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Goods and Services Tax in India: Progress, Performance & Prospects

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Abstract: The implementation of Goods and Services Tax (GST) in India on July 1, 2017 is a landmark reform. Since then, it has been evolving with changes being made to the structure and operational details from time to time. This paper attempts to take stock of the progress in implementing the tax, its economic and revenue implications and identify further challenges and reform areas to reach the goals of simplifying the tax to reduce administrative and compliance costs, raising revenue productivity and minimising distrotions. The paper argues that the reform has brought about important gains in consolidating domestic indirect taxes, removing impediments in the movements of goods across the country and reducing cascading. However much more needs to be done to get the benefits of reform and these include, reducing the number of tax rates to simplify the system, revisiting the rate structure to minimise anomalies, reducing the number of exemptions, firming up the technology platform, making the tax base more comprehensive by including the excluded items such as petroleum products, real estate and electricity.

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M. Govinda Rao*

1. Introduction:

The implementation of Goods and Services Tax (GST) in India has been variously described as "one country-one tax", "a game changer" and "a reform of the century". The implementation of a standard invoice-credit destination based value added tax (VAT) on goods and services in a large and diverse federal country at both national and sub-national levels ruled by different political parties is a remarkable achievement. Almost all the countries that have implemented GST have taken considerable time to settle down and even in Canada, the value added tax on goods and services implemented in at both federal and provincial level almost 30 years is still evolving (Bird, 2012). The challenge of implementing such a reform at national and subnational levels in India involving the Union government, 29 States and two Union Territories with legislature with different ruling parties is formidable. The reform of this nature is a great experiment in co-operative federalism and required a Statesmanlike stewardship[1].

As of 2018, of the 193 countries with UN Membership, 166 including all OECD Member countries had implemented the VAT on goods and services in one form or another. Most of the developing countries have replaced their cascading type domestic trade taxes with VAT to reduce distortions or as a measure to recoup revenue loss arising from the reduction in tariffs on joining the WTO. The GST was expected to be a money machine and was found to be an appropriate instrument to offset revenue losses from reducing tariffs[2]. Only five countries have repealed the VAT only to reintroduce it with improvements[3]. Not surprisingly, IMF has been a leading change agent (Bird and Gendron, 2007) of the reform and this has generally been an important reform component for the countries participating in the Fund programme (Keen, 2009).

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[1] In the Gulati Memorial lecture delivered in 2011, I had stated, "reform of this nature involving both Centre and States is an experiment in co-operative federalism and requires stewardship by the Statesmen" (Rao, 2011).

[2] Keen and Lockwood (2010. p.148) test in a cross-country analysis test whether the introduction of VAT in countries has led to increase in revenue conclude, "…. The impression that emerges is that adoption has increased revenue and improved effectiveness in the large majority of countries that have implemented VAT and would do so too for most of those have not".

[3] Bird and Gendron (2007) cite the cases of Belize, Ghana, Grenada, Malta, and Vietnam which repealed the VAT after implementing it, but then re-introduced it in improved form.

In most of the countries, transition to the VAT/GST has been relatively smoother because the tax is essentially levied by the Central government. Even when federal countries like Australia or Germany levied the VAT, it was at the Central level. The only other examples of subnational foray into GST are Brazil, Canada and the European Union and even after years of experience in these countries, the reform is a work in progress. In the case of Brazil, the tax is levied on the basis of origin principle in the case of inter-state trade and there is no conceptual and administrative clarity in the federal and State versions of VAT. Besides the problems with cross border trade and inter-state tax exportation, it has very high compliance, administrative and distortion costs (Varsano, 2000, Brid and Gendron, 2007). In the European Union, all twenty-seven member states levy a VAT because its adoption is a condition for the membership. It is implemented on the basis of the destination principle, but the issue of cross border trade continues to be a subject of discussion (Keen 2009, Cnossen, 2010). Furthermore, there is no uniformity in the structure of the tax among the member countries in terms of thresholds, exemption and rate structure. In fact, the standard rate of VAT in EU varies from 15 to 25 per cent with a mean of 19.4 per cent and except for Denmark, every other European country has one or more rates in addition to the standard rate (Bird and Gendron, 2007). In Canada, Bird (2013) argues that the transition has not been easy and even after 28 years of experience it is still a work in progress. By 2011, six out of 10 provinces accounting for 80 per cent of the population have imposed some form of VAT. The reduction in the federal VAT rate in 2008 from 7 per cent to 5 per cent and the provision to retain the rate setting by provinces helped to enable some of the provinces to join in harmonisation exercise. Nevertheless there are four different systems in Canada with (i) four subnational units (Alberta, 3 northern territories and North-eastern Territories of Nunavut and Yukon) not having any sales tax; (ii) 5 subnational governments (New Brunswick, Nova Scotia, Newfoundland, Prince Edward Island and Ontario) joining the VAT regime with Harmonised Sales Taxes (HST), with rates varying from 8 per cent to 10 per cent. In 2013, the cumulative GST rate varied from 13 per cent in Ontario to 15 per cent in Nova Scotia; (iii) 3 provinces (Saskatchewan, Manitoba and British Columbia) continuing to levy separate GST on the tax base including the federal tax and (iv) one province- Quebec, levying VAT at 9.975% and administering the federal VAT along with the provincial VAT. In British Columbia the agreement to join the harmonisation exercise was controversial and, in a referendum held on April 2013, the State reverted to levying the earlier provincial sales tax.

After several years of deliberations, India implemented the GST from July 1, 2017 with the participation of both Centre and all the States. The tax on the supply of goods and services replaced a number of domestic trade taxes. It is designed as a destination based tax with Central GST (CGST), State GST (SGST) and inter-state GST (IGST), with the revenue from latter put in a separate account, adjusted against the input tax credit for finally settled according on the basis of final consumption through a clearing house mechanism. Thus, the GST in India is designed to be a destination based tax with seamless input tax credit mechanism. The decisions relating to the structure of the tax is taken by a separate institution created by amending the Constitution – the GST Council, and the registration, payment, and submission of returns is to be done through the IT enabled GST Network (GSTN) minimising the interface between the taxpayer and the collector.

The GST has been implemented with very high expectations of achieving a simpler, more transparent, more revenue productive and less distorting tax. Even after two years of implementation, the tax has been evolving and is continuing to undergo a number of changes through the decisions taken by the GST Council. Nevertheless, the time is opportune to take stock of the progress in implementing the tax, analyse its revenue implications and economic impact and identify further challenges and reform areas to reach the goal of raising revenue productivity and minimising the three associated costs to the economy namely, administrative cost, compliance cost and the distortion cost. Section 2 briefly lays out the salient features of the GST implementation in India, Section 3 analyses the productivity gains, saving on administration and compliance costs and revenue implications of the tax, Section 4 examines the remaining cascading elements in domestic consumption tax, identifies other distortions required to enhance revenue productivity and reduce inefficiency from the tax. The reform proposals are summarised in Section 5.

II. Implementation of GST in India: Salient Features

International experience with the implementation of GST shows that there is 'no one size fits all' or unique GST. There are different models with varying structure and implementation systems in different countries depending on what is politically acceptable. However, the general principles recommended by most experts are to (i) aim for a comprehensive base with few exemptions, credits, rebates or deductions; (ii) do not use the tax system to achieve too many social and economic goals; (iii) keep the threshold at a reasonably high level to focus the administration on the "whales" rather than "minnows". This will serve the purpose of minimising administrative cost but also serve the cause of equity (Keen and Mintz, 2004). (iv) the structure of tax should be kept simple with minimum rate differentiation to minimise administrative, compliance and distortion costs; (v) continuously monitor the tax system, concentrate on basic tasks such as collection of tax at source and an ID number system (vi) do not collect more information than that can actually be processed; (vii) actively encourage good record keeping and aim at long term goal of self-assessment. However, even as, by and large, the conventional wisdom on GST has been proved right, it is not always possible to strictly adhere to them. In fact, as Bird and Gendron (2007; p. 4) state, "…. some 'bad' features – such as too high or too low thresholds, overly extensive exemptions, or multiple rates – may be essential to successful adoption in the first place". At the same time they caution, "… such features may prove to be extremely difficult to remove"[4].

The GST implemented by India is one of the very few examples of the subnational levy of invoice-credit, destination based subnational VAT on goods and services. The implementation was preceded by considerable deliberations and consensus was built over 17 years. The recommendation for the adoption of GST came first from an Expert Group on Taxation of Services (Chairman: M. Govinda Rao; India, 2001) which was taken on board in the Report of the Task Force on Indirect Taxes (Chairman: Vijay Kelkar; India, 2003). Subsequently, the States moved over to the VAT on goods in 2005 replacing their cascading type sales taxes and the Union excise duties were converted into a form of VAT called the CENVAT levied on manufactured goods. A separate tax on services was levied, initially on

[4] Bird and Gendron (2007) refer to the recommendation of a committee in Sweden to switch over to one rate of tax (from two), which was not accepted.

three services[5], but the coverage was later progressively expanded and in 2012, all services with a negative list were included in the base. There were considerable deliberations in the Empowered Committee of State Finance Ministers to rationalise domestic indirect trade taxes and it was announced in the Union Finance Minister's budget speech of 2006 that the GST would be implemented from 2010. However, consensus on the structure of the tax could not be reached and finally, the reform was implemented from July 1, 2017.

Unlike in most of the countries where VAT was adopted for enhancing revenue productivity as it was considered to be a "money machine" (Keen and Lockwood, 2010), the reform in India was mainly motivated by the desire to unify a number of domestic trade taxes, reduce distortions arising from cascading and to harmonise the indirect taxes between the Centre and States and among the States *inter se*. The short term focus was to have a structure which is revenue neutral though in the medium and long term, it was hoped that better compliance would ensure higher revenue productivity.

The GST combines a number of Central and State taxes listed in Table 1. In some ways, the reform is a unique experiment in both Central and State governments giving up their tax autonomy in favour of harmonisation of the domestic consumption tax system. The GST comprises of a Central GST (CGST), State GST (SGST) and Inter-state GST (IGST). The tax is designed to be destination based and the revenue from inter-state transactions is put in the IGST account and eventually distributed according to destination through a clearing house mechanism. The Constitution was amended to create GST as a joint tax of the Centre and States (Article 269 A), to be administered by a new Constitutional body – the GST Council chaired by the Union Finance Minister and with Finance Ministers or other ministers nominated by each of the States and Union Territories with legislatures as Members. The Union Revenue Secretary is the Secretary of the Commission and a separate Secretariat was set up to oversee the functioning of the Council. The decisions taken in the council should have at least two-thirds majority.

