Stress Testing Houston's Finances

Office of the Houston City Controller

March 2, 2020

Executive Summary

As the city's Chief Financial Officer and taxpayer watchdog, the responsibility vested in the Office of the City Controller ("Controller's Office") requires strong fiscal stewardship and, on some occasions, informing the Mayor, City Council, and the public to externalities that could otherwise negatively impact the City of Houston's ("the City") financial wellbeing. With an already strained financial position due largely to the recurring structural deficit, rising cost of health care, high fixed costs, and pending litigation which could obligate it to incur costly expenditures, the City must be aware of its ability to manage through any additional stressors that could be placed on its finances.

The most recent survey of leading business economists revealed 13 percent believe a recession will occur in calendar year 2020, 37 percent believe a recession will begin in 2021, 37 percent believe a recession will occur after 2021, and 13 percent had no opinion or did not know.[1] While it remains unclear when a recession will occur, it is safe to assume the U.S. economy will enter a recession sometime in the future. A ten-year bull market, inversion of the yield curve, global trade tensions, and a potential 'triggering' event like a global pandemic, are factors that economists consider when evaluating whether a recession is on the horizon. This report is not intended to predict when a recession will occur, but rather help answer how well is the City positioned to address the strain a recession could pose on its finances.

Thus, assessing the City's fiscal resilience should a recession occur is a necessary exercise for the City to undertake.

Through a comprehensive review of revenue and expenditure trends from the previous two recessions and the most recent oil bust, this report outlines various recessionary scenarios that could help guide city leaders. As the administration and other stakeholders seek to achieve a structurally balanced budget, this report serves to inform the public on what a recessionary scenario might look like for the City.

A recession would have a significant financial impact on the City's bottom line. Further exacerbating the effects of a potential recession is its structurally imbalanced budget, which will continue to put stress on the City's finances.

Based on our analysis for Fiscal Year ("FY") 2021, out of 49 possible scenarios of revenue decline/growth and expenditures decline/growth, only one scenario produced a structurally balanced operating budget. That scenario would require recurring year-over-year revenue growth of 3 percent and expenditures to decline by 3 percent. Our hypothetical recession, over a five-year period beginning in FY 2021, based on historical trends revealed a worst-case scenario of an operating deficit of $331 million and a best-case scenario of $156 million. This analysis does not consider mitigating actions that might be taken following a recession setting in, and the hypothetical test cases represent best- and worst-case scenarios.

The Controller's Office current projection for FY 2020 general fund shows a $145 million operating deficit.[2] That baseline deficit can increase substantially should a recession occur. The City has benefited from conservative budgeting and a strong leadership team committed to sound fiscal practices, and these results do not consider management's hypothetical decision making to curb spending. However, these results further underscore the importance of working toward and achieving a structurally balanced budget.

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[1] National Association for Business Economics, Economic Policy Survey. February 2020.

[2] City of Houston, Monthly Financial Report. February 28, 2020.

Introduction

Following the lead of the private sector and other localities, the Office of the City Controller conducted a "stress test" study to help describe how an economic contraction might impact the City of Houston's finances. This study is not intended to be a predictor of when a recession might occur—that should be left to the economists. However, the outlook of leading economists did inform the analysis detailed in this document.

The National Association for Business Economics (NABE) most recent survey published in February 2020 indicated 50 percent of the 210 responding national economists believe a recession will happen by 2021 or sooner. Another 37 percent believe a recession will occur after 2021, and 13 percent did not know or had no opinion. [3] Economic activity occurs in cycles, and prior history demonstrates that the U.S. economy entering a recession is simply a matter of time.

Unforeseen economic events and current market trends dictate that city leadership take every precaution to mitigate the operational risk of a recession. Acknowledging the risk of a recession while considering outstanding fiscal trials facing the City substantiates the increased alertness. By establishing hypothetical stress test scenarios, outlining likely depressions in revenue streams, and countering increases in expenditures, the City can best position itself to weather future economic storms.

Houston's Fiscal Landscape

In 2016 Mayor Turner, city leaders, engaged stakeholders like the Greater Houston Partnership, and the local delegation in the Texas Legislature, worked together to address the City's historically underfunded pension liabilities. With the *Houston Pension Solution* in place, the unfunded pension liability was cut in half from nearly $8.2 billion [4] [5] [6] to $4.1 billion.[7] At the time, achieving Houston's pension reform was the most critical financial milestone the City needed to achieve.

But even with pension reform in place, significant financial challenges remain.

