Fiscal Deficit and Taxes in India: Some Observations

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ABSTRACT

The national and international evidences suggest that the government projects, and production activities have not been producing considerable returns and profits even to take care of opportunity costs. The attempt in this study is not to focus analytically into public expenditure but delve into some of the important elements and considerations which shaped policy concerns for taxation and their subsequent implications on fiscal deficits and borrowings. Considering the nature of exposition organised in this study, an exploratory analysis is adopted from the viewpoints of expressing critical opinions which are based on existing information and overall fiscal scenario by taking into account of inflation, financial markets, public debt management and economic growth. The behaviour of centre's direct tax has direct impact on trend of the combined direct tax, but evidently indirect tax of the centre has not produced any significant impact on combined indirect tax due to the fact states' indirect taxes have been reasonably and strongly stable even when economic growth rate slipped during COVID-19. Gross Fiscal Deficit and revenue deficit are moving in tandem, and this importantly means unless a significant decrease in revenue expenditures is brought down in the form of decline in the current expenditure, the fiscal prudency in bringing the fiscal deficit below the three percent of Gross Domestic Products (GDP) is extremely difficult exercise. The market borrowing as a critical and pre-dominant source of deficit financing has created dynamic changes in both money markets and capital markets. Along with financial deepening, integration of government securities and treasury bills play an important role in deciding particularly short-term financial rates by giving greater substitutability and greater return with almost no risk. The scenario narrated on taxes and borrowing could well produce some mixed implications for macro management and financial sectors. Government should look forward for correcting their fiscal course at least in terms of bringing fiscal deficit closer to the sustainable level while making taxes to strengthen market mechanism.

Keywords: direct taxes, indirect taxes, gross fiscal deficit, debt management, gross domestic products

I. BACKGROUND

Taxation is an instrument for influencing the role and structure of macroeconomic and firm level variables to bring about desired objectives of the economic and business processes concerning to individuals, firms and economies in line with fiscal policy stance. Welfare governments operating in the market economy invariably push the investment levels through public expenditures in the form of public investments, social projects and infrastructure. Governments also continue to incur current expenditures to take care of public administration, defence, law and order mechanism, etc. Project finances from the taxation should continue to yield the return sufficient to take care of social costs and expansion of further projects and infrastructure. Both the national and international evidences suggest that the government projects, and production activities have not been producing considerable returns and profits even to take care of opportunity costs. In fact, most of the tax revenues are directed toward government consumption expenditures rather than capital expenditures. Of course, there are emphases and rationales to understand increasing revenue expenditures, especially for the developing countries. At a very initial stage of the development, establishing proper scientific administration and creating huge machinery for maintaining law and order domestically and raising defence mechanism to protect the country from external aggression necessitate huge expenditures and accordingly tax structures and taxations are viewed. Over a period of time, these expenditures are likely to increase at increasing rate owning to the large size of the country and population expansion. Simultaneously, sizable amount of capital expenditure is also pushed alongside to create and disseminate current services and to establish sufficient infrastructure for growth. Providing social goods becomes mandatory function for the government in the welfare economy. Therefore, taxation is examined in this background, not only at static level but also in dynamic sense, and more importantly taxation policies and tax structures should be and, must be coherent with the objectives of market economy and democratic process. Our experience suggests that the India has followed this process reasonably well and at the same time inherited the fiscal characteristics which are comparable to the developing countries. The attempt in this study is not to focus analytically into public expenditure but delve into some of the important elements and considerations which shaped policy concerns for taxation and their subsequent implications on fiscal deficits

and borrowings. Taxes have played very important role in India's economic and fiscal policies on resources allocation, redistribution and stabilisations. Indian experience suggests that change in the tax structures and the adjustments made in the tax bases over a period of time with special reference to allocation of resources essentially at aggregate level have brought redistributive impact on tax revenues, non-tax revenues and public debts. Tax revenues further can be conceived as a pool which can be organised to alter the markets and to manage aggregate demand. Taxation can bring about fundamental changes to direct the course of market signals and price movements which can lead to further reallocation of both public and private resources. The impacts of taxation policy are as such a quite complex matter and few considerations can be placed in order to understand tax structure, tax collection, public debt management through fiscal deficit, and therefore views expressed in this narrative is completely restricted the above issues. The attempt in this framework is also to examine the price and output effects of taxation at both firm as well as economy levels.

