July 2019

Revenue Estimate Performance

Fiscal Years 2012-13 to 2018-19

IFO

INDEPENDENT FISCAL OFFICE

About the Independent Fiscal Office

The Independent Fiscal Office (IFO) provides revenue projections for use in the state budget process along with impartial and timely analysis of fiscal, economic and budgetary issues to assist Commonwealth residents and the General Assembly in their evaluation of policy decisions. In that capacity, the IFO does not support or oppose any policy it analyzes, and will disclose the methodologies, data sources and assumptions used in published reports and estimates.

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The Independent Fiscal Office was created
by the Act of Nov. 23, 2010 (P.L.1269, No.120).

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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 May 2018. That time period covers seven 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 2018-19 was released on June 18, 2018. 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 2018-19 was released on January 29, 2019. 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 seven 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 $300 to $350 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 percent 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 percent 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 percent 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 percent), 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 percent 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 percent) for 2014 was much lower than the growth in FY 2014-15 revenues (12.4 percent). 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 percent 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 percent 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 percent. 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 percent 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 percent. 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 percent 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.

Summary

For three of the seven 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 other years, the forecast error was evenly split between over and underprediction errors. Three of those fiscal years were affected by significant policy changes at the federal and/or state levels. The FY 2013-14 overprediction error was driven by taxpayer behavior related to higher federal tax rates and the so-called "fiscal cliff." 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. The FY 2018-19 underprediction error was mainly driven by laws that expanded the federal and state tax bases.

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. Four of the past seven estimates underpredicted actual revenues, two 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 seven 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						
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**

Notes: Figures in dollar millons. Forecasts made in June are adjusted for any statutory changes that impact revenues. FY 2015-16 comparison adjusts for $51 million in transfers to the General Fund approved in December 2015.

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%	40.5%	**0.5%**
January 2013	0.7%	0.4%	-1.0%	0.1%	35.7%	**0.2%**
May 2013	1.0%	-0.2%	0.3%	0.8%	-0.5%	**0.2%**
2013-14						
June 2013	1.7%	-2.5%	-1.2%	-3.9%	-13.2%	**-1.9%**
January 2014	1.7%	-1.9%	-0.4%	-3.9%	0.1%	**-1.4%**
May 2014	1.2%	0.0%	-0.1%	0.7%	12.0%	**0.2%**
2014-15						
June 2014	11.7%	0.7%	0.3%	2.6%	12.8%	**2.1%**
January 2015	3.5%	1.1%	-1.4%	1.1%	41.5%	**1.3%**
May 2015	-0.2%	0.4%	-0.7%	0.9%	3.9%	**0.1%**
2015-16						
June 2015	1.9%	-1.2%	-0.5%	3.4%	39.2%	**0.4%**
January 2016	3.6%	-2.1%	-0.4%	2.0%	27.0%	**-0.1%**
May 2016	0.2%	-0.8%	-0.5%	0.6%	-8.0%	**-0.4%**
2016-17						
June 2016	-7.0%	-3.1%	-2.4%	-1.9%	35.6%	**-2.7%**
January 2017	-3.4%	-2.0%	0.2%	-2.0%	15.5%	**-1.2%**
May 2017	-1.3%	-0.3%	0.5%	-0.2%	13.2%	**-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%**

Notes: Forecasts made in June are adjusted for any statutory changes made to the tax or fiscal codes. FY 2015-16 comparison adjusts for $51 million in transfers to the General Fund approved in December 2015.