In each budget cycle before and after pension reform, the Controller's Office has advocated for the adoption of a structurally balanced budget. To this end, the Controller's Office has continued to signal concern over large drawdowns on the City's fund balance, the use of one-time financing sources to address budgetary deficits, and the need to address the growing Other Post Employment Benefit ("OPEB") liability, which sits at $2.3 billion at the time of publication.[8]

With a structural deficit of roughly $156 million anticipated in FY 2021, financial uncertainty related to the recent firefighter pay parity ballot item – Proposition B; aging city resources and historically deferred maintenance costs; as well as continued recovery efforts from Hurricane Harvey and Tropical Storm Imelda still ahead, the City must also consider:

1. How a recession will affect the City's fiscal resilience; and
2. How can the City mitigate against the negative effects of an economic recession?

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[3] National Association for Business Economics, Economic Policy Survey. February 2020.
[4] Houston Police Officers Pension System (HPOPS) Cost Analysis, Actuarial Report. March 15, 2017.
[5] Houston Firefighter Relief and Retirement Fund (HFRRF) Cost Analysis, Actuarial Report. March 15, 2017.
[6] Houston Municipal Employees Pension System (HMEPS) Cost Analysis, Actuarial Report. March 15, 2017.
[7] City of Houston, Comprehensive Annual Financial Report Fiscal Year 2018. December 2018.
[8] City of Houston, Comprehensive Annual Financial Report Fiscal Year 2020. December 2019.

Property Tax Revenue

The Greater Houston region has enjoyed steady population growth year-over-year. Across the U.S., property tax revenue will see growth for an eighth consecutive year at an inflation-adjusted 4.5 percent in 2020, providing cushion for some localities in their efforts of weathering economic downturns.[9] Generally, localities see slower property tax growth – and even decreases – in the years following a recession.

As seen below in Figure 2, the City of Houston saw slower growth in property tax revenue at the end of The Great Recession. The City saw slow growth until property tax revenue decreased by negative 3.7 percent in FY 2011. Similarly, in Figure 1 the City saw slower growth in property tax revenue during the final years, FY 2003 – FY 2005, of the Dot-com recession period.

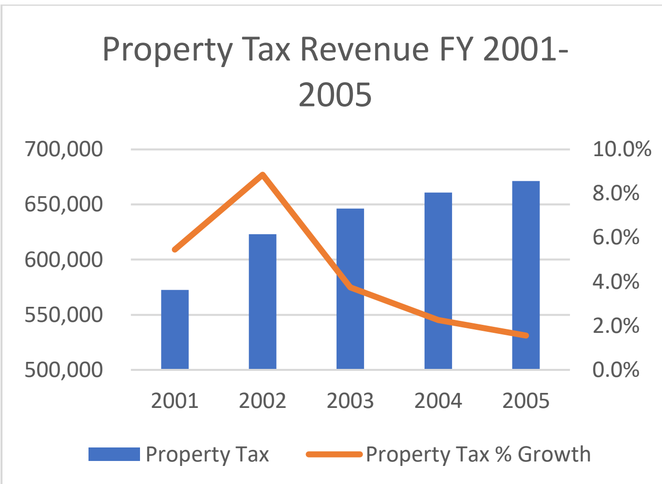

Figure 1 City of Houston CAFRs FY 2001-2005

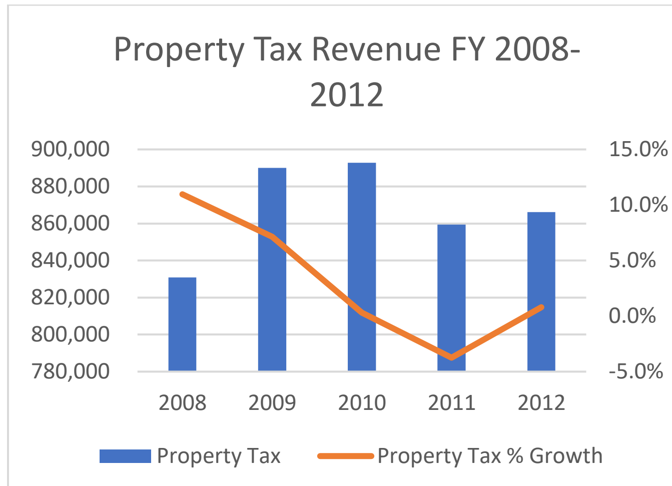

Figure 2 City of Houston CAFRs FY 2008-2012

Sales Tax Revenue

Sales tax followed a similar pattern as property tax revenue during The Great Recession and Dot-com Recession. Sales tax revenue slowed in year two and went negative in year three of both recessions. As seen below in Figure 3 and 4, the City saw negative sales tax growth after the technical recession ended. This was consistent across other revenue streams.