The GST Council is an important institutional innovation and an experiment in cooperative federalism. The States agreed to give up their tax autonomy in favour of tax harmonisation, but were unwilling to cede it to the Centre, but agreed to have a new institution created in the Constitution with participation by the Centre and each of the States. The Centre has one-third of the voting rights and each of the States has

[5] The three services chosen for taxation in the first instance were non-life insurance, telecom and stock brokerage services.

equal rights in the remaining two-thirds. The decision taken in the Constitution is required to have two-third majority. The GST Network (GSTN), a non-profit company was created to provide common and shared Information Technology (IT) infrastructure and services to the Central and State Governments, taxpayers and other stakeholders with the non-government financial institutions owning 51 per cent equity and the Centre and States, the remaining 49 percent. Although it was decided to make it a fully government owned company in March 2018, action on that is yet to be taken.

Table 1
Central and State Taxes Subsumed Under GST

Central Taxes	State Taxes
(i) Central Excise Duty (except five Petroleum and tobacco products) (ii) Additional Excise Duty (iii) Service Tax Countervailing Customs Duty Special Additional Duty of Customs.	(i) State Value Added Tax (VAT)/Sales Tax (except five petroleum products and alcoholic liquor for human consumption) (ii) Entertainment Tax (other than the tax levied by the local bodies) (iii) Central Sales Tax (levied by the Centre and collected by the States) (iv) Octroi[6] and Entry tax (v) Purchase tax (vi) Luxury tax Taxes on lottery, betting and gambling

Source: India (2019).

The threshold for registration was kept at Rs. two million in non-special category States and Rs. on million in special category States[7]. Later, the threshold was raised to Rs. four million for goods in the non-special category states, but for services it has continued at Rs. two million. The administration of the tax was divided between the Centre and respective States. All taxpayers below Rs. 15 million were to be administered by the concerned State where they are registered and the responsibility for administering those above the Rs. 15 million was divided between the Centre and the respective States equally based on random selection. The dealers with less than Rs. 15 million also have the choice of paying a simplified tax at a compounded rate of 6 per cent (three per cent each to the Centre and to the concerned State) on the turnover without any provision for input tax credit (ITC).

[6] Octroi is a tax on the entry of goods into a local area for consumption, use or sale.
[7] Mountainous states with international borders having very low tax bases are declared as “special category states” by the National development Council.

There implementation of GST was preceded by considerable discussion and controversy on the structure of rates. The Ministry of Finance appointed a committee with the Chief Economic Adviser as the Chairman (India, 2015), and it suggested that the revenue neutral rate in India would range between 15-15.5 per cent (Centre and States combined). It further recommended that although India should strive towards a single rate in the medium term in keeping with growing international practice and to facilitate compliance and administration, in the immediate context it should have a three tier structure (excluding zero), comprising of a lower rate of 12 per cent, a standard rate varying between 17 to 18 per cent and a very high rate of 40 per cent on "demerit" goods.

In the GST that was finally adopted, goods and services are classified according to harmonised system of nomenclature (HSN) and the tax is levied at 0%, 5%, 12%, 18%, and 28%. There is no standard rate but most services are taxed at 18 per cent. Special rate of 0.25% is applicable on precious and semi-precious stones and gold is taxed at 3 per cent. The job work done in diamond industry is to be taxed at 1.5 per cent[8]. The items classified as 'demerit' and 'luxury' items of consumption such as aerated drinks, automobiles, air conditioners and washing machines, cement, paint, marble, accommodation in five star hotels and tobacco products are taxed at 28 per cent. In addition to the basic rate, most items under the last category are subject to the compensation cess, the proceeds of which are used to pay compensation to the States for any loss of revenue arising from the implementation of GST (discussed next). For smaller suppliers having turnover up to Rs. 15 million, a simplified tax on their turnover at 6 per cent (3 per cent CGST and 3 per cent SGST) without the facility of ITC was levied and later the limit was enhanced to Rs. 15 million. The facility of paying the composition tax was extended also to restaurants and affordable housing under construction at 1 per cent and other housing at 5 per cent without the benefit of ITC[9]. The collections from the IGST are supposed to be kept in a separate account and allocated between the Centre and the States after adjusting their respective ITC. The revenue from the compensation cess is supposed to be put in the Public Account and used to compensate the States for any shortfall in the promised revenue collections[10].

[8] The rate was 5 per cent, but was brought down to 1.5 per cent in the 37th meeting of the GST Council on September 20, 2019.

[9] Affordable housing is defined as tenements having a carpet area less than 90 square metres in non-metropolitan towns and less than 60 square metres in Metropolitan cities and having a value of less than Rs. 4.5 million.

[10] The budget has consolidated fund, contingency fund and public accounts. Public account includes only those items s for which the Government merely acts as a banker/trustee for custody. These are not subject to vote in the Parliament.

In order to get the States to agree, the Central government Committed to compensate any shortfall in revenue from their actual revenues from the merged taxes as on 2015-16 increased by 14 per cent every year for a period of five years. The compensation was to be financed by a separate cess on the demerit and luxury items over and above CGST and SGST levied at rates varying from 15 per cent to 96 per cent of the tax rate applicable. The analysis of the trends in the state tax merged in the GST shows that in order to secure the agreement with the States, the Central government settled for a generous scheme of taking 14 per cent growth on the 2015-16 base year collections although the actual growth was much lower. The five year and three year growth rates of the revenue from taxes subsumed in GST in different States. It is seen that the average growth rate for non-special category States for 3 years was 8.9 per cent and for five years it was 11.7 per cent. Similarly, for special category States, it was 12.3 and 12.4 per cent. Furthermore, considering that the nominal growth of GDP has since declined, most states are unlikely to show 14 per cent growth and will have to be given compensation. As a result, the Cess to be charged to compensate the taxes had to be high. It is seen that the revenue from compensatory cess constituted almost 8.5 per cent of the GST revenues in 2017-18 and 8.3 per cent in 2018-19.

Table 2:
Average Growth Rate of Taxes Subsumed in GST

State	2014-15 to 2016-17	2012-12 to 2016-17
Andhra Pradesh	3.5	1.2
Bihar	13.0	22.6
Chattisgarh	8.7	10.5
Goa	10.5	10.2
Gujarat	3.6	8.5
Haryana	11.7	11.8
Jharkhand	13.1	13.5
Karnataka	10.7	13.3
Kerala	10.4	12.1
Madhya Pradesh	11.0	12.5
Maharashtra	9.4	10.6
Odisha	6.7	9.4
Punjab	5.9	9.6
Rajasthan	11.6	13.3
Tamil Nadu	6.2	11.2
Telangana	24.8	0.0
Uttar Pradesh	9.4	9.4
West Bengal	7.7	13.8
Aggregate – Non-special Category States	8.9	11.7

Special category states		
Arunachal Pradesh	36.3	28.8
Assam	12.5	10.2
Himachal Pradesh	11.6	11.9
Jammu and Kashmir	9.7	12.0
Manipur	8.0	12.8
Meghalaya	8.9	12.9
Mizoram	20.0	17.6
Nagaland	16.8	12.3
Sikkim	8.7	27.0
Tripura	10.1	10.9
Uttarakhand	13.5	14.5
Special category States	12.3	12.4

Source: Estimated from the State Finances: A Study of Budgets (Various Issues). Reserve Bank of India.

The exemptions and rate structure for GST was determined to (i) ensure that the new levy did not cause increase in consumer prices; (ii) the incidence of GST on various commodities remained broadly the total incidence of domestic trade taxes subsumed in GST; (iii) the rate structure chosen did not result in the loss of revenues; The GST Council set up a "Fitment Committee", by nominating the officials of the Tax Research Unit of the Central Board of Indirect Taxes and Customs (CBIC) and some senior officials of the Commercial Taxes Departments of the selected States. The Committee estimated tax rates on different commodities and services by adding the rates from State VAT with excise duty (CENVAT) (adjusted by adding post manufacturing margins) and included other taxes subsumed in the GST to arrive at the cumulative rate and fitted the commodity or services to the closest of the four rates chosen. In the process, the opportunity to think afresh in determining the rates to remove the anomalies that existed earlier was missed. However, after the implementation, in response to the reactions by the businesses, changes were made in respect of a number of commodities by reducing the tax rate from 28 per cent to 18 per cent and in some cases from 18 per cent to 12 per cent. The facility of composition was extended also to restaurants at 5 per cent without ITC from 12 per cent with ITC. Similarly, the compounding facility was extended to housing under construction as well. Further, even as the tax rates were designed to be uniform across States, the GST Council allowed the State of Kerala to levy a special cess to finance mitigation of the damage caused by the unprecedented flood in 2018-19.

The taxpayers are required to electronically file a single return for CGST, SGST, IGST and GST Compensation Cess. Initially, a fully automated system with 100 per cent matching of invoices for ITC was envisaged with taxpayers required to submit three returns

GSTR -1, GSTR-2, and GSTR-3 every month and a final annual return at the end of the year. GSTR -1 was required to furnish the details of outward supplies. This information along with the information from tax deducted at source on government transactions and e-commerce supplies are shared electronically with the registered recipients in Form GSTR- 2A based on which GSTR- 2 was to be filed containing information on inward supplies. GSTR – 3 was auto-populated with information from the two forms. However, the system failed because the businesses as well as service providers were not ready and the system itself could not cope with the large number of registered taxpayers. After repeated postponement, a separate simplified self-assessed summary form GSTR-3B was to be filled as a temporary measure. In July 2018, the GST Council announced that by January 1, 2019, a simplified new return will be rolled out and this has been postponed repeatedly and now the scheduled date is fixed as November 30. In the absence of a proper return with details of invoices, the self-declaration done in GSTR – 3B has continued to the basis for determining the tax liability.

Other features of GST in India include the introduction of e-way bill and reverse charge mechanism. With the abolition of check-posts across the country after the introduction of GST, a system of web based e-way bill has been introduced to ensure better compliance of the tax. From April 1, carrying the e-way bill by the person in charge of the vehicle carrying goods is compulsory for all inter-state supplies of value more than Rs. 50000. All the States have also enacted laws to carry e-way bills even for intra-state supplies, but with varying limits.

