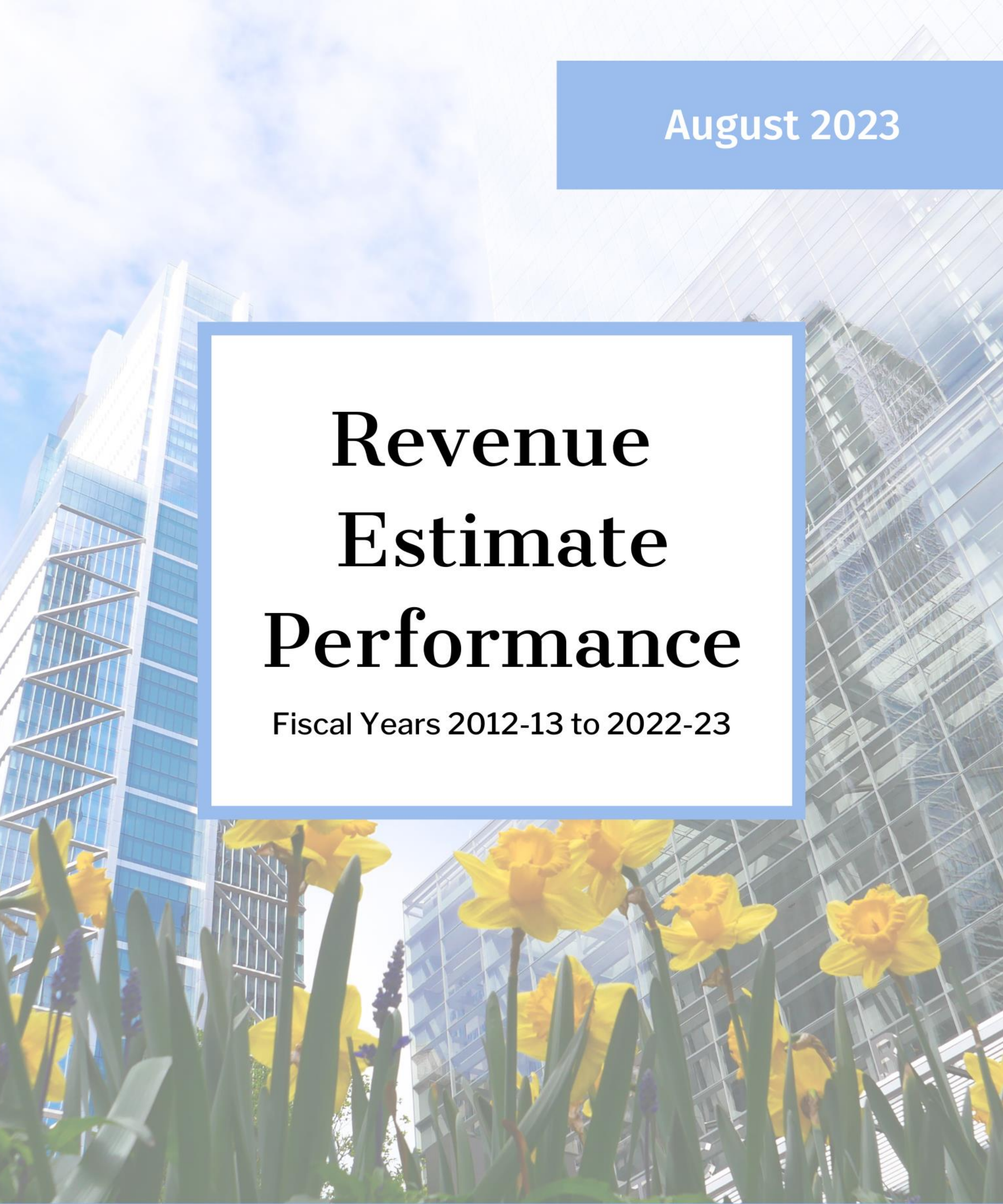

August 2023

Revenue Estimate Performance

Fiscal Years 2012-13 to 2022-23

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This document examines the performance of General Fund revenue estimates made by the Independent Fiscal Office (IFO) from fiscal year (FY) 2012-13 through FY 2022-23. For this document, specific commentary is only included for estimates since FY 2015-16. For earlier budget cycles (2012-13 to 2014-15), see prior year releases. For each fiscal year, this document compares actual collections to the IFO's revenue estimates made at two specific times during the fiscal year, as required by the statute that created the office. The two revenue estimates are as follows:

- **Official Estimate** This revenue estimate occurs in June of the preceding fiscal year. For example, the IFO official estimate for FY 2022-23 was released on June 23, 2022. When appropriate, the estimate is adjusted for any statutory changes that affect General Fund revenues that were not reflected in the June release.
- **Mid-Year Update** This revenue estimate occurs in January of the same fiscal year. For example, the mid-year update for FY 2022-23 was released on January 31, 2023. The update is based on a revised economic forecast and revenue collections for the first half of the fiscal year.

The text that follows discusses the performance of IFO General Fund revenue estimates for the past eight fiscal years and describes the factors that caused forecast errors. As a general rule of thumb, a total forecast error that is within one percentage point of actual revenue collections is considered a solid forecast. A one percent forecast error implies a $400 to $450 million deviation from actual revenues.

Fiscal Year 2015-16

The difference between actual collections and the IFO official estimate was $129 million, or 0.4% of actual General Fund revenues. (See **Tables 1 and 2**, final columns.) An overprediction of personal income tax (PIT) (-$156 million) and sales and use tax (SUT) (-$45 million) was more than offset by an underprediction of escheats ($94 million), corporate net income tax (CNIT) ($53 million) and other revenues ($175 million, largely gross receipts, realty transfer and inheritance taxes). The forecast for the January mid-year update (-$20 million) was very close to actual revenues.

Fiscal Year 2016-17

The difference between actual collections and the IFO official estimate was -$841 million, or -2.7% of actual General Fund revenues. If the scheduled $200 million transfer from the Pennsylvania Professional Liability Joint Underwriting Association (JUA, Act 85 of 2016) that was not received is excluded, then the adjusted difference is -$641 million, or -2.0%. Those revenues are excluded because the non-receipt of the scheduled transfer was attributable to a court ruling, as opposed to economic or technical factors that could have been anticipated by revenue forecasters. Nearly all revenue sources came in under forecast, with the exception of escheats. Economic growth rates were considerably lower than forecast, contributing to much of the realized error. Most of the PIT overprediction (-$391 million) was attributable to weak quarterly and annual payments, which are motivated by business profits, capital gains, rents and dividends. Data for tax year 2016 show actual declines in all of those income sources, which is highly unusual for a non-recession year. The SUT overprediction (-$236 million) was attributable to weak non-motor vehicle sales tax collections. The total adjusted error (excludes JUA transfer) declined at the January mid-year update (-$191 million).

Fiscal Year 2017-18

The difference between actual collections and the IFO official estimate was -$178 million, or -0.5% of actual General Fund revenues. If the scheduled $200 million JUA transfer (Act 44 of 2017) that was not received is excluded, then the adjusted difference is $22 million, or 0.1%. Corporate net income tax revenues were below forecast likely due to profit shifting out of tax year 2017 in response to the large federal corporate rate cut enacted by the Tax Cuts and Jobs Act (TCJA) of 2017. The CNIT overprediction error (-$193 million) was offset by underpredictions for SUT ($141 million) and PIT ($118 million). Other revenue sources that were materially different than forecast include escheats (-$146 million), gross receipts (-$91 million) and inheritance ($50 million). The total adjusted error (excludes JUA transfer) declined at the January mid-year update (-$13 million).

Fiscal Year 2018-19

The difference between actual collections and the IFO official estimate was $959 million, or 2.8% of actual General Fund revenues. All main revenue sources came in over estimate with the highest being SUT ($349 million) and CNIT ($323 million). The unexpected increase in SUT revenues was due to stronger than anticipated consumer spending from the TCJA of 2017 and the taxation of internet sales via Act 43 of 2017. Corporate net income tax revenues exceeded forecast due to strong profits growth and (likely) a greater than expected impact on the corporate tax base from the TCJA of 2017. Most other revenue sources also came in marginally higher than forecast including: PIT ($116 million), licenses and fees ($103 million) and gross receipts ($37 million). Much of the licenses and fees error was attributable to one-time revenue gains from the gaming expansion.