[9] Moody's Investor Service, 2020 outlook stable with revenue set to grow despite slowing economic growth. December 13, 2019.

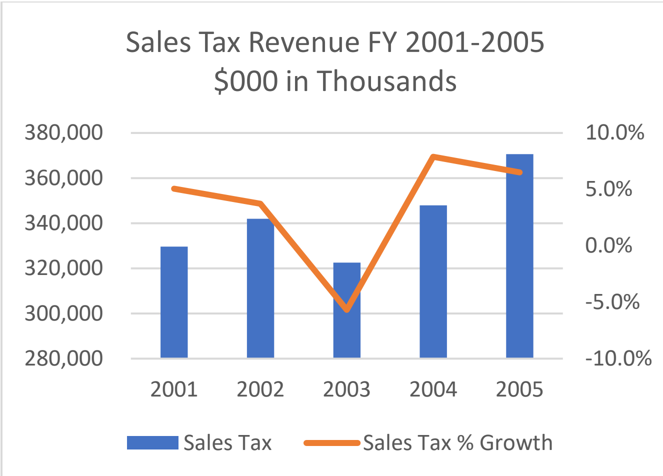

Figure 3 City of Houston CAFRs FY 2001-2005

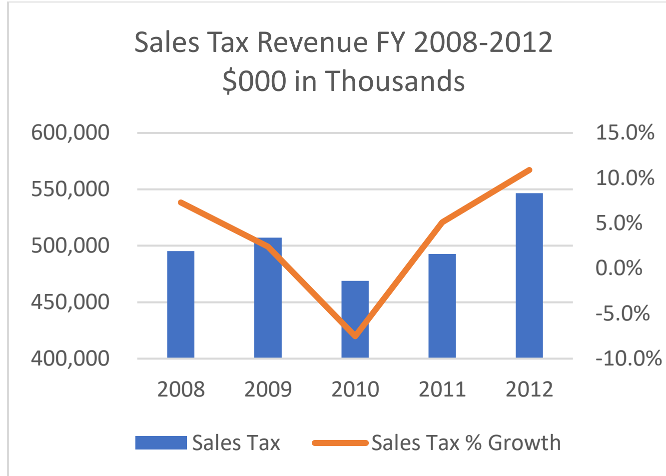

Figure 4 City of Houston CAFRs FY 2008-2012

Houston's Real Estate Market

The Greater Houston region has enjoyed a relatively resilient real estate market throughout the better part of the 2000s. At the time of this report, the City's real estate market continues to hit all-time highs, as total single-family home sales reached 8,953 in the first month of Fiscal Year 2019.[10] That number eclipses the previous record of 8,385 monthly single-family home sales set in Fiscal Year 2018.[11] Houston's real estate market continues to show significant strength and will likely continue to buoy the regional economy. Low interest rates and a low cost of living continue to drive the strength of the region's real estate market and will continue to do so into the future.

Preserving Fund Balance to Weather Economic Downturns

Another indicator of a locality's fiscal resilience during a recession is the preservation of a fund balance to mitigate against disasters or economic downturns. By practice, the Government Finance Officers Association (GFOA) recommend localities maintain a reserve equivalent to roughly two months of expenses.[12] While maintaining two months of general fund operating expenses in reserve may be an unrealistic goal, it's prudent for the City to maintain as large a fund balance as possible, particularly in preparation for an economic downturn.

[10] Houston Association of Realtors, MLS Press Release. August 14, 2019.
[11] City of Houston, Comprehensive Annual Financial Report Fiscal Year 2018. December 2018.
[12] Government Finance Officers Association, Fund Balance Guidelines for General Fund. September 2015.

Stress Test: How Will Houston Respond to an Economic Downturn?

An evaluation of how prior recessions have impacted Houston's finances lends insight into how one might look for Houston in the future. Historically, as the economic picture worsens for a municipality, demand for city services increases and revenues decline, though at various rates. These factors put added strain on the increasingly limited resources of local governments which, unlike the federal government, cannot issue debt to pay for operating costs. This limits the options available to the localities and their decision makers.

