

# Tax buoyancy

## Too noisy for signals

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# **Tax buoyancy**

## **Too noisy for signals**

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*The true trend in tax revenues has been obscured by pandemic-related effects, inflation, and discretionary policy changes, which hinder accurate economic assessments for several successive years.*

What can we conclude about the post-pandemic recovery based on tax revenues? How much information can we derive from the observed tax buoyancy? What does it tell us about the strength of revenue growth, fiscal sustainability, and the economy's structural features? Such questions are relevant from the standpoint of recovery from the pandemic, the resurgence of inflation, and tax policy responses in the just-concluded financial year. Given these exceptional developments, the historical relationship of tax revenues with GDP is unlikely to have remained unchanged; rather, more probably, this might have been disturbed. This note attempts to unravel these critical issues.

Tax buoyancy, a measure of how tax revenues move with changes in output,<sup>1</sup> reflects the underlying attributes of an economy, effective collections, and the effects of policy measures implemented over a period. In a downturn, the metric can guide the fiscal actions needed to provide demand support in case transfers or welfare expenditures were not budgeted ex-ante. Macroeconomic signals from movements in this ratio are invaluable as they inform us about the evolution of fiscal balances. A value of one, for example, would imply no change in the tax–GDP ratio, and, therefore, indicates fiscal sustainability. A value less than unity would mean a larger fiscal deficit and the consequent need for offsetting discretionary measures. A score exceeding one would reduce the deficit ratio because greater growth will raise revenues faster than the GDP. It is also the key metric that provides the revenue outlook that authorities use for their budgetary forecasts and planning. Most importantly, the automatic movement of tax revenues along with the GDP provides information on the economy's health—the two series are highly integrated due to a long-term relationship with profits, incomes, sales, etc.—the proxy bases.

Historical relationships can, however, be disturbed by exceptional shocks that usually induce governments to change tax policy in response, called 'additional revenue measures' or ARMs. Such policy measures make accurate assessments difficult. Tax policies have been a particularly critical tool in many countries' fiscal response to COVID-19. A better and more precise measure is tax elasticity, which is net of policy changes. However, this calculation requires knowledge and quantification of tax policy adjustments, about which information is mostly unavailable or incomplete.

In FY 2022–23 (FY23), three factors coincided impacted tax revenues, obscuring our sense of true buoyancy. One, this was the first year after the pandemic when economic activities recommenced with the almost complete reopening of the economy. The post-pandemic normalisation of demand and supply, which might have been uneven and non-linear, would have exerted considerable influence on tax receipts due to the bunching of various effects.<sup>2</sup> Two, this was also a high inflation year, the second in succession, with double-digit producer price growth in the first half (14.2% monthly average, April–September 2022). Three, there were several changes in tax rates, coverage, and additional resource mobilisation measures that also affected the data, masking the automatic co-movement of revenues with aggregate output.

