



Analyzing the Role of the Goods and Service Tax Network in Helping the State Preserve a Just Social Order

Kodandaraman Sethuraman*

Abstract

The Goods and Services Tax Network (GSTN) manages the Common GST Electronic Portal. The payment of money, inclusive of the Goods and Services Taxes (GSTs), is made to the Reserve Bank of India (RBI) in three different ways - It can first be deposited as revenue in compliance with law; it can also be deposited after collection, following notices of demand; and finally it can be deposited after recovery from defaulters, into the respective Consolidated Funds, which are mutually independent parts of central and state treasuries. GST revenues accounted for in the Consolidated Funds would have to be correct, complete and uncontested. The GSTN thereafter manages the digital facilitation of the registration, furnishing returns, computation and settlement of Integrated Goods and Services Tax (IGST), electronic way bill and other functions if prescribed in accordance with law. This paper examines if the functioning of the GSTN within the framework of the Constitution, would enable the State to apply the Directive Principles of State Policy, which guide governance in India, to secure and preserve a just social order.

Keywords: Algorithms, Article 279A, Constitution, Good Governance, Institutions of National Life

1. Introduction

The reformulation of State Policy relating to the mode of levy and collection of Central and State indirect taxes has been facilitated by

*National Law School of India University, Bangalore
ksethu2009@gmail.com

the amendment of the Constitution in 2016. Section 146 of the Central Goods and Services Tax Act, 2017¹ which came into force in April 2017, provides for the notification of a common portal in accordance with the recommendations of the GST Council, which states that: "The Government may, on the recommendations of the Council, notify the Common Goods and Services Tax Electronic Portal for facilitating registration, payment of tax, furnishing of returns, computation and settlement of integrated tax, electronic way bill and for carrying out such other functions and for such purposes as may be prescribed."² The common portal was notified in the Government of India's Ministry of Finance Notification 4/2017³, dated 19 June 2017 as 'www.gst.gov.in', coming into effect from the 22nd of June, 2017.

The portal is to be managed by the Goods and Services Tax Network (GSTN), which is a not-for-profit private company, incorporated as early as on the 28th of March, 2013, and is deemed to be licensed under Section 8 of the Companies Act, 2013⁴. GSTN has thus been co-opted by the State to perform certain public functions. In the absence of a common procedural law, this has been reinforced through similar notifications published independently by every State Government, by invoking a similar provision enacted in the respective State GST statute.⁵

It is unclear if the Constitution of India, as amended in 2016, could have envisaged a Common Electronic Portal for any other purpose, apart from the support of the provisions relating to the treasuries enacted in it. The mandate of the GST Council is defined in clauses (4) and (5) of Article 279A. The said mandate is subject to constitutional guidance, adhering to the multi-faceted norm of harmony, which includes harmony in transiting from pre-GST

¹ §146, The Central Goods and Services Tax Act, No. 10 of 2017, INDIA CODE (2017), <http://gstcouncil.gov.in/meetings>

² INDIA CONST. art. 279A, cl. (1)

³ G.S.R. 606(E), Central Goods and Service Tax, Ministry of Finance, Notification No. 4/2017

⁴ §8, Companies Act, No. 18 of 2013, INDIA CODE (2013)

⁵ Government of Andhra Pradesh GO MS No.225, 22 June 2017, https://www.apct.gov.in/gstportal/GST_Portal/table_rn.aspx?uid=Tax+Notification

regimes to GST regimes. The mandate of the GST Council is defined in clauses (4) and (5) of Article 279A without jeopardizing their respective fiscal interests. Since there is no specific reference to a common electronic portal in sub-clauses (a) to (g) of clause (4) of Article 279A⁶, it would be appropriate to assume that the notifications of such portal, independently by the Union and every State, was one of the other matters relating to goods and service tax referred to in sub-clause (h) of clause (4) of the aforementioned Article. Since sub-clause (c) of clause (4) of Article 279A refers to Article 269A⁷ (which in turn refers to the Consolidated Funds in sub-clauses (2), (3) and (4) of that Article), it can be argued that the notification of the common electronic portal is related to the provision in sub-clause (c) of clause (4) of Article 279A. This specific clause refers to the apportionment of Goods and Services Tax levied on supplies in the course of interstate trade or commerce (i.e., Integrated Goods and Services Tax) under Article 269A, and as such, to the Model GST laws referred to in the same sub-clause and implicitly to the treasuries to which the Consolidated Funds belong.