II. METHOD

Considering the nature of exposition organised in this study, an exploratory analysis is adopted from the viewpoints of expressing critical opinions which are based on existing information and overall fiscal scenario by taking into account of inflation, financial markets, public debt management and economic growth. The ratios and their trends are arrived at and, the estimates of descriptive statistics are employed to study the topic under discussion. The required and essential data are collected from the Handbook of Statistics on Indian Economy by Reserve Bank of India (RBI) and other relevant government sources. The study also relies upon the considerable information from Economic Survey, Government of India and Annual Reports of RBI. This exploratory analysis is evolved as a permutation of observations with special reference to the topic under consideration by incorporating emerging views that can be articulated from the existing information and policy perspectives in the Indian context. The study period is sub divided into, period I (2011-2014), period II (2015-18) and period III (2019-22).

III. TAXATION POLICY

Government of India is mandated to formulate taxation policy which can take care of economic objectives consistent with democratic reflections and aspirations. Ideally, taxation should be catering to the requirements of resources reallocation consistent with market signals by considering existing economic scenario and expectations based on forecast, but unfortunately expected outcomes are not realised essentially owning to factors such as democratic compulsions and problems, large bureaucratic hurdles, supply shocks, imprudent public debt management, development in financial markets, etc. However, realised dividends out of taxation policy are many fold which can be articulated both for firm and economy level analysis. The emphasis is given here is to understand the growth and trend in both direct and indirect taxes at aggregate levels for centre and states respectively.

A cursory notice a table 1 produces the following critical observations. First, centre's direct taxes have grown in term of percentages of Gross Domestic Products (GDP) at a narrow range of 5.39 percentage to 5.86 percentage from 2011 to 2017. After 2017, good amounts of fluctuations are observed owning to relatively higher variations, as range varies from 6.01 percentage to 4.68 percentage, essentially making it larger than the range which is observed for the previous period. By contrast, centre's indirect tax as percentage of Gross Domestic Products (GDP) was fluctuating around larger range during the period 2011 and 2017 rather than the period between 2018 and 2021 where the range of fluctuations is small. Similar observation can be observed by looking in the table 2 as the mean values of tax-GDP ratio remained almost same in a narrow range for direct tax from period I to II and ultimately diminishes during period III, whereas mean values of indirect taxes. But when it comes to total tax collection for centre's tax-GDP ratio, standard deviation remains almost similar between period I and period II and the value of standard deviation is observed to be very small.

It can be noticed that the trend in direct taxes is reflected on centre's total collection for the period I and period II and, subsequently, similar trend is observed for the period III in case of indirect taxes. Direct and indirect tax revenues as a percentage of Gross Domestic Products (GDP) for states revel that direct taxes are not more than one percentage of Gross Domestic Products (GDP) and same varies in a very narrow range from 0.70 percentage to 0.93 percentages baring two years. The share of indirect taxes for states occupies predominate role, which is more than five percentage across all years, in terms of the estimates of tax-GDP ratio.

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Years	CDT	CIDT	СТТ	SDT	SIDT	STT	CSDT	CSINT	CSTT
2011-12	5.65	4.48	10.13	0.88	5.50	6.38	6.54	9.98	16.51
2012-13	5.62	4.77	10.39	0.93	5.65	6.58	6.55	10.43	16.97
2013-14	5.68	4.41	10.10	0.79	5.56	6.34	6.47	9.97	16.44
2014-15	5.58	4.38	9.96	0.86	5.39	6.25	6.44	9.76	16.21
2015-16	5.39	5.14	10.53	0.64	5.51	6.15	6.03	10.65	16.68
2016-17	5.52	5.63	11.15	0.71	5.17	5.89	6.23	10.80	17.04
2017-18	5.86	5.34	11.21	0.70	5.52	6.22	6.56	10.87	17.43
2018-19	6.01	4.98	11.00	0.58	5.77	6.35	6.59	10.76	17.35
2019-20	5.23	4.77	10.00	0.83	5.27	6.10	6.06	10.04	16.10
2020-21	4.57	5.00	9.57	0.84	5.63	6.47	5.41	10.63	16.04
2021-22	4.68	4.66	9.34	0.86	5.98	6.84	5.54	10.64	16.18

 Table 1: Percentages of various tax revenues to Gross Domestic Products (Current Prices)

Notes: 1. The source of the data is from Handbook of Statistics of Indian Economy, RBI.