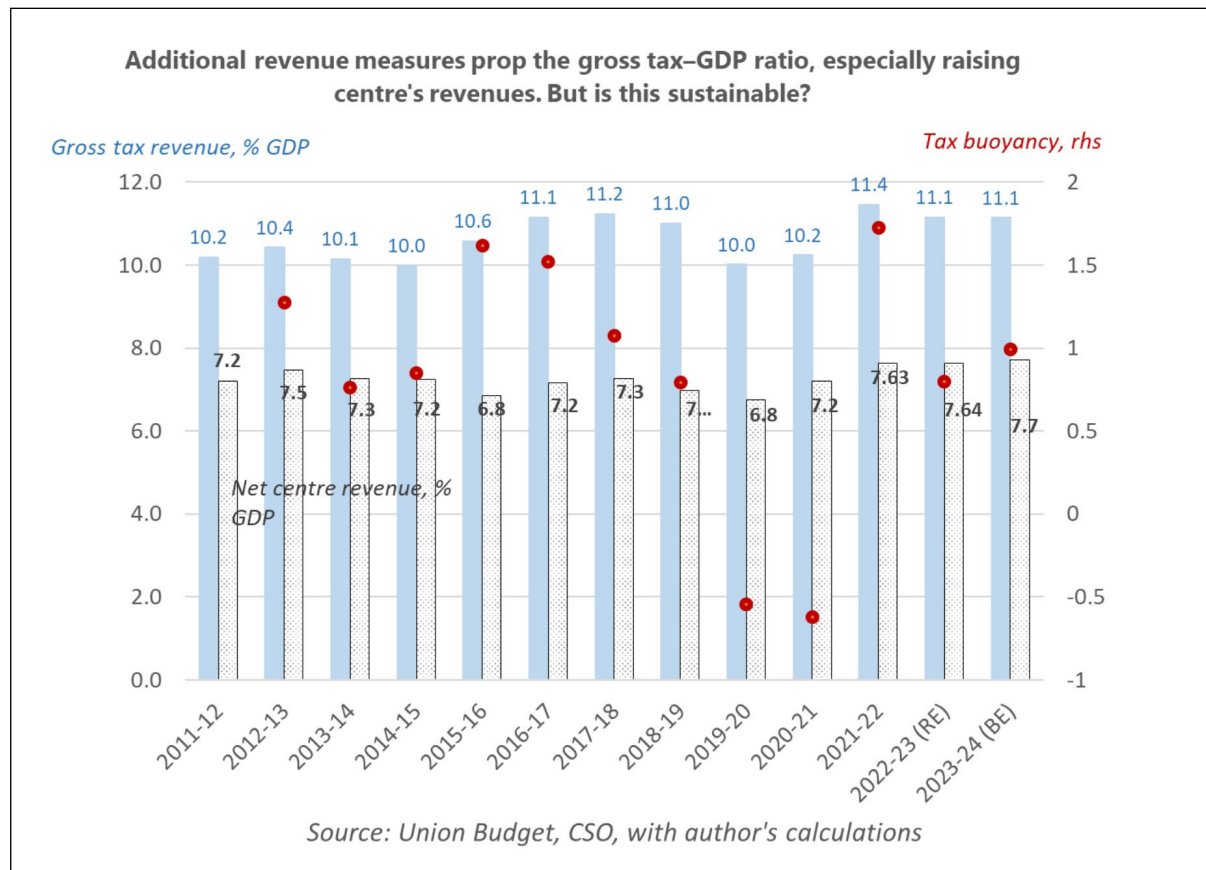
To illustrate the problem, consider the 12.3% growth in gross tax revenues in FY23 and the nominal GDP growth of 15.4%. The calculated tax buoyancy of 0.8 corresponds to a fall in the tax–GDP ratio to 11.1% from 11.4% the previous year (Figure 1). However, some revenue was lost from fuel levy reductions in May 2022 to check inflation. There were also a few offsets to muster revenues elsewhere (Table 1). Excluding total excise duty receipts for a better understanding, as the actual revenue loss from fuel duty cuts is not accurately known, it is seen that gross tax revenues grew 17.6%, a tax buoyancy (TB) exceeding one (1.15). We can take another route using a crude adjustment of overall

<sup>1</sup> The per cent change in total tax revenue resulting from one per cent change in GDP.

<sup>2</sup> OECD's analysis found that increases in tax revenues in nominal terms in 2021 were far larger than declines in 2020 (OECD, 2022).

excise revenues based on a reported estimate of the authorities at the time of duty cuts (a loss of Rs 1 trillion) and by adding Rs 400 billion offset from windfall profit taxes and GST rate adjustment. This modification shows gross tax revenue growth of 10.1% and a tax buoyancy of 0.66. This raises serious concerns.

**Figure 1: Tax–GDP Ratio**



Under the circumstances, what can we infer about revenue recovery and post-pandemic economic revival? How do the various fiscal measures affect tax buoyancy? Is the TB coefficient of 1.15 truly indicative of a strengthened fiscal position, strong revenue growth, and effective tax collection? Is the assumed TB of 0.99 for FY24 a reasonable baseline projection?