The reverse charge is applied on the registered supplier purchasing from an unregistered supplier the taxable supplies. However, looking at the complexity, the proposal was sought to be restricted to all daily transactions above Rs. 5000. In the notification issued in October 2017, the tax payable by the registered person for the supplies of goods and services received from the unregistered supplier was exempted till 31st March 2018 and in August 2018, the proposal to levy reverse charge was further postponed until September 30, 2019. In a notification in February 2019, it was stated that the Government will specify the class of the registered person and the categories of goods or services to be subject to reverse charge. However, so far, the Government has not specified the class of registered persons or the categories of goods and services on which the provisions are applicable.

Section 171 of the CGST Act stipulates that the benefit of any lower rate or reduction of GST as compared to the pre-GST existing rate on any supply of goods or services should be passed on to the purchaser by way of lower prices. Failure to do so is considered 'profiteering'. The aggrieved person or organisation can make complaints against profiteering with proper evidence. To adjudicate the matter, the Act provides for the setting up of National Anti-profiteering Authority, Directorate General of Anti-profiteering and State level Screening Standing Committees.

III. Impact of GST: Cost Savings, Productivity Gains and Impact on Revenue.

(a) Cost savings and Productivity gains:

The implementation of GST is a major reform and two years is too short a term to assess its impact. Besides, it has been undergoing continuous change both in structure and operational details and in that sense it is an ongoing reform. Furthermore, given the diversity of Indian polity, and the number of States with varying economic characteristics, politically acceptable reform that is implemented is far from being perfect, and it is still evolving. However, given the fact that it has been accepted by the stakeholders, the reform is likely to sustain, though as Bird and Gendron (2007) state, making the required reforms will be challenging.

To analyse the impact of GST, Keen (2013) employs a concept of "C-Efficiency" in which, the share of GST revenue in GDP is decomposed into the standard tax rate, value of consumption (excluding GST) and an interactive term - "C-efficiency"[11]. The latter is the ratio of GST revenue to the product of standard rate and consumption. Using this approach Acosta-Ormacecha and Morozumi (2019) evaluate the VAT in the European Union to conclude that a rise in VAT accompanied by a fall in income taxes promotes growth only when the VAT is raised through "C-efficiency", and for a given amount of VAT revenue, rise in "C-efficiency" offset by a fall in standard rate also promotes growth. In Indian context, however, it is not possible to estimate 'c-efficiency' to evaluate the reform for, (i) two years is too short a period for undertaking such an empirical analysis and although month-wise collection figures are available, there is no corresponding consumption estimate; (ii) with multiplicity of GST rates in vogue, it is difficult even to identify the standard rate[12]. Therefore, evaluation of the impact of GST has to be based only on anecdotal evidences and speculations.

There are some important gains from the GST implementation which are easy to identify though their measurement at this stage is difficult. The first is the fact that it has

[11] $V/Y = \tau_s E^c (C/Y)$ where V denotes revenue from VAT, Y denotes GDP, τ_s denotes the standard rate of the VAT, C denotes consumption (valued at VAT exclusive prices). "C-Efficiency" is estimated as: $E^c = V/\tau_s C$.

[12] Unfortunately, GST Council does not share any data required for serious analysis.

successfully unified several consumption taxes to reduce both administration and compliance costs. Second, it has succeeded in harmonising the domestic trade taxes levied vertically between the Centre and States and horizontally between different States. Although the Constitution separates the tax powers of the Centre and States by listing various taxes either in the Union or in the State list, in effect there was concurrency and overlap between the Union excise duties and States' sales taxes. The introduction of GST merged these bases and taxed it together based on the value added. Furthermore, it has eliminated the race to the bottom indulged in by the States to attract trade and industrial investments into their jurisdictions. Similarly, the uniformity in the determination of bases and tax rates as well as laws and procedures along with the elimination of various tax incentives for investment has helped to reduce inter-state tax competition[13] and achieve a measure of harmonisation. Although inter-state suppliers have to deal with the laws of different States, the laws and rules have been made substantially uniform to reduce the compliance burden.

The most important gain from the tax has been the elimination of check-posts to enable unhindered movement goods across the country. This has paved the way for a nation-wide market for goods and services. According to the Ministry of Road Transport, post-GST, the long distance travel time for trucks has been reduced by 20 per cent.[14] Abolition of check-posts has not only helped to reduce transportation time, but also rent-seeking at the check-posts, which was particularly rampant in States where Octroi and entry taxes were levied. . Equally important is the cost savings on account of changes in supply chain management. Earlier, the large companies chose to create branch offices all over the country and send their supplies by way of consignment transfers to avoid the inter-state sales tax. With the taxes charged on the supply of goods and services under GST, inter-state transactions attract IGST with seamless ITC and, therefore, there are no gains to be had by having branch offices and by sending the commodities through consignment transfers.

A major objective of GST was to minimise cascading of the taxes by providing seamless input tax credit through the production-distribution chain throughout the country. The introduction of GST has considerably reduced it cascading by eliminating it on account of central sales tax, by simultaneously taxing the supplies at central and state levels and by providing more systematic input tax credit on inter-state sales. Of course, the comparison is with respect to the situation prevailing prior to GST implementation and full realisation of

[13] Now the tax incentives have to be given as reimbursement of the taxes paid.
[14] See, https://economictimes.indiatimes.com/news/economy/policy/post-gst-travel-time-of-trucks-has-reduced-by-a-fifth-government/articleshow/59831749.cms?from=mdr.

this will happen only when the coverage under GST is made comprehensive. This has also helped the exporters to eliminate domestic indirect taxes on exports more comprehensively to impart greater competitiveness.

The electronic administration envisaged under the GST was to eliminate the interface between the taxpayer and tax collector. Right from registration, payment of the tax by availing ITC, filing of returns and assessment, entire process was designed to be electronically managed without any personnel interface. This was also supposed to ensure faster refunds to the exporters. The mechanism was required also to ensure better compliance with the tax as well. A strong technology platform was critical also for ensuring seamless credit on cross border supplies. However, glitches in the technology platform have constrained the full realisation of these benefits as will be discussed in some detail later.

Another important feature in Indian GST is the creation of the GST Council. This is an important innovation in fiscal federalism where both the Union and State governments pass on their fiscal autonomy to levy important consumption taxes to a joint agency in the interest of tax harmonisation (Reddy, 2018). Any change in the structure would require the decision by the Council. A major vacuum in Indian fiscal federalism is the absence of an institution for intergovernmental bargaining, fostering cooperation, regulating competition and ensuing conflict resolution (Rao, 2019) and GST Council provides a model for achieving this in the sphere of tax harmonisation. This experiment can be useful to deal with tax harmonisation, but also can be a useful guide to resolve issues relating to intergovernmental cooperation and conflict resolution. However, it is important to raise a word of caution at this stage. In fact, the decisions taken in the Council have been unanimous and the practice is being persisted with. This has also meant that important decisions requiring substantial changes are hard to be passed, and the reforms will be marked by the tyranny of status quo. Besides, the consensus decisions are likely to be sub-optimal (lowest common multiple).

(b). Impact on revenues:

In the short term, the GST was supposed to be revenue neutral; it was expected that over time, higher compliance from self-policing nature of the tax would result in significant revenue productivity. Although two years is a short term to make judgements on revenue gains or losses, particularly as a number of changes in the rates of tax have been made during this period, it helps to identify the measures needed in the short and medium term to improve revenue productivity.

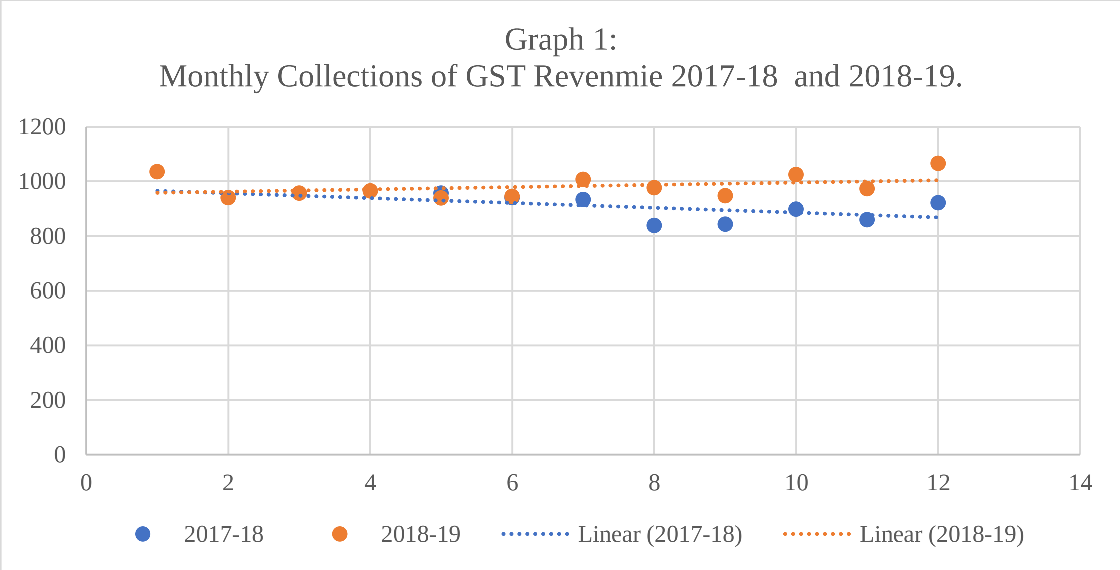
The analysis shows that after the implementation, there has been a deceleration in revenues. For 2017-18, the C&AG estimates the growth of GST by taking into account the revenue from the taxes subsumed in it in the previous years and finds that the revenue actually declined by 10 per cent (India, 2019; p.29). This is in spite of excessive drawing of IGST on Centre's account by appropriating unallocated balance in the IGST account into the Central government's consolidated fund. In addition, and there was a shortfall in the transfer of the compensation cess into Public Account which was retained by the Centre (India, 2019, p. 28-29). Things have not improved much in the next year as well. The monthly average revenues in 2018-19 was higher by the average monthly collection in the 8 months of 2017-18 (August to March) by just 6 per cent (Graph 1). In 2018-19, the actual collection from the tax fell short of the budget estimates by a substantial amount. There are only 5 months when the gross collection figures of GST exceeded the one trillion Rupees mark. As against the monthly target of Rs. 1.18 trillion, the collection in September 2019 was at 9 month low at Rs. 919 billion. In the first five months of 2019-20, the Central government collected the compensation cess amounting to Rs. 410 billion but had to pay compensation amounting to Rs. 650 billion and the monthly shortfall amounted to Rs. 50 billion.