Fiscal Year 2019-20

The difference between actual collections and the IFO official estimate was -$1,304 million, or -3.8% of actual General Fund revenues.[1] The entire shortfall was attributable to reduced economic activity due to business closures and other mitigation efforts related to the COVID-19 pandemic. With the exception of inheritance tax, all major tax revenue sources fell short of the official estimate, including SUT (-$566 million), PIT (-$374 million) and CNIT (-$256 million). Escheats was the only revenue category to exceed projections by a significant amount ($126 million). Revenues through the mid-year were trending just ahead of the official estimate, resulting in an upward revision of $220 million to the official forecast. COVID-19 business closures and stay-at-home orders began in March, yielding a dramatic reduction to the General Fund forecast in the May update. This abrupt change in economic conditions resulted in forecast errors of -$1,524 million (-4.5%) for the January mid-year update.

[1] The IFO estimates that $1.9 billion in FY 2019-20 revenue was shifted to FY 2020-21 as a result of tax due date extensions in response to the COVID-19 pandemic. The amounts include $375 million in CNIT, $1,335 million in PIT, $160 million in SUT and $68 million in Other Tax. To facilitate an accurate comparison, this analysis assumes that the delayed revenues were received in FY 2019-20.

Fiscal Year 2020-21

The difference between actual collections and the IFO official estimate was $4,518 million, or 11.2% of actual General Fund revenues.[2] The overage was attributable to the enactment of additional federal stimulus (Lost Wage Assistance Program, the Consolidated Appropriations Act and the American Rescue Plan) after the release of the estimate, which provided for extended unemployment compensation benefits, additional economic impact payments and more funding for the Paycheck Protection Program. As a result of the significant influx of federal monies, all major tax revenue sources came in well above the official estimate, including SUT ($1,383 million), CNIT ($1,235 million) and PIT ($905 million). The January estimate incorporated an upward revision of $2,563 million, but with the enactment of the federal American Rescue Plan in March of 2021 (roughly $25 billion for the Pennsylvania economy), actual revenues outperformed even that estimate by $1,955 million, or 4.8%.

Fiscal Year 2021-22

The difference between actual collections and the IFO official estimate was $6,219 million, or 12.9% of actual General Fund revenues. All major tax revenue sources dramatically outperformed the official estimate, with PIT ($2,607 million), CNIT ($1,557 million) and SUT ($1,456 million) primarily driving the underprediction. Many factors contributed to the forecast error, including: (1) a tight labor market that resulted in very strong wage growth (PIT and SUT), (2) much higher than expected inflation rates (PIT and SUT), (3) unprecedented increases in capital gains and net business profits for tax year 2021 (PIT), (4) the continued moratorium on federal student loan repayments (SUT), (5) higher prices that were pushed forward to consumers (CNIT) and (6) shifts in consumer purchases to higher margin products (CNIT). The January estimate incorporated an upward revision of $3,407 million, but actual revenues dramatically outperformed those projections by $2,812 million, or 5.8%.

Fiscal Year 2022-23

The difference between actual collections and the IFO official estimate was $2,730 million, or 6.1% of actual General Fund revenues. Several revenue sources considerably outperformed the official estimate, with CNIT ($1,251 million), SUT ($829 million) and treasury collections ($436 million) driving the underprediction. The forecast error was primarily due to (1) higher than projected non-financial corporate domestic profits (CNIT), (2) the extension of the moratorium on federal student loan repayments (SUT) and (3) historically high general fund balances combined with rapidly rising interest rates (treasury). The January estimate incorporated an upward revision of $1,526 million, but actual revenues continued to outperform those projections by $1,205 million, or 2.7%.

[2] The IFO official estimate refers to the estimate published on June 22, 2020 and excludes statutory changes (+$331.2 million) enacted in November 2020 in conjunction with the 2020-21 state budget.