This note examines how our assessments of revenue buoyancy have been complicated by exceptional post-pandemic conditions, high inflation, and a range of discretionary revenue measures that, taken together, are very difficult to disentangle. The impact of these developments on tax revenues, the GDP, and tax–GDP ratios has attracted close attention across countries. Forecasting tax revenue during the pandemic became challenging. For example, while a rebound in economic activity, employment, and revenues in 2021 was supported by tax policies everywhere, increases in nominal taxes and nominal GDP varied in pace, exhibiting different dynamics across countries and types of taxes (OECD, 2022). In light of the excessive noise induced by the constellation of these three forces, which are likely suppressing macroeconomic signals, any judgment about assumed tax buoyancies for FY24 (around one) becomes tentative. The context also draws attention to a longstanding pattern of the use of ARMs each year, a possible indication of fiscal unviability without such support.

## Pandemic

Both supply and demand were unusually impacted by lockdowns, closures, disruptions, and bottlenecks due to COVID-19. The effects were uneven and non-linear. These attributes are probable in an asymmetric normalisation in FY23 as several supply constraints eased, services recommenced operations, and consumer demand sprang back to life. The rectification of pandemic-related imbalances was expected to cause a stronger-than-usual rebound in sales, as was observed in other countries. This particularly applies to products where bottlenecks and shortages were most intense, such as semiconductor chips in cars, computers, and smartphones; where consumer demand was most stifled, such as travel, hospitality, and other in-person services; and in segments where employment and income losses were temporary and restored within the year.

The collective coincidence and impact of these factors in 2022–23 relative to the preceding year—which can be termed the lockdown effect—likely raised consumption above trend levels or more than it might have been in the upswing of a typical business cycle. Similarly, the abatement of shortages and supply chain bottlenecks might have impacted production. Here are some examples.

- Semiconductor chip shortages affected car sales (internationally) in FY22. Bookings piled up, and many approved bank loans remained undrawn. The resumption of supplies probably concentrated sales in FY23, boosting GST collections. The magnitude is hard to determine because of the difficulties in disentangling lockdown demand distortions from normal demand. This is more so as damages to output, temporary or permanent, are unknown. It is, therefore, reasonable to expect a bigger-than-usual upswing.
- Demand rotation towards services similarly affected sectors such as travel, restaurants, hotels, eateries, multiplexes, and suchlike, fetching extra tax revenues that may not be sustainable following the normalization of post-pandemic effects.
- Structural changes due to the pandemic, e.g., large firms gaining market share at the expense of less resilient and weaker businesses that exited altogether or temporarily ceased operations, would also affect tax revenues. It remains to be seen if these effects will endure or dissipate as the informal economy bounces back.
- Pandemic relief measures, ranging from interest rate reductions to loan guarantees, lowered debt-servicing costs and boosted profits, the proxy tax base for corporate revenues. In the first half of FY23, the non-financial sector reported higher corporate profitability due to the moderation of input cost pressures and incomplete passthrough of monetary tightening.<sup>3</sup> Equally, commodity price shocks led to successive record profits for oil, mining, and financial firms. Higher interest rates have subsequently hurt margins by offsetting the decline in input prices that a few manufacturers have passed on to protect profits (to increase their pricing power) while sales growth has moderated.<sup>4</sup> Although profits are a fair representation of how closely corporate revenues approximate the tax base, post-pandemic effects upon prices and volumes were asymmetric and uneven, suggesting a disturbance in the consistent, linear relationship of corporate tax receipts with the corresponding tax base in this period.
- Personal incomes might be bolstered by wealth effects, such as capital market gains from significant increases in equity and mutual fund investments. In March 2022, the aggregate

<sup>3</sup> According to the RBI's private non-financial corporate database, operating profits of manufacturing firms contracted in FY23:Q2 (annually and sequentially), and that of services firms (IT and non-IT) increased year-on-year (y-o-y), with the IT companies increasing in the quarter.