It is also clear that even from the Central government's own point of view there has been a significant shortfall in revenue collections. The budget estimate for 2018-19 for the Central government was Rs. 7.43 trillion and the actual collection according to Controller General of Accounts was Rs. 5.81 trillion which was lower by Rs. 1.62 trillion or by 22 per cent (Table 3). Even as compared to the revised estimate, the actual collection was lower by 10 per cent. Even if the lower collections were on account of reduction in the tax rates from 28 per cent to 18 per cent on a number of items in November 2018 is considered, the extent of shortfall is worrisome.

Table 3.
Revenue Trends in GST of Central Government in 2018-19

Tax	Budget Estimate Rs. Billion	Revised Estimate Rs. Billion	Actual Rs. Billion	Shortfall in Actual from Budget Estimate	Shortfall in Actual from Revised Estimate
CGST	6039	5039	4575.35	-24.24	-9.20
IGST	500	500	289.47	-42.11	-42.11
Comp. Cess	900	900	950.81	5.65	5.65
Total	7439	6439	5815.63	-21.82	-9.68

Source: Report of the Comptroller and Auditor General, (p. 26)



The report of the C&AG makes a detailed compliance audit of the technology platform. It observes that complexity of returns and the technical glitches have resulted in the roll back of the originally envisaged full invoice matching system of verification for ITC, using GST returns (GSTRs-1, 2 and 3). The GSTR-3B return, which was introduced as a stop-gap measure is a summary return which does not provide the invoice –wise details needed for verification. The absence of proper technology based verification is prone to ITC frauds. This has also lead to continuation of avoidable taxpayer- tax officer interface. The report concludes, " On the whole, the envisaged GST tax compliance system is non-functional" (India, 2019; p. 22). Further, the settlement of IGST to the States also could not be done properly as the system failed to generate the required modules such as appeals and refunds from the returns.

The C&AG's audit report also found several other problems which included (i) duplicate records in settlement ledgers; (ii) incorrect settlement of IGST due to erroneous entries in settlement ledgers; (iii) erroneous claim of ITC by one taxpayer accounting for 79 per cent of total ITC claim by all taxpayers for a month exposing the vulnerability of fraudulent claims. The inability to settle the IGST balance after adjusting for cross utilisation of input tax credit between SGST, CGST and IGST, led to arbitrary allocation in 2017-18, using the Fourteenth Finance Commission's formula for tax devolution or the original ratio of protected revenues which was clearly arbitrary (Bhaskar, 2019).The failure to firm up the technology platform is also one of the reasons for delay in the settlement of refunds to exporters.

Inability to match invoices to validate input tax credit must be rectified without much loss of time in order to improve the compliance of the tax. The issue must be dealt with in two ways. First, as argued by Keen and Mintz (2004), threshold should be kept high enough to optimise the collection of tax revenue. This not only helps the tax administration to focus on the large taxpayers, but also serves the cause of equity as most of the low income earners buy their requirements from small traders. Bird and Gendron (2007) after reviewing the experiences of different countries suggest a thumb rule of having a threshold of USD. 100000, for developing countries and Rao (2011), in a paper written before GST was introduced had suggested the threshold at Rs, 5 million. The originally set threshold at Rs. 2 million was low and later, it was raised to Rs. 4 million for goods, but for services, the threshold has continued at Rs. 2 million. The GST Council should revisit the issue to have a proper threshold after analysing the turnover range wise number of taxpayers, their turnovers and tax paid in each range. It is possible to devise the policing system to minimise the misuse of the threshold by mining the data from the returns. Furthermore, in GST, it does not make sense to have separate thresholds for goods and services.

Unfortunately, GSTN does not put the information of turnover range wise number of tax payers, their turnover and tax paid by them and efforts to collect the information did not bear fruit. The analysis based on the information collected for an "average" State, Karnataka presented in Table 4 shows that over 92 per cent of the taxpayers are in the turnover range of below Rs. 5 million and they account for just about 12 per cent of the GST paid. Increasing the threshold to Rs, 5 million will help to reduce the burden on the technology platform and leaves much more time for the tax administration to focus on bigger tax payers.

The second issue relates to the desirability of 100 per cent matching of invoices. The early experience of 100 per cent matching of invoices in Korea, was stated to be not worth the effort (Choi, 1990)[15]. The Korean experience showed that the practice was neither efficient nor effective. Therefore, the system was modified in 1988 to require inputting of output invoices above a threshold (approximately £175) and when the discrepancies between input and output invoices or between invoices and VAT returns were higher (approximately £2,875), and later, the practice of e-invoicing was adopted. A detailed analysis of Krever (2014) shows that comprehensive invoice matching system imposes very high compliance costs on taxpayers who are least likely to evade VAT and divert administrative resources

[15] Richard Krever (2014) provides very useful insight in the Korean experience. Se also, Bird and Gendron (2007; p. 170-171).

from audit processes aimed at uncovering suppression of sales or claims to ITC related to outputs are not matched by VAT payments.

Considering the problems faced in Indian context, it may be appropriate to review the strategy and require invoice matching for the suppliers with turnover of more than some threshold (say Rs. 10 million, and for invoices more than Rs. 5000). Detailed audit can be carried out in cases where there are discrepancies. This will relieve the pressure on the technology platform, reduce the burden the tax administration, ease information requirements from the tax payer and reduce their compliance burden and cost. Even if the threshold is not increased, confining the invoice matching to taxpayers with turnover more than Rs. 10 million will limit the invoice matching requirements to just 8 per cent of the existing taxpayers (Table 4). The key is to enforce the tax effectively on the big suppliers and then to leverage the withholding of downstream GST through standard administrative procedures without worrying too much about small suppliers. Of course, this creates incentive to hide below the threshold. However, as the technology stabilises, the coverage may be extended. It is also possible to intensify information based policing based on the tax returns of bigger tax payers.

Table 4
Turnover Range wise number of taxpayers and Tax Paid in Karnataka. 2018-19

Turnover Range (Rs. Million	Number of Taxpayers	Taxable Turnover Rs. Million	Tax Paid Rs. Million	Percent of Taxpayers	Per cent of Turnover	Per cent of Tax Paid	Per Cent of Tax Paid to Turnover
< 2	490357	1345112	62816	85.42	3.56	7.05	4.67
2-5	41865	1093451	44234	7.29	2.90	4.96	4.05
5-10	18635	1021396	39201	3.25	2.71	4.40	3.84
10-100	20379	3954303	162736	3.55	10.48	18.25	4.12
100-500	2150	3122868	152295	0.37	8.27	17.08	4.88
500 - 5000	607	4844476	214176	0.11	12.83	24.03	4.42
5000-10000	23	736016	28285	0.00	1.95	3.17	3.84
>10000	18	21627367	187728	0.00	57.30	21.06	0.87
Total	574034	37744989	891471	100.00	100.00	100.00	2.36

Source: Office of the Commissioner of Commercial taxes, Government of Karnataka.

At the State level, it is difficult to infer the extent of shortfall in revenue collections due to the difficulties in estimating the base year estimates (some taxes like octroi, entry tax and purchase tax are collected at local levels). Furthermore, arbitrary allocation of IGST makes it difficult to ascertain the actual collections. Thus, from the information available in public domain, it is impossible to find out how many of the States have actually received the compensation and how many were able to collect more than 14 per cent increase over the base year[16]. Even the budget documents do not show the compensation received under a common revenue head. While some of them put it under GST, some others put it as grant from the Centre and club it under other grants. The data collected from the budget documents from the State governments presented in Table 5 show that most of the States had to be paid compensation according to the agreed formula. The States are concerned about the matter as after 2022-23, they will not receive any compensation unless, the matter is revisited by the GST Council to extend the period of compensation.

A recent newspaper article by Adhia (2019), the former Secretary of GST Council, presents a picture which is not very different[17]. The revenue shortfall from GST as compared to what the States should have collected from subsumed taxes escalated at 14 per cent in 2017-18 was 16 per cent and it declined to 12 per cent in 2018-19. Substantially higher collections in 2018-19 were seen in the north-eastern states with Mizoram getting the highest increase of 62 per cent followed by Arunachal Pradesh (59%), Manipur (35%), Nagaland (24%) and Sikkim (12%). Among the non-special category states Andhra Pradesh and Telengana which had a marginal surplus of 4 per cent and one per cent respectively. All other non-special category states had to be given compensation. The deficits were the highest in Punjab (37%) and Karnataka (20%), Haryana (16%) and Gujarat (1%). Among the low income states, there were large deficits as in Chattisgarh (25%), Odisha (20%), Bihar (18%), , Jharkhand(14%), Madhya Pradesh (14%). The losses were within single digits in Rajasthan (8%), Tamil Nadu (5%) and Maharashtra (4%). In some ways, this was to be expected as the growth rate factored in for determining the compensation was far too optimistic, much higher than the actual growth of taxes subsumed in the GST, and there was little that could contribute to improved compliance.

Another important issue relates to the mismatch between the revenue from compensation cess and the amount distributed to the states as compensation. According to the Act, the collections from the Cess are to be deposited in the non-lapsable compensation fund to be placed in the Public Accounts from which the payments should be made. However, in 2017-18, of Rs. 626 billion collected from the Cess only Rs. 561 billion was

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[16] Efforts to get this information from the GST Council did not bear fruit.
[17] See, https://www.business-standard.com/article/opinion/how-the-states-are-doing-post-gst-119090501480_1.html

transferred to the fund and the remaining amount was appropriated by the Central government in the Consolidated Fund. The revised estimate of 2018-19 shows that of the Rs. 900 billion collection as compensation cess, the Central government proposes to retain Rs. 582.85 billion and pass on the remaining to the fund. This raises questions of propriety.

Table 5
Compensation Payments (Rs. Million)

State	**2017-18**	**2018-19 (RE)**	**2019-20 (BE)**
Andhra Pradesh	5002		
Assam	9027.10	10000.00	10000.00
Bihar	30410.00	0.00	35000.00
Chhattisgarh	14830.00	37003.60	45064.10
Goa	0.00	0.00	0.00
Gujarat	36870.00	0.00	0.00
Haryana	11990.00	28000.00	30000.00
Himachal Pradesh	5390.00	27020.00	29000.00
Jammu And Kashmir	11370.00	25915.30	29543.40
Jharkhand	3690.00	7000.00	2580.00
Karnataka	62460.00	108000.00	172490.00
Kerala	17720.00	21000.00	0.00
Madhya Pradesh	0	0	33000.00
Maharashtra	14880.00		
Manipur	240.00		
Meghalaya	1240.00		
Orissa	20190.00	40740.00	48670.40
Punjab	40370.00	93749.40	86190.30
Rajasthan	25980.00	28250.00	0.00
Tamil Nadu	6320.00	42380.00	55820.00
Uttar Pradesh	21240.00	0.00	0.00
Uttarakhand	12830.00	0.00	30172.50
West Bengal	16876.40	19900.00	20000.00
All States	**368925.60**	**488958.30**	**627530.70**

Source: Budget documents of State governments.