2. GDP=Gross Domestic Product, CDT= Centre Direct Tax, CIDT= Centre Indirect Tax, CT= Centre Total Tax, SDT= States Direct Tax, SIDT= States Indirect Tax, STT= States Total Tax, CSDT= Centre and State Direct Tax, CSINT= Centre and State Indirect Tax and CSTT= Centre and State Total Tax.

Table 2: Estimates of Descriptive Statistics for Tax Variables

Variables	Descriptive Statistics	Period I (2011-14)	Period II (2015-18)	Period III (2019-22)	
CDT GDP	Mean	5.63	5.70	4.83	
	Standard Deviation	0.04	0.29	0.35	
	Kurtosis	-1.31	-3.81	-0.02	
	Skewness	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	1.54		
	Mean	4.51	5.27	4.81	
CIDT	Standard Deviation	0.18	0.28	0.17	
GDP	Kurtosis	2.88	-0.66	-1.7	
	Skewness	1.69	Period II (2015-18)Period III (2019-22) 5.70 4.83 0.29 0.35 -3.81 -0.02 0.05 1.54 5.27 4.81 0.28 0.17 -0.66 -1.7 0.55 0.94 10.97 9.64 0.31 0.33 2.27 3.35 -1.54 0.89 0.66 0.84 0.06 0.01 -1.41 1.36 -0.72 0.74 5.49 5.63 0.25 0.36 1.64 1.52 -0.52 -0.04 6.15 6.47 0.19 0.37		
	Mean	10.14	10.97	9.64	
	Standard Deviation	0.18	0.31	0.33	
CI GDF	Kurtosis	1.83	2.27	3.35	
	Skewness	0.95	-1.54	0.89	
	Mean	0.87	0.66	0.84	
	Standard Deviation	tive Statistics $(2011-14)$ $(2015-18)$ $(201$ 5.63 5.70 $4.$ d Deviation 0.04 0.29 $0.$ s -1.31 -3.81 -0 s -0.20 0.05 $1.$ s -0.20 0.05 $1.$ d Deviation 0.18 0.28 $0.$ s 2.88 -0.66 -1 ss 1.69 0.55 $0.$ 10.14 10.97 $9.$ d Deviation 0.18 0.31 $0.$ s 1.83 2.27 $3.$ ss 0.95 -1.54 $0.$ d Deviation 0.06 0.06 $0.$ s 1.27 -1.41 $1.$ ss -0.75 -0.72 $0.$ d Deviation 0.11 0.25 $0.$ ss -0.75 -0.72 $0.$ ss -0.20 -0.52 $-0.$ d Deviation 0.14 0.19 $0.$	0.01		
SDI GDI	Kurtosis	1.27	-1.41	1.36	
	Skewness	-0.75	-0.72	eriod II $(2019-18)$ Period III $(2019-22)$ 5.704.830.290.35-3.81-0.020.051.545.274.810.280.17-0.66-1.70.550.9410.979.640.310.332.273.35-1.540.890.660.01-1.411.36-0.720.745.495.630.250.361.641.52-0.52-0.046.156.470.190.37	
	Mean	5.52	5.49	5.63	
	Standard Deviation	0.11	0.25	0.36	
SIDI GDF	Kurtosis	0.16	1.64	1.52	
	Skewness	-0.20	-0.52	-0.04	
STCDP	Mean	6.39	6.15	6.47	
SI GDP	Standard Deviation	0.14	0.19	0.37	

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	Kurtosis	1.81	1.47	0.34
	Skewness	1.07	-0.93	-0.01
CSDT	Mean	6.50	6.35	5.67
	Standard Deviation	0.05	0.27	0.34
GDP	Kurtosis	-4.62	-3.24	-5.78
	Skewness	-0.18	-0.47	1.45
	Mean	10.03	10.77	10.44
CSINT	Standard Deviation	0.28	0.09	0.34
GDP	Kurtosis	2.37	0.54	2.62
	Skewness	1.23	-0.60	-1.73
CST GDP	Mean	16.53	17.12	16.11
	Standard Deviation	0.32	0.34	0.07
	Kurtosis	1.83	-1.13	-1.47
	Skewness	1.01	-0.82	0.53

Notes: 1. The source of the data is from Handbook of Statistics of Indian Economy, RBI.