<sup>4</sup> Sales growth (y-o-y) of listed private non-financial companies moderated to 12.7% in Q3 2022-23 from 22.6% in the previous quarter. For manufacturing companies, y-o-y sales growth was lower at 10.6% compared to 20.9% in the previous quarter. The moderation was broad-based across industries, except cement (RBI, 2023).

financial investment flows of households were 83% higher on an annual basis, following a 28% increase the previous year. This is mainly attributed to a 150% rise in mutual fund holdings followed by equity (26% annual growth in March 2022 compared to 44% in March 2021). The sharp reduction in interest rates in response to the pandemic contributed significantly to the three percentage points increase in households' stock of mutual fund assets in the two years to March 2022, reaching 9% of GDP. Securities transaction tax (STT) revenues mirror these developments—in FY22, the budgeted forecast (Rs 125 billion) exceeded 86%, while realised revenues in FY23 were 25% higher (Rs 250 billion).

- Progressive taxes are better output stabilisers than others, expanding more when incomes are high.

Thus, in FY23, there is a significant interplay of pandemic-specific impacts, two outstanding ones being lockdown demand and a supply response covering the labour market, production, and external trade. This is combined with a cyclical upswing, while probable damages to output are currently unknown and unclear. It is reasonable that a proportion of the FY23 tax collections reflect growth acceleration resulting from lockdowns ending. Understandably, the biggest effect of this spontaneous recovery is reflected in consumption, with the investment impact driven mainly by fiscal stimulation (public capex) and helped by exports. Early hints of dissipation in pandemic-specific demand have been observed in several high-frequency indicators<sup>5</sup> and the disappointing growth outcome in the December 2022 quarter, which fell short of expectations.

## Inflation

The effects of inflation on revenues have been widely noted. A sustained period of high inflation affects total tax receipts and the overall composition of revenues. There are different ways in which these influences can work amidst inflation. Among other things, the uneven distribution of price growth and the differential lags in its incidence and transmission, whether the inflationary sources are more demand- or supply-driven, and sectoral relative price shifts lead to a non-uniform increase in prices. A generalised increase in consumer prices will push GST collections higher because a value-added tax is charged on nominal prices, though volumes may not increase as much. Prolonged and incomplete adjustments to changes in inflation rates of some products could adversely affect excise taxes. Personal income taxes may increase correspondingly more than income growth if revenue brackets or other deductions are not adjusted for inflation; corporate income taxes might increase proportionally less than value-added tax (GST) receipts because of loss carry forward provisions; while both, along with capital gains, could be impacted by protective responses such as asset substitution and deferring of investments by individuals and firms.

Tax buoyancies can vary significantly from one, across revenue items, and over short horizons. Inflation is found to decrease tax buoyancy in the long run, according to empirical research by Dudine & Jalles (2017); they found that the short- and long-run tax buoyancy estimates do not appear neutral with respect to inflation.<sup>6</sup> Although tax buoyancy represents nominal changes in tax revenues and GDP, they explain that there is a price component and a real component, and it is not independent of price developments, i.e., it is comparably smaller in real terms when inflation is controlled for.

<sup>5</sup> For example, growth of credit, industrial output, and exports, among others.

<sup>6</sup> The estimates are for a heterogeneous panel of 107 advanced, emerging, and low-income countries from 1980–2014.

Such distortions may affect aggregate tax buoyancy or that of different taxes in various ways. In FY23, sustained inflationary pressures raised labour, materials, and energy expenses for businesses.<sup>7</sup> These were mostly passed on gradually to customers by raising the prices of goods and services, thereby increasing firms' profits, the proxy tax base. The GDP deflator grew 8.4% in FY23, following a 10.8% increase the previous year (nominal GDP growth of 15.9% and 18.4%, respectively). The corresponding growth in GST revenues has been 22.3% (realised, FY23) after a 27.2% rise in FY22. In addition, direct taxes and personal and corporate incomes have grown strongly; undoubtedly, these were influenced by the faster growth in nominal incomes and nominal gains, the tax bases. The slowing pace of GST revenues in recent months, 10–15% annually compared to 27.2% growth in the first half of FY23, probably reflects moderating producer price growth and that much of the passthrough is in the past. Quarterly corporate performance also shows that most of the profit growth was price-driven while volumes have risen very little.