The article shall, therefore, examine the role of the GSTN in enabling the State to comply with its Constitutional Duty. Firstly, the article shall discuss the machine-learning algorithms which would have to be used for management of its functions by GSTN, in support of good governance. The article will then proceed to explain the screening algorithms which would have to be utilized by the GSTN to manage the production of the deliverables in the form of information or evidence. The algorithms would first be employed by the central and state GST jurisdictional authorities, in support of their respective judgments and secondly to other relevant public authorities (including income tax authorities) so as to enforce law, in support of the exercise of their powers within their respective jurisdictions. It would lastly be used by the Governments in monitoring the implementation of State Policy.

⁶ See INDIA CONST. art. 279A, cl. (4); K. Sethuraman *Levy of Goods and Services Tax: When and Where of Taxable Events*, <https://business-of-government.com/rev-1levy-of-goods-and-services-tax-when-and-where-of-taxable-events/>

⁷INDIA CONST., art. 269A, cl. (4)(c)

Finally, the article concludes on the extent to which GSTN would be able to provide support to the State, in complying with the stipulations made in Article 37⁸. It points out the need for further reforms in securing and protecting a just social order, as stipulated in Article 38⁹. This will be done while sub-serving common good and avoiding common detriment of the nature referred to in Article 39.¹⁰

2. Algorithms Needed in Support of Good Governance

The terms of the contract if any, between the Central Government and the State Governments, with regards to the GSTN are not in the public realm. It is thus not evident if the GSTN is constrained in hiring personnel based on the requirement that every employee of the GSTN would have to affirm or swear allegiance to the Constitution of India. It can therefore be assumed that the GSTN is a public authority embedded in the State.

It is important to understand the role of the GSTN as an agency of the State, managing the common portal, in the context of governance, in accordance with the rule of law, with the intention to secure justice. While the GSTN is expected to act using algorithms, it is important to keep in mind the following caution stated in Kleinberg et al.¹¹ “Algorithms change the landscape... they do not eliminate the problem”. The “problem” in the context of the stipulations made in Articles 38 and 39 is to secure and protect a just social order, while simultaneously allocating the resources of the fraternal community of Indians for best use. In doing so, the subservience of the common good and the avoidance of every common detriment of the nature referred to in Article 39, is made easier for the process of accumulating capital.

⁸ INDIA CONST., art. 37

⁹ INDIA CONST., art. 38

¹⁰ INDIA CONST., art. 39

¹¹ Jon Kleinberg, Jens Ludwig, Sendhil Mullainathan, Cass R. Sunstein, *Discrimination in the Age of Algorithms* <http://www.nber.org/papers/w25548>

2.1 Enabling a 'Just' Environment for the Institutions of National Life

In order to secure and protect a 'just' social order as stipulated in Article 38, the State would first have to enable a 'just' environment for the functioning of other 'institutions of national life'¹². The first institution would be that of the Market. The ability of the Market to enable such an environment hinges on the performance of two functions – Firstly, it would have to discover from time to time, the equilibrium prices of goods and services, by balancing the demand for and the supply of commodities¹³ at the national level, without the market participants being legally constrained to classify transactions, with reference to sub-national borders, as done¹⁴ in 1956 and 2017. Secondly, the Market must function in an open economy, duly respecting the equilibrium prevailing in the world market, and the consequent *fob* and *cif* values of specific goods/services, which prevail from time to time in India's customs frontiers.¹⁵

The second institution is that of Property Rights, which recognizes the respective scope (net worth) of the rights of every individual person and organization over well-specified parts of the wealth of the nation.¹⁶ Institutions are the rules of the game in a society, or, more formally, are the humanly devised constraints that shape human interaction. They reduce uncertainty in providing a structure to everyday life.¹⁷ In drafting Article 38, the Constituent Assembly had been far-sighted in 1950, in recognizing the role of the institutions in minimizing uncertainty (as observed later by North) regarding the Article's goal of welfare.