There are a variety of reasons for the low revenue productivity of GST, the principal ones being glitches in the technology platform and secondly, the design of the structure of GST. The report of the C&AG makes a detailed analysis of the technical glitches adversely impacting on compliance (India, 2019). Inability of the technology platform to verify invoices for ITC has a potential to create false claims and refunds. Similarly, inability to validate the registrations, has led to the creation of several shell companies (some of them within the group) to issue fake invoices which eventually disappear leading to evasion of the tax. The fact that annual return filing date is being repeatedly postponed due to technical glitches does not serve to disallow the ITC. In the absence of a clear trail, the assessment will be based entirely on trust and this provides opportunity for the unscrupulous businessmen to evade the tax. In fact, the annual return filing for 2018-19 is being repeatedly postponed and the last date prescribed now is November 30, 2019. Similarly, inability to validate and debar the ineligible taxpayers from availing composition levy has also led to misuse of the facility. The Minister of State for Finance in his reply to a question in Rajya Sabha stated that since GST was rolled out on July 1, 2017, 9385 cases of tax fraud involving an amount of Rs. 456.82 billion has been detected by tax authorities since the new tax was rolled out and the amount of fraud detected in 2018-19 was Rs. 379.46 billion and in the first three months of this financial year, 1593 cases involving Rs. 65.2 billion has been detected[18].

The basic problem arises from the inability to deal with large number of assessees and the ambitious plan of having 100 per cent matching of invoices to avail ITC and settle IGST. As of end March 2019, the number of registered dealers was 12 million and total number of returns filed numbered almost 16 million. Matching every invoice issued by a dealer to verify ITC requires a robust pre-tested technology platform which the GSTN has not been able to erect. However, even though revenue collections have not reached the optimistic expectations, the loss has not been so large as to get worried, and as the S

tates are fully assured of the buoyancy, the tax has come to stay. Thus, there is no fear of going back and efforts will have to focus on improving the system.

(c) Structure of the Tax and Revenue Impact:

Does the introduction of GST lead to informalization of the economy? Pigott and Whalley (2001) argue that in an economy with a large informal sector, VAT tends to increase the tax on the formal sector leading to worsening of the distortions to reduce welfare. In the same vein, Emran and Stiglitz (2005) argue that in developing countries, VAT acts as a tax on the formal sector and shifting from tariffs to VAT could result in reduced welfare from informalization of the economy as at least under the former, inputs get taxed. However, Emran and Stigitz, in their analysis do not take the real world VAT, which involves payment of taxes on inputs on all exempted goods and the actual VAT is no less effective in taxing informal sector imports (Keen, 2008, 2009). The important issue, however, is that in an economy with a large informal sector, there can be adverse impact on revenue if the entre

[18] Quoted from the report in Indian Express on August 30, 2019. https://indianexpress.com/article/business/since-gst-rollout-in-july-2017-45682-83-crore-fraud-detected-5833003/

chain of transactions is kept outside the formal sector. This may be particularly important if the list of exemptions is large and the difference in the rates of tax between formal and informal sectors is high.

The best practice approach is to keep the list of exemptions in GST small to have a more comprehensive trail of transactions. The rationale for exempting many items or levying low rates on items considered necessities is to ensure equity in the distribution of tax burden. However, while exemptions or low rates of tax on such items may confer larger proportional benefit to the low income groups, it could result in larger absolute benefit to high income groups. This is an inefficient way of achieving equity as the exempted items are consumed also by the rich and therefore, the better way to achieve equity is through the expenditure side of the budget (Keen, 2013) by making cash transfers and spending on items like education and healthcare[19]. In India, as many as 148 commodities under four digit HSN classification and having almost 50 per cent weight in the consumer price index have been kept in the exempted list. The ostensible reasons for this are administrative ease, equity and minimise impact on prices. Apart from most unprocessed agricultural goods, a number of items are exempted for social reasons. Most food items including the processed items are exempt so long as they are not packaged and branded. The glaring examples of exempted services are railway transportation of goods and people in road, railways (except travel in first or air-conditioned class) and inland waterways and courier services. Large exemptions not only lead to narrowing of the tax base but also informalization of the economy. Large exemption list lowers the input tax credit and this reduces the incentive to register and pay the tax. Thus, while the flour is not taxed, toasted bread and rusk are taxed at 12 per cent and malt, biscuits, cakes and pastries are taxed at 18 per cent. Given that the technology involved in their supply is not sophisticated, the high rate of tax drives the entire process of production and sale outside the tax net. It is not surprising that organised manufacturers of biscuits have been complaining about the fall in sales. While items like coffee beans, fresh tea leaves are exempt, coffee and its substitutes, tea and dry ginger are taxed at 12 per cent. Unbranded food items such as savouries are not taxed whereas branded items are subject to 12 per cent tax. De-oiled cakes used as cattle feed are exempt but other uses are taxed at 5 per cent. In fact, much of food processing can be carried out using simple technologies and therefore, can remain outside the formal sector to evade the tax. There are many such examples.

[19] Sonia Munoz and Stanley Song-Wook Cho (2004) using micro data on Ethiopia conclude, "……..even very poor countries can sometimes deliver the expenditure goods more effectively than poorly targeted exemption". Quoted in Bird and Gendron (2007) footnote.13; p. 77.

Rate differential done for reasons of equity simply based on the perceptions about the consumption pattern may not only result in lower tax collections but can also serious adverse impact on employment and incomes. Many items such as building materials including cement and its products, marbles and granites, veneer and plywood, paints and varnishes, tiles, sanitary ware, motor cars and parts, refrigerators, air-conditioners, vacuum cleaners, and even chocolates and razor blades are taxed at 28 per cent on the perception that these are luxury items. In fact, in addition to the basic rates, compensation cess at varying rates is levied on these items over and above 28 per cent tax to earmark the revenue for paying compensation to the States for any loss of revenues. These rates vary widely creating enormous rate differences among the commodities and services subject to the 28 per cent category. As shown in Table 5, on motor cars alone, the cess varies depending on the engine capacity, length and fuel use of the vehicle. In some cases, the total incidence of the tax works out to 50 per cent. Automobile industry with its ancillaries and downstream repair and services has enormous employment implication. Furthermore, as both motor spirit and high speed diesel are taxed at very high rates without input tax relief and this makes the entire system of transportation of both goods and people non-competitive.

Table: 5
Tax Rates on Motor Cars

Type of Vehicles	GST Rate	Compensation Cess	Total Tax Rate
Petrol/CNG/LPG car less than 1200cc/ length less than 4 meters	28%	1%	29%
Petrol/CNG/LPG car less than 1200cc/ length more than 4 meters	28%	15%	43%
Petrol/CNG/LPG car over 1200cc (irrespective of length)	28%	22%	50%
Diesel car less than 1500cc and length less than 4 meters	28%	3%	31%
Diesel car less than 1500cc and length more than 4 meters	28%	20%	48%
Diesel car over 1500cc engine capacity, greater than 4 meters length and ground clearance of 170mm or more	28%	22%	50%
Electric Cars (all sizes including 2 and 3 wheelers)	12%	Nil	12%
Vehicles fitted for use as an ambulance	28%	Nil	28%

The Rates are as decided by the 31th GST Council meeting held in December, 2018.Source: https://www.paisabazaar.com/tax/gst-on-cars/

The problem is high tax rates incentivise evasion of the tax by creating a grey market for such goods. This is particularly true of building materials in which the rate of tax levied is 28 per cent, but final tax on affordable houses is one per cent and other houses, 5 per cent without ITC. Since there is no paper trail on the input providers for the builders of these properties, they can purchase their inputs from the grey market and merely pay the compounded tax or not pay the tax at all as there is no paper trail. This can result in a huge loss of revenue. In the case of motor cars, high taxes could lead to higher prices resulting in lower demand. The problem is reinforced by the fact that motor spirit and diesel are not included in the GST base and this increases the cost of transportation. The fall in demand results in the loss of employment not only due to layoffs by the vehicle industry but also by the ancillary and servicing of motor vehicles. Thus, the tax that is intended to fall on the rich may hurt the poor more. It is therefore, important to assess the general equilibrium effects tax rates and their changes while designing the tax structure[20].

In traditional cascading type sales taxes, commodities and services predominantly used as inputs are taxed at much lower rates than outputs to minimise the cascading effect. However, as full input tax credit is given under the VAT, such distinctions are made and actually large rate differences provide an incentive to evade the tax. Implementation of GST was an important opportunity to think afresh and determine the tax rates based on the first principles. However, when the fitment committee simply added the rates of merged taxes in GST to calculate the total rate for various commodities and services and fitted the items closer to the pre-determined rates, it carried over the shortcomings of the prevailing structures. The earlier VAT in States as well as the excise duty on manufactured products levied by the Centre had lower rates of taxes on items considered predominantly as inputs. In the GST, as ITC is given, it is not necessary to tax the inputs at lower rates. In fact, when there is a large difference in the rates between the items considered as inputs and outputs, there can be an incentive to purchase the inputs and pay the tax, but suppress the output and evade the tax. The structure of GST has reproduced this shortcoming. Thus, most metallic ore is taxed at 5 per cent, metallic bars, sheets, tubes and other products are taxed at 18 per cent and utensils are taxed at 12 per cent, a foundry owner can buy the ores by paying 5 per cent tax, manufacture bars, sheets and tubes and sell it in the market and suppress his output and sale. The difference in the rates is 13 percentage points and along with the additional

[20] The automobile industry has been claiming that there have been massive layoffs on account of various factors including high rate of GST.

value added in the process of manufacturing and sale, the incentive from suppressing his output and sale is considerable.