## Additional revenue measures

Besides the noise induced by the pandemic and inflation, accounting for special adjustments in tax policies as part of fiscal responses is essential to assess tax buoyancy. Earlier in the article, we discussed the need to account for changes in revenues due to changes in excise duties. The consequences of relying on aggregate tax buoyancy without factoring in discretionary changes in rates and other policy measures cannot be emphasised enough. Unadjusted tax buoyancy prevents us from knowing if revenues are in line with movements in output, hinders the accurate assessment of fiscal sustainability that relates to a stable tax base in the long run, and impacts the revenue outlook. Moreover, their deployment to offset revenue shortfalls in a downturn can be counterproductive. A recurring dependence can be a negative macroeconomic signal.

For the near term, consider the main direct and indirect tax changes in the budget and the key out-of-budget measures in FY23 (Table 1 documents these). Over the pandemic and FY23, the range of ARMs and Figure 1 suggest that the realised shortfall from fuel duty reductions, i.e., –18.9% growth in excise receipts against –15% projected in the budget, is not extraordinary. It was not a severe drag because of successively significant increases in fuel levies, which propelled a respective 63% and 0.7% growth in excise collections in FY21–FY22. The excise receipts remained 92% above pre-pandemic levels (FY20) compared to a 36% increase in nominal GDP during the period. This points to significant revenue support combined with offsets from other sources elaborated below.

One of these is an expansion in GST coverage, combined with many rate adjustments, both of which fetched additional resources. While these were anticipated to be permanent modifications in the nearly six-year-old indirect taxation system, structural improvements will be confirmed with time. Next, custom duty hikes for a wide range of products contributed to healthier collections, such as a 5% increase in FY23, following growth of 48% and 23% in the preceding two years. Customs revenues nearly doubled from FY20 levels, indicating enormous supplementation from arbitrary measures, even if these might be motivated by other considerations (i.e., import protection). A clean assessment would have to reckon with such changes.

Our compilation also identifies a longer trend of rising dependency upon one-time, discretionary measures that help achieve higher tax buoyancy or enable respectable maintenance. These are often associated with increased tax buoyancy and an increase in the tax–GDP ratio, as evidenced by the co-movements in Figure 1. Without their aid (i.e., the tabulated ARMs), a lasting increase in the aggregate tax–GDP ratio to 11% would not be possible. For example, in the lead years from 2011–12, the service tax based was steadily expanded towards a negative list and rates upwardly adjusted

<sup>7</sup> Private corporate performance in the December quarter, 2022–23, showed staff costs increasing a respective 8.8%, 21.8%, and 18.2% annually for manufacturing, IT, and non-IT services companies, according to the RBI.



for eventual alignment with the GST-assisted revenue mobilisation. While these are permanent, it is notable that the contribution helped maintain the tax–GDP ratio above 10%, offsetting the revenue shortfall from growth deceleration in the period. In FY16, 15% of the indirect tax receipts came from ARMs, in the form of a 50% increase in union excise duties; in FY17, indirect tax collections were bolstered by 34.5%, one-fifth higher than the forecast (RBI, 2016). The plunge in commodity prices underpins the overstatement of indirect tax buoyancy in FY16—a robust 3.3 due to frequent fuel levy increases and other actions—while the net of these ARMs was less than half (1.2, according to the central bank).

Similar and systematic use of ARMs could also bolster direct tax receipts, concealing the true relationship with the respective proxy base. For instance, the one-time Vivaad Se Vishwas scheme (March 2020), which was a resolution-cum-interest and penalty waiver mechanism for tax disputes, fetched Rs 537 billion from the principal amounts paid. This resulted in a 49% rise in direct tax receipts in FY22, following a –10% shortfall the previous year due to COVID-19 lockdowns. Without this support, growth in direct tax receipts would be six percentage points lower and the share in GDP 20-bps less. Not surprisingly, the finance minister, in her budget speech FY23, proposed a continuation of this scheme (*Vivad se Vishwas II*), emphasising the merit of this robust addition. However, it must be emphasised that this does not reflect structural strengthening or betterment of public finances. Likewise, it does not necessarily reflect a matching growth performance.

