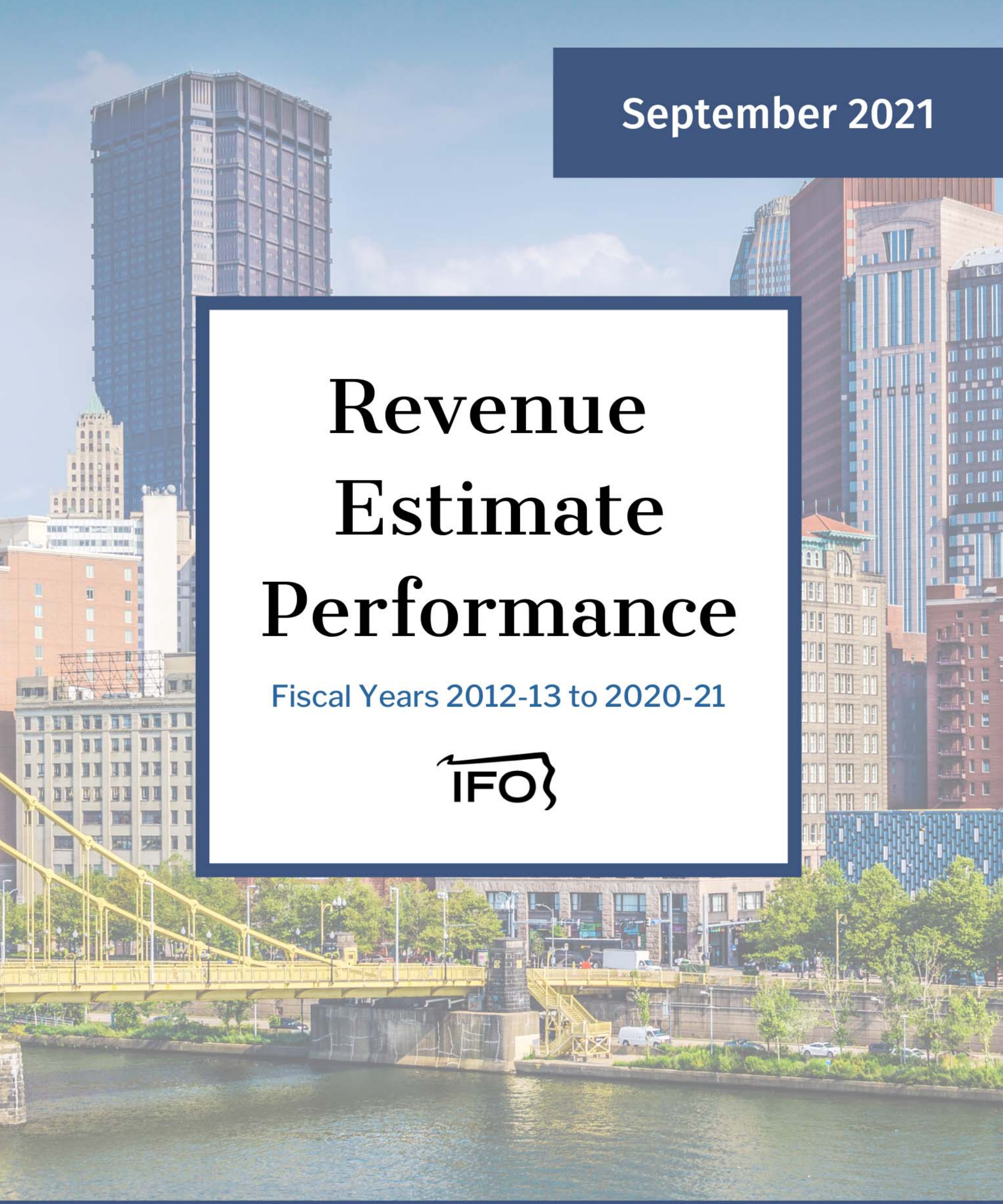

September 2021

# Revenue Estimate Performance

## Fiscal Years 2012-13 to 2020-21

IFO

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This document examines the performance of General Fund revenue estimates made by the Independent Fiscal Office (IFO) since its inception (September 2011) through June 2021. That time period covers nine complete budget cycles. For each fiscal year, this document compares actual collections to the IFO's revenue estimates made at three specific times during the fiscal year, as required by the statute that created the office. The three 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 2020-21 was released on June 22, 2020. 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 2020-21 was released on January 21, 2021. The update is based on a revised economic forecast and revenue collections for the first half of the fiscal year.
- **May Update** This revenue estimate occurs in May of the same fiscal year. The estimate reflects actual collections for the first ten months of the fiscal year. A preliminary estimate for the following fiscal year is also released.