4. GST and Continuing Distortions:

(a) Multiple Rates:

The predominant objective of GST implementation is to minimise distortions associated with the prevailing domestic consumption taxes. In particular, the reform was designed to reduce welfare losses due to deadweight losses arising from the cascading elements in both Central and state consumption taxes. Cascading creates a wedge between consumer and producer prices more than the tax element, alters relative prices in unintended ways, promoted vertical integration in businesses, adds to opacity, and reduces the competitiveness in international trade due to difficulties in relieving the input taxes from exports in a comprehensive manner[21].

The conventional wisdom arising from conceptual as well as best practice approach to designing GST is to keep the list of exemptions small and levy the tax at a single rate. The attempt to keep an additional lower rate on items predominantly consumed by low income groups is an inefficient way of targeting and, therefore, the expenditure side of the budget can achieve the objective better (Keen, 2013). Jenkins et.al (2006) recommends a higher threshold on the grounds that it increases progressivity of the tax without distorting relative prices. The practice, over the years has been increasingly to ley the tax at a single rate (Table 6) and in fact, the Thirteenth Finance Commission advocated such a ‘flawless’ GST.

Table:6
VATs with a Single Rate at Time of Introduction

Years	Number of New VAT Countries	Percentage with Single Rate
Before 1990	48	25
1990-1999	75	71
1999-2011	31	81

Source: Keen (2013)

[21] For a systematic analysis of welfare loss from cascading, see Keen (2013).

Despite the overwhelming expert opinion on the desirability to levy the tax at a single rate, the tax has to be designed based on societal preferences and political acceptability. As Bird and Gendron (2007) argue, there is no one size fits all (NOFSA) principle in designing GST. Even in the European Union, except for Norway, all other countries have (mostly) two rates and the proposal to switch over to a single rate based on the recommendation of an expert committee was shot down politically (Bird and Gendron, 2007). At the same time, adopting excessive rate differentiation complicates the structure, increases administrative and compliance costs and accentuates distortions by altering relative prices in unintended ways. In fact, considering the fact that the States had only two VAT rates implementation of GST, with four rates (excluding zero and special rates on precious metals and stones) and cesses at varying rates is excessive and it is important to move over to two rates sooner than later.

(b) High rates of tax and anomalies:

Not only that there is excessive rate differentiation, but levying taxes at 28 per cent on consumer durables (like air conditioners, refrigerators and automobiles and parts) and construction materials, not only provides a good incentive to evade the tax, but also creates distortions. One of the reasons attributed to deceleration in economic growth in the last few quarters is from slowdown in private consumption and high GST rate on consumer durables does not help to reduce prices to increase demand for them. While with the available information it is not possible to state to what extent GST is the cause of slow-down in consumption expenditure growth, reducing it to a lower level of 18 per cent could certainly help in arresting the deceleration while improving the structure of the tax. For 'sin' and 'demerit' goods, it may be desirable to have a separate excise rather than complicate the GST structure with additional rates. In the medium term it makes sense to merge even the 12 per cent 18 per cent to 15-16 per cent so that the GST will have two main rates – 5 per cent and 15/16 per cent.

The problem with wide ranging rate differentiation within a commodity/service group enormously increases both administrative and even more important, compliance costs. Both the producer and the seller dealing with different types of cars have to keep detailed accounts of sales of different types of vehicles and the input purchases. Strangely, the tax department has been levying the tax at 28 per cent even on imported auto-components like floor-mats and ashtrays even as the tax rate on these manufactured domestically is 18 per cent.

Levying GST at four main rates makes it complicated. When the cesses are taken into account, it is difficult even to count the number of rates when the rates of cesses are added as shown in the example of motor vehicles. In the case of motor vehicles, rate differentiation is done on the basis of engine capacity, length of cars, their fuel base and use. Table 7 presents some examples of rate differentiation and these are only some examples. There are instances where differentiation for the same commodity or service group is done based on the values (footwear, apparel, quilts, hotel tariff) for equity reasons. Differentiation is also made based on the nature of the commodity as in the case of fibres used in textiles (natural or man-made), based on whether the commodity is in the nature of input or an output and use of the commodity (oil cakes used as cattle-feed and others). The problem with multiple rate structure is that it is easily prone to misclassification. For example, silk and fibre is exempt, cotton and natural fibres are taxed at 5 per cent and man-made fibres are taxed at 18 per cent (See Table 7). The food served in restaurants in hotels having room tariff less than Rs. 1000 per night is exempt, and in other restaurants, it is taxed at 5 per cent without the provision of ITC whereas restaurant services in hotels with over Rs. 7500 room tariff per night and those in clubs and guest houses, it was 18 per cent[22]. Similarly, catering services were taxed at 18 per cent and was brought down to 5 per cent without ITC in the 37th meeting of the Council Surely, it is not very difficult for the restaurants to classify catering as sales from the restaurants, nor is it difficult for a professional caterer to open a small restaurant to misclassify the same.

Table 7:
Some Examples of Anomalies in Tax Rates

Item	Rate of Tax (%)
1. Different Tax Rates on same commodity group	
Footwear Value up to Rs. 1000 Value Above Rs. 1000	5 12
Fibre: Silk and Jute Cotton and Natural Manmade	 Nil 5 18
Readymade Apparel: Value Up to Rs. 1000 Value Above Rs. 1000	 5 12
Cotton Quilts/Piece: Value Up to Rs. 1000 Above Rs. 1000	 5 12

[22] Brought down to 12 per cent in the 37th Council meeting on September 20.

Hotels and Lodges: Tariffs up to Rs. 1000 Tariffs from Rs. 1000-Rs. 2500 Tariff from Rs. 2500 – Rs. 7500 Tariff Above Rs. 7500	 Nil 12 18 28
Restaurants Catering	5 18
2. Rate Differentiation According to the Use of the Article:	
De-oiled cakes: Used as Cattle feed Other uses	 Nil 5
3. Rate Differentiation According to Stage of Production	
Metallic Ores (Iron, Manganese, Copper, Nickel, Cobalt, Aluminium, Lead, Zinc, Tin, Chromium, Tungsten, Uranium, Thorium, Titanium, Precious metals and others (from 2601 to 2617) Pig Iron, Ferro Alloys, Iron and Steel and alloys of steel, Uranium and powder, semi-finished products of iron and steel etc., Utensils, Household articles	5 18 12
Aluminium utensils, table and kitchen ware or household articles Aluminium alloys, ingots, billets, wires, bars, rods, plates, sheets, tubes and pipes. Aluminium foil, doors, windows and their frames and sanitary ware	12 18 28

An important consequence of multiplicity of rates is the possibility of input taxes claimed for credit exceeding the output taxes payable and this requires refunds to be made. Such inverted rate structure occurs in the cases where the input tax rates are higher than the rates on outputs and the value added by the output supplier is not high. Textiles and housing sector provide examples of inverted duty structure. In textiles, the synthetic fibre is taxed at 18 per cent, yarn at 12 per cent and cloth at 5 per cent. This results in large refunds and the inability to provide these has posed problems to the manufacturers[23]. Similarly in housing, most inputs are taxed at 28 per cent and affordable and other houses are either subject to compounded levy of 1 per cent and 5 per cent or if they want to claim input tax credit, 5 per cent and 12 per cent respectively. Given the inverted duty structure, delay in getting the refunds has severely constrained their working capital.

(c) Cascading element:

In India, even after attempts were made to relieve input taxes the consumption tax system by converting the States' sales taxes into VAT on goods in 2005, and Centre's excise duty into CENVAT, significant cascading elements had continued to persist. The excise duty

[23] The President of CII has complained that the delays in the refunds has severely hampered working capital liquidity. See, https://economictimes.indiatimes.com/industry/cons-products/garments-/-textiles/textiles-sector-rues-synthetics-inverted-duty-structure/articleshow/67877119.cms?from=mdr

was essentially a manufacturing stage sales tax cascading into wholesale and retail stages. There was no input tax credit mechanism between excise duty and service tax. Sales taxes were levied on the excise duty paid value. There were a number of other taxes like inter-state sales tax, octroi, entry tax and purchase tax where there was no provision for relieving input taxes at all. Therefore, GST was considered as the most appropriate solution to provide ITC in a more comprehensive and systematic manner.

While the reform has helped to substantially reduce the cascading element in taxes, it falls well short of the desired. This is not because of the non-inclusion of financial services or real estate which is a problem even in developed countries (Bird and Gendron, 2007), but due to the exclusion of motor spirt, high speed diesel, real estate, alcohol and electricity from the GST. High Speed Diesel and motor spirit contribute over 35 per cent of the revenues of Centre and the States and the GST Council simply did not take any risk by extending the coverage to these items. For ensuring a more comprehensive VAT chain, it would have been desirable to levy the GST and impose a separate environment excise to protect revenue.

The revenue from both Central and State cascading taxes constitute substantial proportion of revenues collected from internal indirect taxes. At the Central level, the excise duty collected on petroleum products constituted 40.3 per cent of the total internal indirect taxes collected and the revenue from cascading indirect taxes at the State level was 43.4 per cent aggregated for all non-special categories taken together. Even if the data on Andhra Pradesh and Goa are ignored because the former is a newly formed State and the latter is a very small state, the revenue from consumption taxes excluded from GST base varies from 33.6 per cent in Maharshtra to 54.6 per cent in Tamil Nadu (Table 8). As the States levy their sales taxes on the union excise duty paid value, the cascading element is substantial A study by Rao and Mukherji (2019) estimates that the cascading impact of not providing ITC to natural gas, petroleum products and electricity is significant and varies among sectors depending upon their direct and indirect use as inputs. Some sectors with substantial exports also face significant cascading, and this adversely impacts on their competitiveness. Cascading element in taxes is tantamount to imposing penalty on exports and eliminating such penalties was an important motivation for adopting GST in Canada. Furthermore, providing ITC for fuel provides incentive for businesses to report their sales. In fact, because of keeping fuel outside the GST base, the entire transport sector except, air travel and air-conditioned and first class train travel is exempted which renders the tax base narrower and adds to cascading.