Amnesty schemes are another measure to bolster direct tax receipts. In FY17, the Income Declaration Scheme (IDS), 2016, buoyed such receipts by Rs 674 billion. A crude calculation shows that without this amount, direct tax collections (sum of corporate, personal income, and wealth taxes) would have grown just 5.4% instead of the 14.5% recorded in the year. Likewise, the share in GDP would have been 50 bps lower at 5.1%, while gross tax revenues would have grown more soberly at 13.2% instead of the 17.9% achieved. Aggregate tax buoyancy would stand reduced to 1.1 instead of 1.5 in the year. Moreover, this would still be an incomplete adjustment because revenue measures such as the Krishi Kalyan cess (June 1, 2016) and the trimming of the Negative List (refer to Table 1) uplifted service tax collections to 20% growth in FY17.

Table 1: Additional Tax Measures FY12–FY23

2011-12	Minimum Alternative Tax increased from 18 to 18.5% of book profits
	Concessional excise duty raised from 4 to 5%; coverage expansion to 130 new items with nominal 1% levy
	Optional levy on branded garments to mandatory at unified 10%
	Reduction of excise exemptions to streamline for GST
	Service tax coverage expanded from 117 to 119 services;
2012-13	Standard excise duty rate raised from 10% to 12% - <i>partial roll back of fiscal stimulus, 2008-09.</i>
	Merit rate increase (from 5 to 6%) & lower merit rate from (1 to 2%), higher duties on 'demerit' goods
	Service tax rate increase, from 10 to 12% (for GST alignment) - <i>Expected additional revenue, Rs 186.60 billion</i>
	Cess on crude petroleum oil produced in India revised to `4,500 per metric tonne
	Basic customs duty raised for certain types of completely built units of large cars/MUVs/SUVs
	A 1% excise levy on branded precious metal jewellery to be extended to include unbranded jewellery.
	<i>Expected addl. revenue from customs &amp; central excise - Rs 272.80 billion</i>
2013-14	Personal income tax threshold rased from 2 to 5 lakhs, tax credit of Rs 2000 up to Rs 5 lakhs.
	10% surcharge on individual incomes >Rs 1 crore [revenue augmentation, as per budget speech]
	Higher surcharge on domestic (5 to 10%) & foreign firms (from 2 to 5%) with taxable income > Rs 10cr
	Surcharge increased from (5 to 10%) on dividend distribution tax or tax on distributed income
	Duty increased on set-top boxes (from 5 to 10 percent), raw silk (from 5 to 15 percent)
	Excise duties on SUV's increased (from 27 to 30 percent), marble from (Rs 30 to Rs 60 per square meter).
2014-15	Increase in personal income tax exemption limit for individuals & senior citizens, Sn 80C investment limits and on deductible limits on interest on self-occupied house property loan
	<i>Expected revenue loss - Rs 222 billion</i>
2015-16	Service tax rate increase - 12.36% to 14%
	Excise duty hikes on diesel and gasoline
2016-17	Tax amnesty (Income Declaration Scheme, 2016) - <i>Rs 674 billion 1/</i>
	Upward revision in Clean environment cess, infrastructure cess upon car sales,
	Krishi Kalyan cess on services wef June 1, 2016, narrowing of Negative List for service tax
	Addl excise duty on jewellery articles, increase in excise duty on tobacco products.
	Corp tax lowered rate from 30% to 29% for small companies; 25% for new manufacturing companies
2017-18	Corporate tax rate for small firms cut to 25%
	Personal income tax cut - to 5%, from 10% (Rs 2.5-5 lacs)
	10% surcharge on Rs 0.5-1 cr
	No indirect ARMs
2018-19	Std deduction of Rs 40,000/- in lieu of transport allowance & misc medical expenses exemption.
	4% "Health and Education Cess" upon payable taxes instead of 3% education cess
	Corp tax rate of 25% extended to firms with turnover up to Rs 2.5 billion - <i>Revenue foregone Rs 70 bn</i>
	Customs duty increased on many items, e.g. mobile phones (15 to 20%), certain TV parts (to 15%), textile & automobile sectors to boost domestic mfg
	Long term capital gains (LTCG) tax of 10% on equity gains above Rs 1 lac
2019-20	Corp tax rate of 25% extended to firms with turnover up to Rs 4 billion