¹² INDIA CONST., art. 38

¹³ Gerard Debreu, *The Theory of Value: An Axiomatic Analysis of Economic Equilibrium*, 2 (1959)

¹⁴ *The Central Sales Tax Act, 1956* https://indiacode.nic.in/handle/123456789/2484?sam_handle=123456789/1362

¹⁵ Incoterm 2020, International Chamber of Commerce, <https://iccwbo.org/resources-for-business/incoterms-rules/incoterms-2020/>

¹⁶ Yoram Barzel, *Economic Analysis of Property Rights*, 3 (1997)

¹⁷ Douglass C North, *Institutions, Institutional Change and Economic Performance*, 1, 1990.

2.2 Redesigning the Economic Mechanism for Market Participation

Securing and protecting the just social order would then lead the State to redesign the economic mechanism (also referred to as *game form*) that constrains the functioning of the Market. This would be so in case of law made to levy taxes. Significant changes to the design of the economic mechanism can be brought about by the restructuring of procedural law. This would involve regulating the compliance and administration of the Central and State statutes that levy indirect taxes on the values of the supplies of goods and services, and collecting them on a value-added basis. Every such mechanism would stipulate the rules of the game for the potential participants embedded in the institution of the Market, to take their respective private decentralized binary decisions on participating in specific transactions.

The concept of value of the actions of the market participants, relative to a price system is explained by Gerard Debreu. In Chapter 6 of his book¹⁸, he goes on to prove two essential theorems of the theory of value:

- (i) Under some assumptions, if an attainable state of the economy is in equilibrium relative to a price system, that state is in an optimum condition.
- (ii) Conversely, under some assumptions, if an attainable state of the economy is in an optimum state, there is a price system relative to which that state is in equilibrium.

Here, while the concept of optimum relates to efficiency, the concept of equilibrium relates to harmony and justice. As for equilibrium, given a price system, an attainable state of the economy is assumed to be in equilibrium, relative to the price system, if no consumer can satisfy his preferences better without increasing his expenditure and if no producer can increase his profits. Subject to the prevailing *cif* and *fob* prices at the customs frontiers, it is logical to relate the ideal of equilibrium to the ideal of 'harmonized national market for goods and services' stipulated in

¹⁸Supra Deubreu at 33

clause (6) of Article 279A¹⁹, as constitutional guidance to the GST Council.

Leonid Hurwicz and Stanley Reiter note²⁰ that legislation can define socio-economic or politico-economic goals. A socio-economic goal may be 'welfare', subject to a 'just' social order as stipulated in Article 38²¹, enacted in Part IV of the Constitution. The politico-economic goal, which could be the avoidance of loss of indirect tax revenues to the Union and the States in transiting from pre-GST to GST regimes, may at best be just a means to the goal and not a goal as such. This is stipulated in Part IV of the Constitution. The law made, represents a machine producing a non-deterministic algorithm, for binary participation decisions by economic agents.

2.3 Harmony in the Economy and Clearing House role of the Common Portal

The State must now define the economy²² as the flow of expenditures to secure values of goods and services in the paths and cycles of the market network. It must also harmoniously balance the flow of incomes received by it. Rakesh Vohra explains²³ the idea of a network through his exposition about the decomposition of the flow of the values of goods and/or services into "path" and "cycle" flows. This would be especially relevant for the management of the common portal by a *clearing house*. Clearing houses assist in identifying suspect transactions, enabling a subset of suppliers to falsely claim, helping others claim losses or business expenses in computing their respective income tax liabilities and to vanish from the Market, beyond the reach of the GST authorities. While arbitrary acts of GST authorities ought to be discouraged, strict enforcement of tax laws in a given case, is to be created as a

¹⁹ INDIA CONST., art. 279A

²⁰ Leonard Hurwicz, Stanley Reiter, *Designing Economic Mechanisms*, 4 (2006)

²¹ INDIA CONST., art. 38

²² R.A. Musgrave, P.B. Musgrave, *Public Finance in Theory and Practice*, 221 (1984).

²³ Rakesh Vohra, *Mechanism Design: A Linear Programming Approach*, 3 (2011).

measure of justice to all taxpayers who comply with tax law honestly and not merely as a greedy act to somehow protect the central and state Governments' interests in accumulating tax revenues.

The economic impact on every final domestic consumer would include the shifting of indirect taxes onto them and the incidence of income transfers by way of profits earned through their respective margins, by suppliers linked to them in the market network. Unless every supplier (irrespective of their registration status) is required by law to perform a public act to create documentary evidence in a manner stipulated by law, every business-to-business and business-to-consumer transaction resulting in the supply of goods and/or services, the respective flows of income and of the values of goods and services in the economy, cannot be captured in full, in order to ascertain if the flows balance themselves harmoniously, as stipulated in clause (6) of Article 279A of the Constitution.