Table 8: Revenue From Cascading Taxes After GST Implementation.				
State	GST (Rs. Million)	Cascading Taxes (Rs. Million)*	Total (Rs. Million)	Share of cascading Taxes in Total (Per Cent)
Andhra Pradesh	103960	427854	531814	80.5
Bihar	170297	102000.3	272297.3	37.5
Chattisgarh	121510	70796.3	192306	36.8
Goa	32030	11281.1	43311.1	26.0
Gujarat	433976	342869.3	776845.3	44.1
Haryana	237600	148449	386049	38.5
Jharkhand	106000	64260	170260	37.7
Karnataka	426397	227973	654370	34.8
Kerala	270000	246605	516605	47.7
Madhya Pradesh	216931	177973	394904	45.1
Masharashtra	1053029	535565	1588594	33.7
Odisha	129748	109109	238857	45.7
Punjab	217717	125137	342854	36.5
Rajasthan	221540	229520	451060	50.9
Tamil Nadu	432764	519558	952322	54.6
Telengana	280518	303310	583828	52.0
Uttar Pradesh	529803	314783	844586	37.3
Wst Bengal	230600	130602	361202	36.2
All States	5557746	4265512	9823258	43.4

Note: Cascading Consumption taxes include Sales taxes on Petroleum products, motor vehicle tax, passengers and goods tax, electricity duty and entertainment tax and other consumption taxes excluding State Excise Duty.
Source: State Finances: A Study of Budgets of 20170-18 and 2018-19. Reserve Bank of India.

In addition to the exclusion of these consumption taxes from the GST, ITC is not available on items exempted from GST, the compounded tax on the dealers with less than Rs. 15 million turnover, and compounded tax on services in restaurants and housing. The tax on affordable housing is levied at a compounded rate of 1 per cent and other housing, at 5 per cent with no input tax credit. Large scale exemptions and extending the benefit of compounding to cases such as supplies in restaurants and housing also deny ITC and add to cascading. Since most housing materials are taxed at 28 per cent, the dealers put the pressure to restore the original rate of 8 per cent and 12 per cent on these categories with ITC. Given the high tax rate on inputs, inverted duty structure in this case is unavoidable. Equally important is the fact that revenue from compensatory cesses constitute about 8 per cent of the GST collected and these are not subject to ITC

5. A Summary and a Starting Point:

Implementation of GST is a far reaching reform involving 29 States with wide variations in development, 2 Union Territories with legislature and the Centre. It is not surprising that the some bad features in the structure and operational details of the reform had to be accepted to get agreement from all governments. However, undertaking reforms to get rid of the bad features is a challenge and requires concerted efforts to convince all the benefits of improvement. Since the roll out of the reform on July 1, 2017, there have been 37 meetings of the GST Council until September 20 to decide on the changes in the structure and operational details of the tax in response to the demands by the trade and industry. Thus GST has been evolving in India and will have to face many challenges before settling down to a stable tax system.

The reform was unveiled with much fanfare on the midnight of July1, 2017 and was billed as a game changer and reform of the century. It was supposed to be entirely IT based without any interface between tax payers and officials and requiring 100 per cent invoice matching for providing ITC. Trade and industry too accepted the reform with open arms hoping to have a simpler and cleaner tax which minimises their compliance cost. Surely, the reform of this magnitude was expected to have teething troubles and the GST Council has been responsive to the concerns of taxpayers. After 27 months of experience, it is clear that the reform is here to stay and will continue to evolve as the Governments gain in confidence. The experience has also led to the moderation in expectations and it is now clear that significant additional reforms are needed in the structure of the tax and equally, if not more important, the technology platform needs to be stabilised without much loss of time to ensure better compliance of the tax , achieve higher revenue productivity and minimum economic distortions.

Subsuming of a number of Central and State taxes has simplified the tax system to a considerable extent though much more remains to be done on this front. The system of online payment of the tax and distancing the tax payer from tax collector has minimised the scope for rent seeking and reduced the compliance cost. Although the jury on the overall reduction in the compliance cost of the tax is still out as the complications and insistence on online payment has required the taxpayers to take the help of tax consultants, reduction in rent seeking is certainly an important positive. Administrative cost too is likely to come down as the Centre and State governments reorganise their administrative systems in the medium term.

It is important to underline the gains from the implementation of GST. The most important gain is from the abolition of inter-State check-posts erected to enforce taxes on cross border transactions and intra-state check-posts erected to collect octroi and entry tax by local bodies. This has substantially removed impediments to the movement of goods across the country and is an important step in creating a national common market. In addition, it has helped to reduce the cost and time required for transportation of goods. The merger of Inter-State sales tax has helped to make the tax destination based and reduced tax exportation from the more developed producing states to the consumers in less developed States. Besides, the merger of central sales tax has put an end to the practice of inter-State consignment transfers and abolition of branch offices in different States established to avid the tax. The GST unlike the sales tax which is levied on the sale of goods and services is a tax on the supply of goods and services and since there are no differences in the tax rates between States, there are no tax gains to be had in creating branch offices and this has made the supply chain management more efficient.

Another important gain from the tax is the reduced cascading due to more comprehensive ITC mechanism. The improvement over the past comes from the fact that the excise duty levied by the Centre was levied at the manufacturing stage and it cascaded into the final value at the point of retail sale. Besides, there was no systematic ITC mechanism for excise duty and service taxes. In the earlier tax regime, States' value added tax on goods was levied on the central excise duty and service tax paid values. The inclusion of taxes like central sales Tax, octroi, purchase taxes and luxury taxes on hotels in the GST has minimised cascading from these taxes as well.

One of the major problems in Indian fiscal federalism is the institutional vacuum to minimise transitional cost of inter-governmental bargaining and conflict resolution and the GST Council provide an interesting institutional innovation for such a task. This is a model which can be employed to foster much greater understanding between the Union and the states and among the States *inter-se* on matters requiring collaboration for mutual gains and also to resolve various conflicts between them. However, it remains to be seen how the institution will eventually shape. More importantly, the emphasis on building consensus to making changes in the tax system has resulted in delays in decision making and sub-optimal decisions in the structure of the tax even as the States' revenue is protected until 2022-23. Given that GST is still evolving and a lot of distance is yet to be covered, the tyranny of status quo due to indecision could be counter-productive.

While these gains are real and, in the medium term, could lead to improvement in productivity, much more needs to be done to realise the full potential of reforms. Besides, there are areas of concern both in the structure of the tax and in operational details and it is important to rectify them to realise both efficiency and revenue gains. The GST in India is still evolving. The GST Council has a number of players and so far, the decisions taken have been consensus; for the same reason often, the decisions have been suboptimal. Given the diverse representation of State Finance Ministers belonging to different political parties in the Council, it will take longer time and much more effort to undertake further reforms to achieve the goal of a stable, efficient and productive GST. At the same time, it is useful to take stock of the important shortcomings in the system and list out the nature and direction of reforms.

The most important concern now is the stagnant revenues and unless, immediate steps are taken to increase the revenue productivity, the euphoria about GST will wane and there could be questions about the wisdom of undertaking reform itself. There has been a sharp decline in the buoyancy of Centre's GST as well as States' GST. The States are concerned as they stare at significant revenue loss after the five year period of payment of recouping the loss of revenue is over. During the five months of the current fiscal, while the compensation cess collections amounted to Rs. 410 billion, the compensation actually paid to the States was Rs. 650 billion[24]. Thus, monthly shortfall has been approximately Rs. 50 billion. This has three implications. First, if the shortfall in collections continues, the Centre will have to make good from its consolidated fund. Second, unless revenue productivity improves, there will be pressure by the states to extend the period of compensation and the Centre. Finally, considering the low buoyancy in revenues, there will be hesitancy on the part of the GST Council to undertake reforms in the structure of the tax for fear of losing more revenues.

The first important issue that the GST Council and GSTN together should address is to firm up the technology platform. The C&AG in its IT audit of GST, has pointed out a number of shortcomings in the present system and the GST Council should take steps to plug

[24] A report in Business Standard on September 16, 2019 titled, " Auto-sector's rate cut hopes fade as GST cess collection declines", https://www.business-standard.com/article/economy-policy/low-gst-cess-collection-dampens-auto-sector-s-hopes-for-rate-cut-119091500720_1.html

these loopholes. It may be desirable to give up the task of 100 per cent matching of invoices to create a functioning platform considering the large number of taxpayers and zillions of invoices. It may be desirable to decide on invoice matching of large tax payers with turnovers above Rs. 10 million which would eliminate almost 95 per cent of the taxpayers from compulsory invoice matching. Even for these taxpayers, the invoices above a certain value (say, Rs. 5000), may be matched and when the discrepancies are fund, detailed audit can be undertaken. For the remaining the Central Board of Indirect taxes and State commercial tax departments can work out a modality of choosing 10 per cent of the taxpayers based on rick perceptions to undertake detailed audits. It should be possible for the technology platform to deal with invoice matching for fewer taxpayers and invoices. Once the technology is stabilised, the GSTN can extend the coverage. Along with technology platform, it is also important to create a system of real time reporting from the banks about the payment of the tax to match the invoices.

Stabilising the technology and the real time reporting system will substantially reduce the problem of evasion through the fake invoices route and improve the compliance of the tax by increasing the probability of detection. It will also help to discharge speedy refunds to exporters. Furthermore, it will accurately settle the IGST to States based on the destination. There is no need to use any arbitrary formula for allocating the taxes to the States. This measure should be taken expeditiously to ensure higher revenue productivity.

The reform in the structure of the tax is equally important. It may not be possible to undertake comprehensive reforms in the structure due to the fear of losing revenue, particularly at a time when the fiscal situation at both the Centre and the States is far from being comfortable. However, even while making incremental changes, it is important to have a clear idea about the design of the structure to be achieved and determine the direction, sequence and speed of reforms. To begin with, it would be useful to keep the threshold at Rs. 5 million to avoid too many small tax payers with little liability. This, as was pointed out, also serves the cause of equity. Another area requiring immediate intervention is to transfer consumer durables, cars and building materials taxed at 28 per cent into the 18 per cent category. The idea is to move away from the 28 per cent category altogether so that there will be only three rates besides exemption. At present, the revenue from this category including the cess is reported to be 22 per cent of total revenue from GST. In fact, 12 per cent and 18 per cent together contribute almost two-thirds of revenue collections. Transferring 28 per cent category into 18 per cent could increase the demand for these items of consumption and therefore, the actual revenue loss will be lower. In the final part of the reform, the 12 per cent and 18 per cent categories can also be merged to simplify the tax system to have two rate categories (besides exemption). These reforms can be calibrated over a period of two-three years.