Summary

For three of the eleven fiscal years, the IFO official estimate has been within one-half percentage point of actual revenues. In those cases, revenues were slightly higher than projected (excludes JUA transfer for FY 2017-18). For the eight remaining years, the forecast error was split between over (three years) and underprediction (five years) errors. Five of those fiscal years were affected by significant policy changes at the federal and/or state levels: (1) the FY 2018-19 underprediction error was mainly driven by laws that expanded the federal and state tax bases; (2) the FY 2019-20 overprediction error resulted from the outbreak of a global pandemic, with fiscal year revenues prior to the outbreak tracking closely to the official estimate projections; (3) the FY 2020-21 underprediction error resulted from significant federal stimulus legislation enacted throughout the fiscal year; and (4) the FY 2021-22 and FY 2022-23 underprediction errors were due to highly unusual economic conditions (e.g., elevated inflation, rapidly rising interest rates) that occurred post-pandemic.

For the past three fiscal years, CNIT and SUT have been major contributors to forecast error. As a share of the overall economy, non-financial domestic corporate profits reached all-time highs in 2021 and 2022 and profit margins did not revert as most forecasts had anticipated. Consumer spending remained resilient despite significant headwinds from rising interest rates and decades-high inflation. Firms fully pushed forward all cost increases to consumers, who absorbed price increases with little or no reduction in demand for most goods and services. Under these unusual conditions that were facilitated by significant federal stimulus, corporations were able to maintain historic profit margins and consumers supported that outcome.

In addition to the relative size of forecast errors, it is useful to track the types of error (i.e., under or overprediction). Forecasts that continually under or overpredict may not be efficient and could suggest underlying issues with the models and methodologies used to make projections. Four of the past eight estimates underpredicted actual revenues, two overpredicted and two estimates were essentially the same as the actual amount (after adjusting for the JUA transfer in FY 2017-18). Projections should represent an unbiased forecast that have an equal chance of under or overprediction. The past four fiscal years were highly unusual due to an unexpected pandemic, unprecedented federal stimulus and economic conditions (inflation and unemployment). The current fiscal year will provide a better assessment of the performance of economic and revenue models as the impact of federal programs have largely ended and other long-term impacts (e.g., much higher home values) are now fully reflected in the economic data and are likely to revert to growth rates that are consistent with general economic expansion.

Table 1
General Fund Revenue Estimates: Actual Revenues Less Estimates (Dollars)

Fiscal Year	CNIT	PIT	SUT	Other Tax	All Non-Tax	Total
2012-13						
June 2012	$166	$151	-$285	$33	$72	**$137**
January 2013	$16	$51	-$85	$7	$73	**$62**
2013-14						
June 2013	$42	-$283	-$109	-$196	-$2	**-$547**
January 2014	$42	-$223	-$39	-$196	$18	**-$397**
2014-15						
June 2014	$328	$81	$30	$131	$66	**$635**
January 2015	$98	$136	-$130	$56	$226	**$385**
2015-16						
June 2015	$53	-$156	-$45	$175	$101	**$129**
January 2016	$103	-$266	-$35	$101	$76	**-$20**
2016-17						
June 2016	-$194	-$391	-$236	-$102	$81	**-$841**
January 2017	-$94	-$257	$18	-$105	$46	**-$391**
2017-18						
June 2017	-$193	$118	$141	$12	-$256	**-$178**
January 2018	-$112	$99	$143	-$48	-$295	**-$213**
2018-19						
June 2018	$323	$116	$349	$86	$85	**$959**
January 2019	$118	$390	$41	$26	$12	**$586**
2019-20[1]						
June 2019	-$256	-$374	-$566	-$151	$43	**-$1,304**
January 2020	-$231	-$436	-$637	-$177	-$43	**-$1,524**
2020-21						
June 2020[2]	$1,235	$905	$1,383	$449	$546	**$4,518**
January 2021	$649	$476	$508	$329	-$8	**$1,955**
2021-22						
June 2021	$1,557	$2,607	$1,456	$512	$87	**$6,219**
January 2022	$457	$1,835	$444	$57	$19	**$2,812**
2022-23						
June 2022	$1,251	$262	$829	$13	$376	**$2,730**
January 2023	$842	$6	$177	$143	$38	**$1,205**

Notes: Figures in dollar millions. Forecasts made in June are adjusted for any statutory changes that impact revenues.