Three significant financial downturns were evaluated as part of this stress test: The Dot-com Bubble, The Great Recession, and the 2015-16 Oil bust. These three events impacted the City in different ways, but all had a significant negative impact on economic activity in the region.

The Dot-com Bubble (Early 2000s)

Nationally, the Dot-com Bubble was a relatively mild recession, though for Houston, it was accompanied by an oil downturn, the collapse of Enron Corporation, and the effects of the September 11th attacks. Even so, the peak to trough lasted six quarters or roughly one and a half years.[13] The recovery, from trough to prior peak, took ten quarters.[14] During the first year of recovery, property tax revenue growth slowed to the lowest year-over-year levels in five years and sales tax declined by 6 percent in the first year of recovery.[15]

The Great Recession (Late 00s & Early 10s)

The Great Recession also corresponded with a decline in WTI Crude prices, though not as a dramatic fall as the 2015-16 oil bust. WTI Crude peaked in July 2008, but then went into decline and hit bottom at $36 per barrel in February 2009.[16] The combination of low WTI Crude prices and the fall out of the financial markets began to impact sales tax, which declined by 7.5 percent for FY 2010.[17] The recession culminated with layoffs of more than 700 city employees in 2011. The peak to trough lasted five quarters and trough to prior peak took ten quarters.[18]

The Oil Bust (2015-2016)

The 2015-16 oil bust, though technically not a recession, did show the impact of how an oil and gas related economic event might impact Houston. The downturn in WTI Crude prices from a high in early 2015 was more rapid than the fall of prices seen in the 1980s.[19] In February 2016, the WTI price hit a low of $26 a barrel – a precipitous drop.[20] This began a two-year decline in the City's sales tax revenue: a decline of 4 percent for FY 2016 and a decline of 1.3 percent for FY 2017.[21] The downturn lasted eight quarters and recovery took ten plus quarters.[22]

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[13] Institute for Regional Forecasting, Outlook for City of Houston Sales Tax Revenues: FY 2020-2024. October 2019.
[14] Institute for Regional Forecasting, Outlook for City of Houston Sales Tax Revenues: FY 2020-2024. October 2019.
[15] City of Houston, Comprehensive Annual Financial Report Fiscal Years. 1998 – 2005.
[16] U.S. Energy Information Administration.
[17] City of Houston Comprehensive Annual Financial Report Fiscal Year 2010. November 2010.
[18] Institute for Regional Forecasting, Outlook for City of Houston Sales Tax Revenues: FY 2020-2024. October 2019.
[19] Institute for Regional Forecasting, Outlook for City of Houston Sales Tax Revenues: FY 2020-2024. October 2019.
[20] U.S. Energy Information Administration.
[21] City of Houston, Comprehensive Annual Financial Report Fiscal Years. December 2016 & December 2017.
[22] Institute for Regional Forecasting, Outlook for City of Houston Sales Tax Revenues: FY 2020-2024. October 2019.

Stress Test Conclusions

These events demonstrate two common themes: a lag from when the recession begins to when the peak financial impact hits the City's bottom line, and recovery lasting longer than the recession itself. The long period needed for the region to recover is due in part to the cyclical nature of Houston's economy. It is also clear that Houston's economy typically receives a 'double blow' during a recession, due to an accompanying decline in global oil demand.[23]

The testing began with a sensitivity analysis of general fund FY 2021 revenues and expenditures based on current FY 2020 projections. Growth rates ranging from -3 percent to +3 percent were applied to FY 2020 projected revenues and expenditures for FY 2021, the highlights are below:

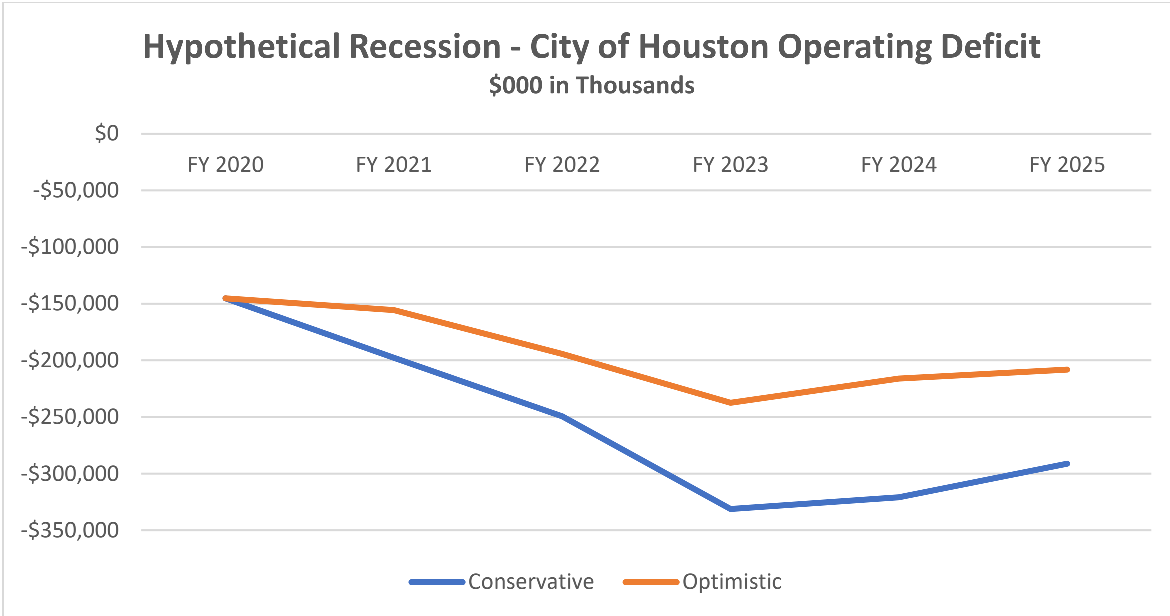
- For FY 2021, a sensitivity analysis of 49 possible outcomes where general fund revenue growth ranged from -3 percent to +3 percent and expenditure growth ranged from -3 percent to +3 percent only produced one outcome of a structurally balanced budget. General fund revenue would need to increase by 3 percent and expenditures decrease by 3 percent to achieve structural balance.
- For FY 2021, the worst possible outcome of -3 percent revenue growth coupled with +3 percent expenditure growth would produce an operating deficit of $294 million.

In terms of magnitude, the greatest decrease in property tax revenue was seen during The Great Recession, which saw a year-over-year decrease of -3.75 percent in FY 2011. The greatest decline in sales tax revenue also occurred during The Great Recession, which saw year-over-year decline of -7.52 percent. If those growth rates were applied to forecasted FY 2021 revenues based on current FY 2020 projections, then property tax revenue would decline by $46 million and sales tax by $53 million. The combined loss to City's revenues would be nearly $100 million.

For the purposes of our hypothetical scenarios, we assume a recession lasts for eight quarters, begins in FY 2021, and recovery takes ten quarters or longer.

Our hypothetical recessions included three scenarios – one that trended like The Great Recession, one that trended like the Dot-com Recession and then a scenario considering the 2015-16 oil bust. The Great Recession would be the worst-case scenario; however, most all scenarios greatly increase the operating deficit based on current financial trends. The chart below illustrates the City's operating deficit in a high/low scenario for the hypothetical recessions.

[23] Institute for Regional Forecasting, Outlook for City of Houston Sales Tax Revenues: FY 2020-2024. October 2019.



To perform the stress test and analyze hypothetical recession scenarios, certain simplifying assumptions were made.

First, only the City's general fund operating budget was evaluated, and the test did not consider one-time, non-recurring revenue sources. We consider the City's "Net Current Activity" as a proxy for operating surpluses or deficits. A negative Net Current Activity would indicate a structural imbalance where recurring revenues do not meet recurring expenditures.

Second, the hypothetical recession scenarios mimicked the historical pattern of prior recessions under existing financial constraints. For example, the City's revenue cap was considered in stress test scenarios. Additionally, the numbers are not adjusted for inflation.

Lastly, any downturn in the financial markets would have an impact on the City's pension costs. A decrease in the value of a pension portfolio would require a larger contribution by the City as allowed under state law. The increased cost to the City because of a financial market downturn was not factored but would undoubtedly increase the financial strain to our City.

It is not too late to safeguard against a recession. What helped Houston navigate through prior downturns was robust reserves and conservative budgeting. While it is prudent to continue to utilize conservative budgeting practices, the City must take every measure necessary to build up its fund balance. Rather than utilizing one-time funding sources to plug budget deficits and address operating expenses, the City must find ways to put those resources into its savings account. The City's net worth, or statement of net position, continues to be hamstrung by the selling of capital assets and depletion of its reserve funds.

While the short-term outlook of Houston's economy remains positive – and this report should not serve as a predictor of when a potential recession will occur – it's important that the City begins to take the necessary steps today to better position itself to weather a recession in the future.