In the case of the stand-alone reform in the manner of levy and collection of indirect taxes, unrelated to the manner of levying and collecting income taxes and regulating access to rebates and/or subsidies, it may be necessary to provide for registration. It is necessary, for various practical reasons, that small suppliers be exempted from registration and small registered suppliers be exempted from furnishing periodical returns. It is however, important to provide for appropriate incentives for the creation of a supply voucher,²⁴ which the public authorities in every State and Union Territory throughout India, may presume to be evidence of every aspect of supply. This includes the identities of parties to, and the amount of monetary consideration for the contract underlying the supply (whether or not the amounts of various applicable GSTs are shown separately therein). This would have to be ensured through governance protocols for exempting small suppliers from registration and exempting registered small suppliers from the obligation to furnish periodical returns.

Facilitating the digital governance of the central and state GST regimes must also be done by State, where the manager of the

²⁴ INDIA CONST., art. 261

Portal would have to rely on a Centre-State bureaucratic legal hierarchy. This would be possible by the creative use of Articles 258²⁵ and 258A²⁶ enacted in Chapter II on Administrative Relations in Part XI, dealing with Union-State Relations. Such use would facilitate the creation of Centre-State territorial and functional legal jurisdictions across the administrative divide, between the Union and every State, as discernible from Articles 73 and 162.

2.4 Screening Algorithms to facilitate Good Governance

The screening algorithms²⁷ relevant to the governance of the levy and collection of central and state GSTs and used by the clearing house would have to accord with the algorithms needed for good governance, in support of the rule of law. As for screening data, Kleinberg et al. observes: “We often refer to anything that involves data and the resulting prediction as an algorithm. But... this misses the fact that there are actually two separate algorithms in any screening rule application.”²⁸ They designate one algorithm as a screener, which when related to the indirect tax reform of 2017, takes the characteristics of an individual, such as a supply being vouched, and reports back an outcome. An example of this would be as to whether or not the supply vouched was in fact the supply made by an identifiable supplier to an identifiable recipient and if it was so made, whether it was in the path of the supply network relating to a specific good or a specific service or in a cycle. They characterize the underlying algorithm as the trainer, which is the code that produces the screening algorithm. They note that this trainer algorithm includes deciding which past cases to assemble for use, in predicting outcomes for some set of current cases, what outcome to predict, and which all candidates to consider²⁹.

The manner of truthfully documenting every supply of goods and/or services, in accordance with the law laid down in Article 261, is likely to generate big data, which can be mined for many useful policy and governance purposes. This includes accurate

²⁵ INDIA CONST., art. 258

²⁶ INDIA CONST., art. 258A

²⁷ *Supra* Kleinberg at 16

²⁸ *Id.*

²⁹ *Id.*

assessment of taxes on incomes from businesses and professions, well beyond the mere oversight of the accurate assessment and collection of central and state GSTs due and payable. Taking the wealth of the nation as a resource of the community of Indian nationals³⁰ and the national income on which tax due has been paid by the respective earners of agricultural and other income, as the legal means for capital accumulation³¹, good governance would have to rely on two things:

- a) A legally constituted National Tax Authority which would have to continuously gather commercial intelligence to monitor and publicly notify from time to time about the *cif* and *job* unit values of every specific good and service, which in its judgment is likely to prevail at the customs frontier of India. They also exist to provide authoritative and well-considered uniform advance rulings to entrepreneurs intending to participate in specific but unusual market transactions; and to regulate and oversee the administration of, and compliance with, all central and state direct and indirect tax statutes; and
- b) A legally constituted clearing house for information relevant to compliance and administration under the control of such authority, to enable legal and administrative entities in decision making by relying on information and evidence discernible from the digital outputs from such clearing house.