1 The IFO estimates $1.9 billion in FY 2019-20 revenue was shifted to FY 2020-21 as a result of tax due date extensions in response to the COVID-19 pandemic. The amounts include $375 million in CNIT, $1,335 million in PIT, $160 million in SUT and $68 million in Other Tax. To facilitate an accurate comparison, this analysis assumes that the delayed revenues were received in FY 2019-20.

2 Estimate refers to the IFO's Official Estimate published on June 22, 2020 and excludes the $331 million in statutory changes enacted in November 2020 in conjunction with the 2020-21 state budget.

Table 2
General Fund Revenue Estimates: Actual Revenues Less Estimates (Percentage)

Fiscal Year	CNIT	PIT	SUT	Other Taxes	All Non-Tax	Total
2012-13						
June 2012	6.9%	1.3%	-3.2%	0.6%	12.4%	**0.5%**
January 2013	0.7%	0.4%	-1.0%	0.1%	12.6%	**0.2%**
2013-14						
June 2013	1.7%	-2.5%	-1.2%	-3.9%	-0.3%	**-1.9%**
January 2014	1.7%	-1.9%	-0.4%	-3.9%	3.6%	**-1.4%**
2014-15						
June 2014	11.7%	0.7%	0.3%	2.6%	6.0%	**2.1%**
January 2015	3.5%	1.1%	-1.4%	1.1%	20.5%	**1.3%**
2015-16						
June 2015	1.9%	-1.2%	-0.5%	3.4%	15.7%	**0.4%**
January 2016	3.6%	-2.1%	-0.4%	2.0%	11.8%	**-0.1%**
2016-17						
June 2016	-7.0%	-3.1%	-2.4%	-1.9%	8.9%	**-2.7%**
January 2017	-3.4%	-2.0%	0.2%	-2.0%	5.0%	**-1.2%**
2017-18						
June 2017	-6.7%	0.9%	1.4%	0.2%	-10.0%	**-0.5%**
January 2018	-3.9%	0.7%	1.4%	-0.9%	-11.5%	**-0.6%**
2018-19						
June 2018	9.5%	0.8%	3.1%	1.6%	10.6%	**2.8%**
January 2019	3.5%	2.8%	0.4%	0.5%	1.5%	**1.7%**
2019-20[1]						
June 2019	-8.0%	-2.6%	-5.2%	-2.9%	6.4%	**-3.8%**
January 2020	-7.2%	-3.1%	-5.8%	-3.4%	-6.4%	**-4.5%**
2020-21						
June 2020[2]	27.9%	5.6%	10.8%	8.0%	45.0%	**11.2%**
January 2021	14.7%	2.9%	4.0%	5.8%	-0.6%	**4.8%**
2021-22						
June 2021	29.3%	14.4%	10.5%	8.4%	1.9%	**12.9%**
January 2022	8.6%	10.1%	3.2%	0.9%	0.4%	**5.8%**
2022-23						
June 2022	20.4%	1.5%	5.9%	0.2%	33.0%	**6.1%**
January 2023	13.7%	0.0%	1.3%	2.4%	3.3%	**2.7%**

Notes: Forecasts made in June are adjusted for any statutory changes made to the tax or fiscal codes.

1 The IFO estimates $1.9 billion in FY 2019-20 revenue was shifted to FY 2020-21 as a result of tax due date extensions in response to the COVID-19 pandemic. The amounts include $375 million in CNIT, $1,335 million in PIT, $160 million in SUT and $68 million in Other Tax. To facilitate an accurate comparison, this analysis assumes that the delayed revenues were received in FY 2019-20.

2 Estimate refers to the IFO's Official Estimate published on June 22, 2020 and excludes the $331 million in statutory changes enacted in November 2020 in conjunction with the 2020-21 state budget.