There are some "demerit goods" or sumptuary goods such as tobacco and its products in the 28 per cent category. The proper method is to treat these goods is to levy the GST at the standard rate and have a separate sumptuary excise. Over time it would be desirable to adopt such an approach. At present, the supply of tobacco products is taxed at 28 per cent, but there are very high rates of compensation cess varying with the nature of the product. In the case of cigarettes, the rate of cess varies depending on the length of cigarettes. Of course, it is important to have high tax rates on them to discourage their consumption. However, the sumptuary objective can be captured by a separate excise levied by the Central government over and above the GST levied at 18 per cent. Another sumptuary item which is outside the ambit GST is the alcohol for human consumption. This is because the Constitution places the tax on alcoholic consumption in the State List and the States may not be willing to cede their power to tax and include them in the base in GST. Besides, some States follow the policy of prohibition which does not permit the consumption of alcohol in these states.

Minimising distortions from cascading requires including the supply of all the items in the tax base. Therefore, over time it is important to include petroleum products and electricity in the base of GST. The major reason for keeping petroleum products out of GST base is their overwhelming contribution – almost 35-40 per cent of the revenue from tax on domestic consumption at both Central and state levels. As mentioned, it would be desirable to levy the GST on these products at standard rates and levy a separate excise for environmental reasons (Ahmad and Stern, 2011). This will satisfy both revenue and environmental causes. As regards electricity is concerned, the Constitution places it in the State list and the States should be persuaded to agree to make the necessary amendment of the Constitution to enable the levy of GST.

The large list of exemptions has eroded the base of GST and it is important revisit the list to broaden the base. The present approach has been to exempt most of the items are perishables and those considered necessities not only for administrative and equity reasons, but also to ensure that the implementation of GST does not result in inflation. The exempted supplies have a weight of almost 50 per cent in the consumer price index. Besides, the entire passenger and goods transportation excluding air travel and air-conditioned and first class train travel is exempt from the tax. Once a systematic approach is taken to taxing petroleum products, it should be possible include these in the tax base. While exempting the tax may not be the appropriate method to deal with questions of equity, it may not be easy to prune the list politically. Nevertheless, it is important to minimise the list of exempted items with the passage of time.

There are infirmities in the rate structure prevailing at present and these should be rectified for reasons of both revenue and efficiency. As mentioned earlier, the supply of the same group of commodities are taxed at different rates depending on the price or their use and nature of purchase (consumption or take home; restaurant or catering), There are also rate differences based on the stage of production. It is important to review the rates and correct them for reasons of efficiency and better compliance.

One of the important reforms that the GST Council should undertake is to have a proper technical and a research team to analyse and design the structure of GST including exemption, rates and revenue and economic implications of changes in the rates, matters dealing with administration including registration, forms, filing of returns, payment of the tax, assessment, audit and enforcement. Similarly, estimation of revenue implications from changes in the rates requires measurement of the effect of rate changes on the demand for the commodity or service. In fact, a strong research team is important to see the implications of high tax rates and their changes on output and employment[25]. It is important to model the impact of taxes on some major items of supply from the viewpoint of revenue to see the impact of changes in the rates on output, employment and revenue. At present, the GST Council continues to rely on the analysis by the 'fitment committee' which consists of the nominated officials of the Tax Research Unit in Central Board of Indirect Taxes and Customs and some officials of the Commercial taxes Department from some States. For a reform of this nature, it is necessary to have a strong Tax Analysis Unit in the Ministry of Finance with a small number of highly qualified specialists comprising of economists, lawyers, accountants and administrators. In fact, this should be done without much loss of time to ensure that the Council gets quality advice in the evolving process of reforms.

One of the major constraints in undertaking detailed research is the reluctance of the GST Council to share detailed data even for research. Even the State-wise data on SGST, IGST and compensation cess is not available in public domain. There is considerable

[25] The official estimate of reducing the tax rate on motor vehicles from 28 per cent to 18 per cent is Rs. 600 billion. This however, is based on the collections at present.

hesitancy on the part of the Council to share the data even to the C&AG. The report of C&AG is unequivocal is stating, "after much pursuance, CBIC has shared only the MIS reports which give aggregate statistics at Commissionerate level (for Central data) and State level (for State data)". The independent researchers are virtually debarred from access to basic data on GST collections. In fact, even the C&AG Audit team was hampered in the detailed analysis of pan–India transactions and the report states, "Unhindered and full access to pan-India data is crucial for meaningful audit and to draw required assurances needed, otherwise certifying revenue receipts may become difficult. DoR's offer of providing data based on CAG's queries is not workable, as without the full data, it is neither possible to formulate queries, nor run the required algorithms on the data. The CAG sought data through the Application Programme Interface (APIs) already designed by GSTN. It needs hardly be stated that providing such data as CAG may require is a constitutional and legal requirement". When a constitutional body like C&AG itself has difficulties in securing the data required for conducting the audit, it is not surprising that independent researchers find it impossible to secure access to the information required to undertake quality analysis. Hopefully, the Council will wake up to the need for scientific analysis and does not try to "shoot the messenger".

References:

1. Acosta-Ormaechea, Santiago and Ormaechea Atsuyoshi Morozumi (2019), "The Value Added Tax and Growth: Design Matters", IMF Working paper No. 19/196, Washington D. C. : International Monetary Fund.

2.Adhia, Hasmukh (2019) "How the States are doing post GST? in Business Standard (September 6) https://www.business-standard.com/article/opinion/how-the-states-are-doing-post-gst-119090501480_1.html

3. Ahmad, Ehrisham and Nicholas Stern (2011), "Effective Carbon taxes and Public Policy Options", in M. Govinda Rao and Mihir Rakshit (Eds), *Public Economics: Theory and Policy*, New Delhi: Sage Publications,

4. Bird, Richard and Pierre-Pascal Gendron (2007), *Value Added Taxes in Developing and Transitional Countries*, (Cambridge and New York), Cambridge University Press,

5. Bird, Richard (2012), The GST/HST: Creating an Integrated Sales Tax in a Federal Country", *The School of Public Policy Research Papers*, Vol. 5; Issue 2(March), pp. 1-35.

6. V. Bhaskar, GST Revenue Conceals More than It Reveals. Business Standard, March 6, 2019. https://www.business-standard.com/article/opinion/gst-revenue-conceals-more-than-it-reveals-119030600040_1.html

7. Choi, K. (1990) “Value-Added Taxation: Experiences and Lessons of Korea,” in R. M. Bird and O.Oldman (eds),*Taxation in Developing Countries* (Baltimore:JohnsHopkins University Press), 269–87.

8. Cnossen, Sijbern (2010) “VAT Coordination in Common Markets and Federations: Lessons from the European Experience”, Tax Law Review Vol. 63; pp. 584-603.

9. Emran, Shahe and Joseph Stilitz (2005), “On Selective Indirect Tax reform in developing Countries”, *Journal of Public Economics*, Vol 89; No. 4. Pp. 590-623.

10. India (2001), Report of the Expert Group on taxation of services (Chairman: M. Govinda Rao), Ministry of Finance, Government of India.

11. India (2003), Report of the Task Force on Indirect Taxes (Chairman: Vijay Kelkar), Ministry of Finance, Government of India.

12. India (2015), Report on the Revenue Neutral Rate and Structure of Rates for the Goods and Services Tax (GST); (Chairman: Arvind Subramanian).

13. India (2019), Report No. 11 of 2019: Compliance Audit - Department of Revenue: Goods and Services Tax, Comptroller and Auditor General, Government of India.

14. Jenkins, GlennP., Jenkins, Hatice P., and Chun Yan Kuo (2006), In the VAT Naturally Progressive? (Mimeo, Queens University.

15. Keen, Michael, (2013), “Targeting, Cascading and Indirect Tax Design”, IMF Staff Paper: 13/57; Washington D.C: International Monetary Fund.

16. Keen, Michael (2013a), “The Anatomy of the VAT.” *National Tax Journal*¸ Vol. 66, pp. 423-446.

17. Keen Michael (2007), “VAT Attacks”, *International Tax and Public Finance*, Vol. 14; No. 4. Pp. 365-381.

18. Keen, Michael (2009), “What Do (and Don’t) We Know about the Value Added Tax?”, Journal of Economic Literature, Vol. 47. No. 1 pp. 157-170.

19. Keen, Michael and Ben Lockwood (2010), “The Value Added Tax: Ots Causes and Consequences”, *Journal of Development Economics*, Vol. 92. P. 138-151.

20. Keen, Michael and Jack Mintz,(2004)“The Optimal Threshold for a Value-Added Tax,” *Journal of Public Economics*,88(3/4): 559–76.

21. Krever, Richard (2014), “Combating VAT Fraud: Lessons From Korea?” *British Tax Review*, No. 3.

22. Munoz, Sonia and Stanley Sang-Wook Cho (2004), “Social Impact of a Tax Reform: The Case of Ethiopia” in Sanjeev Gupta et. Al (Eds), *Helping Countries Develop: The Role of Fiscal Policy,* International Monetary Fund, Washington D. C.

23. Piggott, Johen nd John Whalley (2001), “VAT Base Broadening, Self Supply and the Informal Sector”, *American Economic Review*, Vol. 91, pp. 1084-94.

24. Reddy, Y. V and G R. Reddy (2018), *Indian Fiscal Federalism*, New Delhi: Oxford University Press,

25. Rao, M. Govinda (2019), Evolving Landscape of Indian Fiscal federalism and Institutional Challenges: Reinventing the Role of the Finance Commission", in Sudha Pai (Ed) *Constitutional and Democratic Institutions in India*, (Chapter 16), Hyderabad: Orient Blackswan (Forthcoming)

26. Rao, M. Govinda (2015), "Tyranny of Status Quo: Challenges of Reforming the Indian Tax System", *India Policy Forum*, pp. 47-103.

27. Rao, M. Govinda (2011), "Goods and Services Tax: Is it a Gorilla, Chimpanzee or a Genus Like Primate?" *Economic and Political Weekly*, Vol XlVI no. 7 (February 12) PP. 43-48.

28. Rao, M. Govinda and R. Kavita Rao (2005), Trends and Issues in Tax Policy and Reforms in India, *India Policy Forum*, pp. 55-123

29. Rao, Kavita and Sacchidananda Mukherji, "Exploring policy options to include petroleum, natural gas and electricity under the Goods and Services Tax (GST) Regime in India" in Kavita Rao and Sacchidananda Mukherji, *Evolution of Goods and Services Tax in India*, New Delhi; Cambridge University Press. Pp. 120-146.

30. Varsano, Ricardo (2000), Subnational Taxation and Treatment of Interstate Trade in Brazil: problems and a Proposed Solution", in Javed Burki and Guillermo Perry metal (Eds) Decentralization and Accountability of the Public Sector, Washington D. C., the World Bank PP. 339-355.