2.5 IGST, Seamless Input GST credits and Alternatives for simpler GST law

Finally, and alternatively, the GST law would be simpler to comply with and to administer, if instead of enacting identical provisions to regulate procedure in multiple central and state statutes, and relying on the instrument of Integrated Goods and Services Tax (IGST) as the pivot of the reform, the Constitution is amended to provide for Entries in the Concurrent List. The amendment would firstly include the establishment of a National Tax Authority. The

³⁰ INDIA CONST., art. 39, cl. (b)

³¹ INDIA CONST., art. 39, cl. (c)

body would oversee the governance of all the central and state direct and indirect taxes, including central GST. It would also oversee Union and state surcharge on business-to-consumer supplies and every state GST. It would secondly include a procedure for compliance with, and the administration of, central and state GSTs applicable in common in every State, subject only to very few possible local modifications, such as those made regarding civil and criminal procedure in the concurrent list.³²

No credit of any GST paid on inputs can be availed in computing the GSTs payable by a person out of the GSTs due, unless the input GSTs are deposited in the respective Consolidated Funds. Seamless input GST credits across the Centre-State administrative divide would have to rely on appropriations validly charged on the relevant Consolidated Funds, by competent Legislatures. The Parliament is not authorized by Constitution to appropriate money from the Consolidated Fund of any State and no State Legislature is authorized to appropriate money from the Consolidated Fund of India.³³

3. Revelation Principle and 'The State' as a Mediator Ensuring Harmony

The governance of the levy and collection of the central and state GSTs would have to be by the State, duly applying the principle stipulated in Article 38, for securing and protecting a just social order in, which the institutions of the Market and property rights are not impeded from functioning as institutions of national life. If such governance is to derive meaningful digital support from an official clearing house, such as a common portal, such support would have to rely on appropriate algorithms, to screen every supply of goods and/or services. This would be so because 'Goods and Services Tax' as defined in Article 366³⁴, with reference principally to the taxable event supply, is deliberately left open-ended and undefined in Article 366.

³² INDIA CONST, List III, Entry 2, 13

³³ INDIA CONST art 114 cl (3), art 204 cl (3), 266 cl (3)

³⁴ INDIA CONST., art. 366

The screening algorithms would have to be identified with reference to other algorithms, which would make such screening relevant not only for compliance with, and the administration of law including the central and state GST statutes, but more fundamentally for compliance with constitutional stipulations as to good governance relating to –

- a) Allocation of the resources of the community of Indians so as to sub-serve the common good (i.e., constitutionally optimal allocation of resources for best use);
- b) Capital accumulation without causing any common detriment; and
- c) Securing and protecting justice in the nation; and
- d) The Constitutional Principles laid down in Article 38 and 39

Let us take a recipient sourcing a supply as the Principal and a supplier as the Agent³⁵. A contract underlies every supply. Typically, every contract may be affected by asymmetric information possessed by the parties to the contract³⁶. Parties to a contract typically refrain from sharing private information. The private information possessed by an individual economic agent about their preferences, defines the ‘type’ of that agent. A function that maps types into social decisions and transfers is designated as a social choice function. A ‘mechanism’ is a specification of a message space for each individual and an outcome function that maps vectors of messages into social decisions and transfers. A strategy that is taken as the best, regardless of the strategies chosen by other economic agents, is called the ‘dominant strategy’. A ‘direct mechanism’ is a mechanism in which the message space is the type space and outcome function is the social choice function.

Negotiation of the terms of contracts leading to supplies of goods and/or services may be affected by adverse selection. Governance of such contracts under execution may be affected by moral hazards. In the context of private and selective communication strategies pursued by economic agents as potential or actual market

³⁵ Jean Jacques Laffont and David Martimort, *Theory of Incentives*, (2002).

³⁶ See Bolton and Dewatripont, *Contract Theory* (2005).

participants, mechanism design literature refers to the revelation principle which states that if a social choice function can be implemented in dominant strategies by a mechanism, it can be truthfully implemented by a direct mechanism. Rakesh Vohra refers to the importance of the revelation principle by quoting Nobel Laureate Roger Myerson:

In any economic institution, individuals must be given appropriate incentives to share private information or to exert unobserved efforts. The revelation principle is a technical insight that allows us to make general statements about what allocations are feasible, subject to incentive constraints, in economic problems with adverse selection and moral hazard. The revelation principle tells us that, for any general coordination mechanism, any equilibrium of communication strategies for the economic agents can be simulated by an equivalent incentive-compatible direct-revelation mechanism, where a trustworthy mediator maximally centralizes communication and makes honesty and obedience rational equilibrium strategies for the agents.³⁷

The State would have to be able to play the role of a trustworthy mediator, which maximally centralizes information contained in every supply voucher as presumptive evidence of such supply, recognizable as such in every State or Union Territory in India and elsewhere in the world. It would also centralize information otherwise ascertained by 'ground-truthing' efforts through compliance (such as special reporting requirements by some categories of suppliers like banks and carriers), enforcement, (such as physical inventory of goods at the place(s) of business) and/or by providing appropriate incentives to consumers. The harmonized structure of good and services, stipulated as a norm *vide* clause (6) of Article 279A, is to be realized from the equilibrium in the economy, which would logically be out of reach unless the State is able to play such a role.