	Increase in spl addl excise duty, road & infrastructure cess, Re 1/litre on petrol & diesel each
	Increase in customs duty on gold, other precious metals from 10 to 12.5%
	Increase in income tax surcharge on high income earners
	2% TDS at source for cash withdrawals over Rs 1 cr annually
	Direct Tax Vivad se Vishwas Scheme, March, 2020
2020-21	Rationalisation of income tax rates across income groups - <i>Revenue foregone estimated Rs 400 bn</i>
	Removal of dividend distribution tax - <i>estimated revenue loss - Rs 250 bn</i>
	Tax concessions for start-ups, foreign investments, electricity generation companies, cooperatives, micro, small and medium enterprises (MSMEs) and affordable housing
	Slew of changes of customs duties, incl an 'Agriculture infrastructure & development cess' (AI&D), ranging 1.5% to 100% (on imported alcoholic beverages) - <i>Estimated revenue Rs 300bn.</i>
	Vivad se Vishwas scheme, extended rom 30th June to 31st August, 2021 - <i>Revenue Rs 540 bn</i>
2021-22	Tax exemption on interest income on employee PF contribution, tax deductions on interest on housing loan
	Tax holiday for affordable housing projects, profits of startups, and investing of capital gains in start-ups
	Safe harbour threshold for real estate transactions above the circle rate increased to 20%.
	Tax exemption on Encashment of leave travel concession on purchasing certain goods
	AI&D cess on imports including gold, and petrol-diesel with equivalent basic customs & excise duty cuts
	GST rates reduced on 15 goods related to Covid-19 (5%), nil for 2, and 12% for one product;
	subsequently extended to rates on Covid-19 drugs with coverage expanded to 7 more drugs
	GST rates reduced mid-year to 5% for 11 goods & services, increased to 18% for 9 goods and services
Vivad se Vishwas scheme, extended from 30th June to 31st August, 2021 - <i>Revenue Rs 536.84 bn 2/</i>	
2022-23	Surcharge on LTCG on listed equities and equity mutual funds capped at 15%.
	Tax on income from the transfer of cryptocurrencies and non-fungible tokens @30%. No set-off of losses
	Reduction in Alternate minimum tax for co-operatives to 15%, surcharge to 7% with total income 1cr<10cr<
	May 22: Excise duty cuts - petrol & diesel (Rs 8 & Rs 6/lit) - <i>Estimated revenue loss Rs 1 trillion 4/</i>
	Import duty cuts on PCI & coking coal, some other commodities; increases in others.
	GST rates for 24 goods and services raised, range 12-18%; 2 goods reduced to 5% or Nil; 5% levied on curd, paneer, honey, others;
	12% on hotel room tariffs; 18% on tetra packs, cheque issue fees, July 18.
	Estimated revenue from July changes - <i>Rs 150 bn 3/</i>
	Change in customs duties for over 500 items. Many exemptions also phased out.
	1-year extension for new domestic manufacturing companies for tax@15% (w/o claiming any deductions)
1-year extension on tax holidays for 3 out of first 10 years for specific startups	
Windfall profit taxes imposed on super normal profits of energy firms (export duties on fuels, domestic crude production) with fortnightly review - <i>Estimated revenue Rs 250 bn 5/</i>	

Source: Union Budget and RBI Bulletin, various issues; supplementary sources, including RBI (2016), Choudhary (2022), Singh (2022), and Teli (2023).

The trend in the underlying fiscal health, as implied by a tax buoyancy of unity over different business cycles, appears poor in this light. Put differently, the frequent recourse to ARMs may hint at a falling tax–GDP ratio unless supported by additional and/or discretionary tax policy changes. It is evident that despite successive reforms of direct and indirect tax structures combined with administrative improvements, the tax–GDP ratio has failed to rise beyond 10–10.5% of GDP. While ARMs are entirely understandable during recessions when direct revenues decline to offset cyclical deficits, a perpetual dependency may indicate a weakening fiscal position, especially when GDP growth has been strong or above trend, such as in FY16, FY17, and FY18.

