

⁴ Ueda, Junji, 2018, "Estimating the Corporate Income Tax Gap: The RA-GAP Methodology", IMF Technical Notes and Manuals

CIT tax base and liabilities. There are many conceptual differences between GOS and the actual tax base (TB) of CIT, that can be classified into three categories D1, D2 and D3 (Figure).

- [D1] differences between GOS in national accounts and aggregate financial accounting profit (FAP) of CIT taxpayers
- [D2] differences between aggregate FAP and aggregate current year net tax base (C-NTB)
- [D3] differences between aggregate C-NTB and aggregate tax base (TB) due to losses and deductions for carry-over losses

6. By adjusting GOS by the estimates for D1, D2 and D3, the potential tax base could then be estimated. The sequence of estimating steps for the potential CIT base and liability is shown in the left-side flow in Figure 1, including the concepts of potential FAP, potential C-NTB, potential C-TB, and potential TB. Then the potential CIT liability is calculated by applying the statutory CIT rate to the potential TB and reflecting tax credits and additional tax liabilities that are not proportional to the tax base.

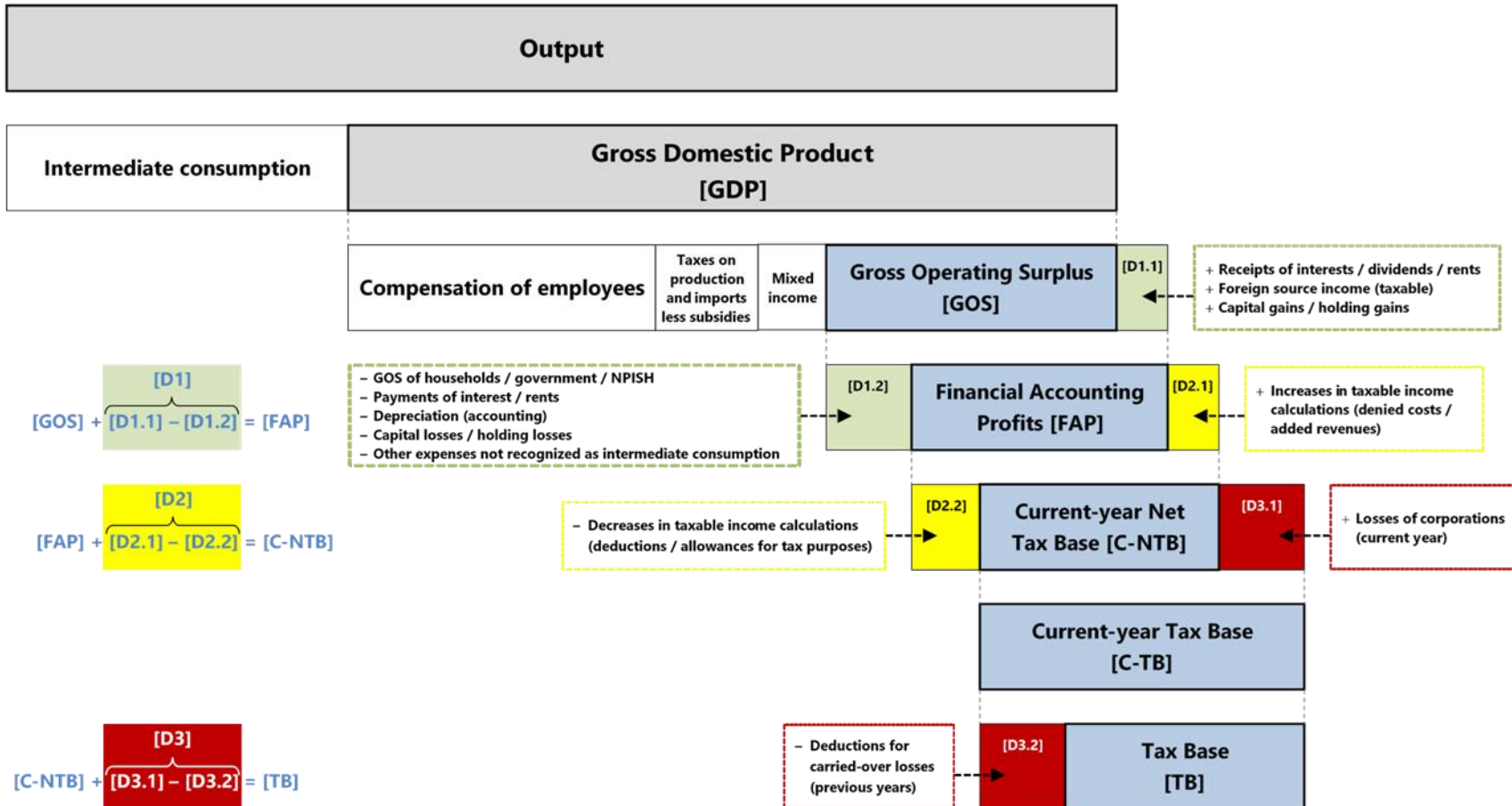
7. The framework also limits the scope of the estimation to non-financial corporations. The reason for excluding financial corporations is that estimating the potential CIT base by using national accounts data is more difficult for financial corporations since their income is not as closely associated to the concept of gross operating surplus.⁵ As such, the basic premise of this framework is not applicable for these types of enterprises.

8. It should be noted that the top-down estimates for CIT gaps do not try to directly measure or include the magnitude of tax avoidance or BEPS (base erosion and profit shifting) of corporations. The estimated gap does not show how much national income, that should have been sourced in a country, are transferred to other countries by legal means because such activities are usually reflected in national accounts data as well.⁶ It should be noted that the top-down approach relies on what is actually measured in national accounts data.