The text that follows discusses the performance of IFO General Fund revenue estimates for the past nine 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 $350 to $400 million deviation from actual revenues.

## Fiscal Year 2012-13

The difference between actual collections and the IFO official estimate was $137 million, or 0.5% of actual General Fund revenues. (See **Tables 1 and 2**, final columns.) While corporate net income tax (CNIT) and personal income tax (PIT) revenues exceeded estimate, sales and use tax (SUT) revenues fell short of estimate. The underprediction error for CNIT was partly attributable to the reversal of federal 100% bonus depreciation, which was effective for tax year 2011. The underprediction error for PIT was attributable to the larger-than-expected revenue impact from changes in federal tax laws, which motivated high-income taxpayers to declare certain income (e.g., capital gains) in tax year 2012, prior to rate increases that became effective January 1, 2013. The total underprediction error declined at the January mid-year update ($62 million) and May update ($67 million).

## Fiscal Year 2013-14

The difference between actual collections and the IFO official estimate was -$547 million, or -1.9% of actual General Fund revenues. All major revenue sources except CNIT fell short of the official estimate. Although the negative impact from federal income tax law changes (higher tax rates) was included in the official estimate, the impact on PIT was larger than expected. For the entire fiscal year, General Fund tax revenues increased by only $31 million (0.1%), driven by weak economic growth and unexpected year-over-year reductions in several revenue sources related to the financial sector (insurance premiums and bank shares taxes). The forecast error declined at the January mid-year update (-$397 million) and May update ($60 million).

## Fiscal Year 2014-15

The difference between actual collections and the IFO official estimate was $635 million, or 2.1% of actual General Fund revenues. The CNIT ($328 million) and escheats ($242 million, unclaimed property that is remitted to the Commonwealth, such as abandoned bank accounts, included in non-tax) revenue sources comprised the majority of the underprediction error. The factors driving the CNIT error are not clear because the growth in U.S. non-financial domestic profits (3.9%) for 2014 was much lower than the growth in FY 2014-15 revenues (12.4%). The escheats error was attributable to the underestimation of the revenue impact from a statutory change that reduced the holding period for unclaimed property (mainly financial accounts) from five to three years. The IFO had assumed that the policy change would yield $150 million of additional revenues for the fiscal year, but the actual impact was likely closer to $400 million. The inheritance tax forecast also underpredicted revenues due to an unusual payment of $100 million attributable to a single decedent. The overall underprediction error declined at the January mid-year update ($385 million) and May update ($42 million).

## 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. An overprediction of PIT (-$156 million) and SUT (-$45 million) was more than offset by an underprediction of escheats ($94 million), 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. An unusual and unanticipated year-over-year decline in SUT and PIT estimated payments received in June 2016 increased the total shortfall (-$120 million) relative to the forecast from the May update.

## 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) and May update ($54 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) but increased for the May update ($66 million) due to strong growth of SUT revenues.

## 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 and $311 million (0.9%) for the May update.

## 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

[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.

[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.

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%. Continued strength in consumer spending and better than expected performance of mid-sized and large businesses generated revenues that exceeded the May 2021 estimate by $281 million.

## Summary

For three of the nine 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 six remaining years, the forecast error was evenly split between over and underprediction errors (three years each). Five of those fiscal years were affected by significant policy changes at the federal and/or state levels: (1) the FY 2013-14 overprediction error was driven by taxpayer behavior related to higher federal tax rates and the so-called "fiscal cliff"; (2) the FY 2014-15 underprediction error was driven by a much larger than anticipated gain in escheats collections related to the reduction in the holding period from five to three years; (3) the FY 2018-19 underprediction error was mainly driven by laws that expanded the federal and state tax bases; (4) 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; and (5) the FY 2020-21 underprediction error resulted from significant federal stimulus legislation enacted throughout the fiscal year.

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 may suggest underlying issues with the models and methodologies used to make projections. Five of the past nine estimates underpredicted actual revenues, three overpredicted and one estimate was essentially the same as the actual amount (after adjusting for the JUA transfer). Projections should represent an unbiased forecast that have an equal chance of under or overprediction. The pattern of forecast errors from the past nine budget cycles does not suggest an inherent bias in General Fund revenue estimates.