## Conclusion

This note discussed three significant reasons why the observed tax buoyancy in the recovery year, FY23, must be interpreted with caution. The coincidence of unique demand and supply conditions owing to pandemic recovery, sustained and high inflation for two years, and numerous special measures on the revenue side make it difficult to discern the underlying signals from the observed tax buoyancy. Some naïve calculations and examples illustrate this.

Expectations that this tax buoyancy will carry forward in the forthcoming year must be tempered in this light. The budget for FY24 is mindful of these. Aligning tax revenue growth forecasts with nominal GDP or unity (because revenues and GDP are tied in a long-run relationship), a revenue forecast based on observed tax buoyancy in FY23 (embodying the structural features of the economy and the tax system and policy measures taken during the year) would have been misleading, especially as the pandemic effects are likely to be highly asymmetric, and the effects of inflation distortionary, while ARMs conceal the historical relationship.

This note also casts a spotlight on the recourse to ARMs over a longer period, underscoring how non-adjustments for these obscures our understanding of the state of the economy and fiscal assessments. Quite often, true tax buoyancy is challenged by the inability to distinguish total revenue receipts from the impact of discretionary measures and improvements in compliance, enforcement, and administration of the taxation system. But there is little evidence to identify precisely what and how much these efforts have contributed to the increase.<sup>8</sup> Because the frequency of tax policy changes has been extraordinary, is it the case that much of these buoyancies capture the impact of ARMs?

The systematic use of ARMs to mostly maintain tax buoyancy in conjunction with the evolution of the tax–GDP ratio suggests that adjusted for these, the tax buoyancy may be consistently below unity. In that case, fiscal sustainability as indicated by this key measure is either lagging or insufficiently strong. With public debt nearing 90% of GDP after the pandemic, and debt-servicing costs or interest payments accounting for almost 45% of net central government revenues, the need for structural improvements in the tax base and effective collections is to be emphasised. As Table 1 illustrates, newer and fresher efforts have been used to complement a stagnant or even shrinking tax base (e.g., eliminating taxpayers from the raised threshold for personal income taxes) and lowered corporate tax rates in the last few years. While Figure 1 identifies the inadequacy of receipts (or wider deficits and increased debt) to keep pace, such supplementation may offer further temptation to deploy more exclusive measures in a further weakening exercise.

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<sup>8</sup> For instance, the impact of structural improvements due to the GST shift, digitalisation of economic transactions and accompanying formalisation with base expansion, other tax administration/policy measures such as faceless assessment and appeal, simplification of returns filing, assistance to taxpayers for familiarisation, generation of e-way bills under the GST system, and information sharing between government departments, etc., which have resulted in higher tax compliance through technology and artificial intelligence, are unobservable when mixed up with ARMs.

A major consequence of the inability to adjust for ARM receipts, since these are mostly unavailable publicly, is the diffusion of important macroeconomic signals. It makes it difficult for observers to link this critical ratio with the underlying economic cycle and assess the state of the economy. They are often dissociated from the economic cycle, raising concerns about the systematic resort to ARMs to increase tax revenues during a cyclical downturn. This can be counterproductive. For example, net product taxes outpaced nominal GDP in FY18–FY19, when growth decelerated, possibly hurting consumption and competitiveness. The pressure to preserve or enhance revenue buoyancy in a falling growth environment may create a bias for frequent tinkering with taxation; changes were progressively abundant in the slowdown period from 2017–18, although this interpretation may be superficial.

Another adverse fallout can be a higher resort to indirect taxation, reflecting their increased share in overall revenues. The pandemic years are an exception, and it remains to be seen if this is a structural shift. A large fraction of indirect taxation is fuel taxes, but others, such as customs duties and cesses, abound. Every revenue administration has a tax-gap analysis for the respective taxes. It is possible that indirect tax gaps are large in India, and efforts to bridge these are desirable. However, if such gaps are bridged by frequent recourse to ARMs, often oblivious to the impact of raising taxes, this only spirals downwards.

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