³⁷ Id. at 23

4. Securing and Protecting a Just Social Order

The question to be answered now is whether the Goods and Services Tax Network (GSTN) manages the common portal, so as to fulfill such expectations. To begin with, it is important to note that the GSTN envisages its role in accordance with the system architecture which may be accessed in the Electronic Portal. From section 146 of the Central Goods and Services Tax Act, 2017, it is easy to see that the main role of GSTN would have to relate to the apportionment of Integrated Goods and Services Tax between the Union and the States. The devolution of IGST revenues to the destination States by way of apportionment, has been distinguished³⁸ from devolution of central tax revenues by way of assignment. It is noteworthy that GSTN somehow categorizes the role of settlement of IGST as non-statutory³⁹. It stands to reason that if the July 2017 reform of State Policy had avoided relying on the legal instrument of IGST, there would have been no need for GSTN. The role of GSTN relating to the governance of registration, returns, payments and other functions if prescribed, would have to be subservient to its clearing house role, limited to merely the computation and settlement of integrated tax. Since the GST law does not unequivocally provide that every supply, including business-to-consumer supplies, would have to be documented by the issue of a true supply voucher, the role of GSTN does not include a role to confirm, if the particulars of every supply vouched by every supplier are true. Such larger role would indeed be the role envisaged by Myerson, of a trustworthy mediator, who maximally centralizes communication and makes honest and obedient rational equilibrium strategies for the economic agents.⁴⁰

The basic treasury function would be to ensure the completeness of the particulars of supplies of goods and/or services vouched/reported in, and the accuracy of the amounts of the applicable GSTs due and payable in every accounting period by

³⁸ See K. Sethuraman, *Constitutional Accountability for India's Goods and Services tax Revenues After the July 2017 Reform*, 4 Aarthika Charche No1, 21, 34

³⁹ Id.

⁴⁰ Supra Vohra at 23

every registered and other supplier, functioning from every place/principal place of business. In its territorial jurisdiction this function is that of every primary GST authority responsible for accurate assessment, collection and recovery. The function relating to accounting for GST revenues in every treasury is that of the Reserve Bank of India. There can be no treasury function other than assessment, collection, recovery and accounting. The common portal would have to be a facility in aid of the treasury functions and not merely in aid of registered suppliers.

Preserving the privacy of the economic agents as potential or actual market participants implies an arm's length relationship between every supplier and every primary Centre-State GST authority, within whose territorial jurisdiction the supplier adds value and/or otherwise functions by using one or more of places of business. It is therefore not appropriate for any public agency of the State, such as GSTN, to intervene legally, by matching the particulars relied upon by suppliers claiming input GST credits, and particulars reported by input suppliers, while the primary GST authorities and RBI perform their respective treasury functions. Digital evidence of the particulars, in case of mismatches of reported transactions would no doubt be the fodder for the assessments to the best of the judgments of the respective GST authorities. Evidence of matches would however be insufficient to conclude that the reported transactions did really take place. While trusting such evidence, it would be prudent for the GST authorities to verify the truth of the particulars of such matched transactions on the ground⁴¹.

In such a legal environment, rule of law implies that the screening algorithms used by the manager of the common portal, would have to extend beyond the returns furnished by registered suppliers and include the particulars of every supply made by every supplier, regardless of whether they are registered or not exempted from furnishing returns. The particulars must include the codes which must be compatible with Harmonized System of Nomenclature of Goods and the United Nations Central Product Classification for