⁵ For financial corporations, the economic value-added, calculated as the financial intermediation services (FISIM) and the net insurance premiums, can be significantly different from their taxable incomes reflecting capital gains/losses and changes in financial reserves, and therefore a completely different approach would be needed to apply a top-down to provide appropriate estimates.

⁶ See OECD, 2015 in detail.

Figure 12. Theoretical Relationship between GOS and CIT Tax Base



Source: RA-GAP analytical framework for CIT gap.

Practical Application of the Framework

9. A complete set of Independent data on the values needed to adjust GOS to arrive at C-NTB are not available. While some statistics do provide general indications of the values of some of these items, as described as D1 and D2 above, the definitions used for these statistics are not necessarily the same as the definitions of these items for tax purposes. The use of these statistics would therefore require many assumptions and adjustments to ensure that their use does not result in an overestimation or underestimation of the potential tax base. Furthermore, for some of the needed adjustments, no pertinent statistical data is available at all. In such cases, the only possible source of relevant data would have to come from tax declaration data. As such, attempting a direct application of the theoretical framework requires making use of a combination of tax record data and statistical data. This then requires that further assumptions and adjustments be made to ensure that these two sets of data are consistent with each other, to avoid overlap or under-coverage.

10. A simplified set of methods for obtaining the gap has been employed in order to reduce the number of assumptions that need to be made. Two separate methods have been used to arrive at an estimate of the CIT compliance gap; an *absolute* method, and a *relative* method. The rationale for using two different methods is that both methods have their strengths and weaknesses, but these strengths and weaknesses lie in different areas. Comparing the results from the two methods should give a better overall indication of the compliance gap. Both methods rely solely on tax record data to calculate a value for the *Potential Tax Base* (P-TB).

11. The first step under both methods requires obtaining the values for GOS from the national accounts and computing a value for Assessed Gross Operating Surplus (A-GOS). GOS from the national accounts will need to be adjusted in order to arrive at *Potential Gross Operating Surplus* (P-GOS). In particular, the GOS for non-financial corporations, by sector of economic activity needs to be requested from the national accounts office. Then, because the national accounts definition for non-financial corporations may include the activities of some entities which are not required to file corporate income tax returns, the GOS from these entities needs to be removed. To calculate A-GOS, data from taxpayer declarations is used to compute each taxpayer's gross operating surplus; their total operating revenue minus their operating costs. Or, as described above, earnings before interest, tax, depreciation and amortization.

12. The absolute method estimates P-TB by using the difference between A-GOS and the Assessed Tax Base (A-TB). P-TB using the absolute method (P-TBabs) is determined by subtracting this difference from P-GOS. In other words, the absolute method uses data solely sourced from taxpayer's declarations for the D1-D3 adjustments as described above. This measure for the compliance gap is, obviously, limited in scope. However, despite being limited in scope, this measure will likely over-estimate the compliance gap, and therefore would represent an upper limit for the compliance gap. Implicitly this method assumes that any undeclared operating surplus would have no associated capital or other costs associated with it. Taxpayers under-declaring operating surplus could be expected to be scaling back the size of their

operations as they appear on the declaration in general. Taxpayers not filing a declaration at all, would also likely have other deductions and inclusions to report in addition to their unreported operating surplus.

13. The relative method estimates P-TB by using the relative size of the Assessed Current-year Tax Base (AC-TB) to A-GOS. Specifically, the method calculates the geometric mean of this ratio, using declaration data, for all those taxpayers in a particular sector with both a positive AC-TB and a positive A-GOS. A ratio of the A-GOS for this subset of taxpayers in the sector to the total A-GOS for the sector is also determined. These two ratios are then applied to the P-GOS for the sector, to determine the Potential Current-year Tax Base (PC-TB) for the sector associated with positive P-GOS. This value must then be adjusted to account for the P-TB that would arise from negative P-GOS. Again, declaration data is used to determine the ratio of AC-TB for all taxpayers to the AC-TB of those taxpayers with positive A-GOS. Applying this ratio to the PC-TB for taxpayers with positive P-GOS yields the estimate for the overall PC-TB. Deductions for carried-over losses and adjustments for deferred profits obtained from the declarations are then applied to arrive at P-TBrel, P-TB using the relative method. This approach is based on a simplifying assumption that most taxpayers are compliant, particularly the larger taxpayers.⁷ As such, the ratio of the AC-TB to A-GOS will be most heavily influenced by compliant taxpayers, and so applying the ratio to P-GOS we get an estimate for what the C-TB might be if all taxpayers reported in a fashion similar to the compliant taxpayers.

14. Once P-TB has been estimated, the potential CIT (P-CIT) is determined by applying the CIT rate. As there are two values for P-TB, two values for P-CIT are determined; P-CITabs and P-CITrel. In addition, if there are any tax credits applicable then under the absolute method, the amount of credits claimed by taxpayers is subtracted from P-CITabs. Under the relative method, P-CITrel is adjusted by the ratio of the tax credits claimed to the assessed tax payable before credits.

15. The assessment gap is then determined by subtracting assessed CIT (A-CIT) from P-CIT. The assessment gap is the component of the compliance gap that results from underassessed amounts of tax due.

16. To arrive at the compliance gap, the collection gap is added to the assessment gap. The collection gap is the amount of uncollected tax owed for the period in question – in other words the CIT collection gap for 2017 is the amount of CIT owed against amounts assessed as having been due against 2017 tax declarations, but which has not yet been paid. It is not the total amount of CIT owing at the end of 2017, as that could include liabilities which are related to previous years obligations.

⁷ This is not to say that there are no CIT revenue issues associated with large taxpayers; those issues are more generally related to BEPS, which this estimation methodology is not attempting to capture.

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