**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** |
| May 2013 | $23 | -$19 | $27 | $41 | -$5 | **$67** |
| 2013-14 | | | | | | |
| June 2013 | $42 | -$283 | -$109 | -$196 | -$2 | **-$547** |
| January 2014 | $42 | -$223 | -$39 | -$196 | $18 | **-$397** |
| May 2014 | $31 | -$5 | -$10 | $35 | $10 | **$60** |
| 2014-15 | | | | | | |
| June 2014 | $328 | $81 | $30 | $131 | $66 | **$635** |
| January 2015 | $98 | $136 | -$130 | $56 | $226 | **$385** |
| May 2015 | -$7 | $43 | -$64 | $47 | $21 | **$42** |
| 2015-16[1] | | | | | | |
| June 2015 | $53 | -$156 | -$45 | $175 | $101 | **$129** |
| January 2016 | $103 | -$266 | -$35 | $101 | $76 | **-$20** |
| May 2016 | $5 | -$95 | -$45 | $32 | -$18 | **-$120** |
| 2016-17 | | | | | | |
| June 2016 | -$194 | -$391 | -$236 | -$102 | $81 | **-$841** |
| January 2017 | -$94 | -$257 | $18 | -$105 | $46 | **-$391** |
| May 2017 | -$35 | -$33 | $54 | -$10 | -$123 | **-$146** |
| 2017-18 | | | | | | |
| June 2017 | -$193 | $118 | $141 | $12 | -$256 | **-$178** |
| January 2018 | -$112 | $99 | $143 | -$48 | -$295 | **-$213** |
| May 2018 | -$17 | $8 | $78 | $3 | -$7 | **$66** |
| 2018-19 | | | | | | |
| June 2018 | $323 | $116 | $349 | $86 | $85 | **$959** |
| January 2019 | $118 | $390 | $41 | $26 | $12 | **$586** |
| May 2019 | $5 | $16 | $37 | $15 | $19 | **$92** |
| 2019-20[2] | | | | | | |
| June 2019 | -$256 | -$374 | -$566 | -$151 | $43 | **-$1,304** |
| January 2020 | -$231 | -$436 | -$637 | -$177 | -$43 | **-$1,524** |
| May 2020 | $32 | $20 | $273 | -$5 | -$9 | **$311** |
| 2020-21 | | | | | | |
| June 2020[3] | $1,235 | $905 | $1,383 | $449 | $546 | **$4,518** |
| January 2021 | $649 | $476 | $508 | $329 | -$8 | **$1,955** |
| May 2021 | $120 | $28 | $126 | $30 | -$24 | **$281** |

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

1 FY 2015-16 comparison adjusts for $51 million in transfers to the General Fund approved in December 2015.

2 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.

3 Estimate refers to the IFO's Official Estimate published on June 22, 2020 and excludes 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%** |
| May 2013 | 1.0% | -0.2% | 0.3% | 0.8% | -0.9% | **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%** |
| May 2014 | 1.2% | 0.0% | -0.1% | 0.7% | 2.0% | **0.2%** |
| 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%** |
| May 2015 | -0.2% | 0.4% | -0.7% | 0.9% | 1.9% | **0.1%** |
| 2015-16[1] | | | | | | |
| 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%** |
| May 2016 | 0.2% | -0.8% | -0.5% | 0.6% | -2.8% | **-0.4%** |
| 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%** |
| May 2017 | -1.3% | -0.3% | 0.5% | -0.2% | -13.5% | **-0.5%** |
| 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%** |
| May 2018 | -0.6% | 0.1% | 0.8% | 0.1% | -0.3% | **0.2%** |
| 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%** |
| May 2019 | 0.1% | 0.1% | 0.3% | 0.3% | 2.4% | **0.3%** |
| 2019-20[2] | | | | | | |
| 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%** |
| May 2020 | 1.0% | 0.1% | 2.5% | -0.1% | -1.3% | **0.9%** |
| 2020-21 | | | | | | |
| June 2020[3] | 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%** |
| May 2021 | 2.7% | 0.2% | 1.0% | 0.5% | -2.0% | **0.7%** |

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

1 FY 2015-16 comparison adjusts for $51 million in transfers to the General Fund approved in December 2015.

2 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.

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