⁴¹ Daven R Desai, Joshua A Kroll, *Trust, but Verify: A Guide to Algorithms and Law*, 31 Harvard Journal Of Law And Technology 1, 64

every distinct good or service supplied. It must also include the true identities of the supplier and recipient related to the supply, the particulars of their respective places of business, and the related place of supply and the State or Union Territory in which such place of supply is situated. This would help the Government of India and every State Government, with information and evidence of the decomposition of the flows of the values of specific goods and services in the supply network, into path and cycle flows. It also helps them identify prima facie suspect transactions in the cycles, which add zero net value, and the particulars of the parties to such suspect transactions. The evidence so culled out by data analytics, would help relevant primary Centre-State GST authorities to proceed objectively to assess the GST dues relating to such suspect supplies to the best of their respective judgments. The evidence would also help the authorities assessing according to the best of their respective judgments, the amounts of the taxes due and payable on their incomes, from their respective businesses and professions, by the suppliers identified as linked to suspect transactions which lead, *inter alia*, to suspect claims of business expenses and losses.

In the context of another public law relating to discrimination in employment, Kleinberg et al. refer to the following components in constructing a training algorithm:

- a) Collecting data sets
- b) Specifying a concrete outcome to be predicted in that dataset
- c) Deciding which candidate predictors to construct and make available to the algorithm to be considered for inclusion in the final statistical model
- d) Building a procedure for finding the best predictor which uses all the other variables to predict the outcome of interest; and
- e) Validating the procedure in a hold-out set (i.e., a dataset that was not used to train the algorithm on).⁴²

⁴² Supra Kleinberg at 11

The GST law, as enacted in July 2017, relies on the dataset defined by the data available in the returns furnished by a sub-set of suppliers, who happen to be registered. The outcome of interest to the July 2017 reform, is the computation and settlement of integrated tax among the Union and the States, and is not the good governance outcome of securing and protecting a fair choice architecture, for sourcing supplies of goods and/or services. The training algorithm constructed is also yet to be validated in a dataset, defined by the data contained in the true supply vouchers, which would have to be invariably demanded from, and issued by, registered and other suppliers, especially to consumers.

5. Conclusion

In order to implement the algorithm into the GSTN, there would have to be subsequent reform of State policy, beginning with the demand for and the issue of true supply vouchers to be printed by every supplier, for business-to-consumer supplies, without exception, in addition to printing and issuing of supply voucher for every business-to-business supply. The State would then have to implement special reporting requirements, on the part of specific categories of service providers, who intervene in facilitating other business-to-business and business-to-consumer supplies to be made or accounted for. Finally, the State must maximally centralize the information in order to lead to market participation, by every supplier and the corresponding recipient of business-to-business and business-to-consumer supply. This is done by uploading information disclosed in every such supply voucher and every special report from time to time, manually or electronically in a central database such as the common portal. The reforms must lead to the analysis of the big data discernible from such supply vouchers and special reports, in order to produce meaningful deliverables to the Central and State GST authorities, to aid their judgments. Unless there is such further reform, no manager of the common portal would be able to manage such portal with a view to enable the State to secure and protect a social order, in which justice as fairness prevails in the environments of the institutions of national life, including the Market and property rights.

There would no doubt be several technical challenges in implementing the State policy, subsequent to such reform. These would include the designing and making available desk-top and hand-held electronic equipment's, as well as pre-identified stationary for printing and issue of supply vouchers and supporting telecommunication infrastructure. Ultimately, justice would have to be administered objectively by a legal hierarchy of the Central and State GST authorities, subject to the constitutional oversight of the High Courts and the Supreme Court. As Kleinberg et al. have pointed out: "It would be naïve, even dangerous, to conflate algorithmic with objective... A critical element of regulating algorithms is regulating humans".⁴³ In case of compliance with, and administration of the GST law, humans would include every value-adding or value-seeking market participant, as well as every tax administrator discharging their duty.

Such a fair choice architecture would imply a just social order in which tax disputes would be minimized. The businesses of producers, traders, service providers and exporters would thrive and the consumers would be able to get fair value for the supplies needed by them. The buoyancy of GST revenues would also significantly exceed unity. If the GST law avoids any contrived definition of supply and allows the concept of value to be aligned as nearly as possible to the concept described in Debreu's Theory of Value⁴⁴, the allocation of the resources would also tend to be for best use in sub-serving the common good. Instead of a stand-alone reform limited to select indirect taxes, further reform based on better coordination of policy and action in enforcing non-GST law, especially law relating to taxes on agricultural and other incomes as well as the GST law, would avoid many a common detriment in the process of capital accumulation.

⁴³ Id.

⁴⁴ Supra Debreu at 2