2. GDP=Gross Domestic Product, CDT= Centre Direct Tax, CIDT= Centre Indirect Tax, CT= Centre Total Tax, SDT= States Direct Tax, SIDT= States Indirect Tax, STT= States Total Tax, CSDT= Centre and State Direct Tax, CSINT= Centre and State Indirect Tax and CSTT= Centre and State Total Tax

Tax collection expressed in relation to tax-GDP ratio reached peak during 2017-18 and after which a significant fall in centre's tax revenue is noticed while that of states remains almost same. This clearly suggest COVID-19 and aftermath of COVID-19 significantly affected tax revenues and tax collections. The same inferences can be obtained from estimates of the descriptive statistics narrated in table 2, where the mean values of state's taxes both direct and indirect taxes remain almost same except for the fact that the estimates of variables have increased substantially in case of indirect taxes while total tax collections are observed to be very high owning to differences in the growth rates of Sate Domestic Product (SDP) across the states. Combined tax collections, centre and states put together, for direct taxes have significantly fallen after 2018-19 and that of indirect tax remained same. After COVID-19, fall in the total combined tax collections is essentially due to decrease in the tax-GDP ratio of direct taxes. The values of kurtosis and skewness cannot be meaningfully interpretated for the distributional characteristics due to the facts, that a very small information is available for estimation. Despite this demerit, the values of excess kurtosis and skewness indicate non normal characteristics of distributions. In some cases, excess kurtosis value is very high, and this becomes useful for assuming greater efficiency for mean.

IV. ISSUES ON FISCAL DEFICIT

Quantum and size of the fiscal deficit determine the excess of public expenditures over taxes and prudent management of fiscal deficit can bring about immense scope for fiscal sustainability and usefulness of public debts. If borrowed fund are used to generate more meaningful social returns, then the issue of public borrowing at least in terms of interest payment could be meaningfully viable to generate capital goods and infrastructure which are much needed for economic growth. The borrowings as reflected through fiscal deficit in the present estimates are mainly used for current expenditures and this may not and will not gain in terms of production of goods and services and, their redistribution in terms of social goods can be limited. Our focus in this attempt is to analyse that the trends and behaviour of fiscal deficit and associated deficit concepts for understanding the implication of taxation on borrowings. Fiscal deficit indicates the borrowings required to meet current expenditure including that of interest payments for previously borrowed money. Increase in the fiscal deficit beyond some level could be dangerous for macro management and particularly for conduct of monetary policy and open market operations.

The estimates for Gross Fiscal Deficit (GFD) as a percentage of Gross Domestic Products (GDP) is narrated in Table 3 along with the estimates for other deficits. Gross Fiscal Deficit (GFD) as a ratio to Gross Domestic Products (GDP) has fallen from 5.91 percentage in 2011 to 3.44 percentage through 2018 and evidently sharp increase in Gross Fiscal Deficit (GFD) ratio after 2019 and it can be purely attributed to considerable jump in the expenditure during COVID-19. Net Fiscal Deficit shows the similar trend. A very interesting observation from table 3 is that a significant fall in terms of its trend can be noticed for revenue deficit as percentage of Gross Domestic Products (GDP) from 2011 to 2018. Consequently, fall in revenue deficit is reflected on the decreasing trend of Gross Fiscal Deficit (GFD) and further increase in the revenue deficit during 2019 to 2022 has pushed gross deficit as well. In fact, the behaviour and trend shown

by the revenue deficit is mirrored by Gross Fiscal Deficit (GFD), thereby clearly indicating that current consumption expenditures have always pushed both public expenditure and fiscal deficit. The net RBI credit and drawing down of cash balance with RBI have consequently reduced the monetised deficit. Another very important view that emerges from Table 3 is the vast difference between Gross Fiscal Deficit (GFD) and Gross Primary Deficit (GPD) is noticed for our study period. It reflects ever increasing interest payments for public debts which has been leading to a debt trap. This is precisely indicative of improper debt management which produces unsustainable fiscal stance.

Table 3: Key Deficit Indicators Of The Central Government

Years	Gross fiscal deficit (GFD)	Net fiscal deficit	Gross primary deficit	Net primary deficit	Reve- nue deficit	Primary revenue deficit	Draw down of cash bala- nces	Net RBI credit	GFD to Total Tax Perce- ntage
2011-12	5.91	5.88	2.78	2.99	4.51	1.39	-0.18	1.61	58.29
2012-13	4.93	4.87	1.78	1.93	3.66	0.51	-0.51	0.56	47.43
2013-14	4.48	4.42	1.14	1.28	3.18	-0.15	-0.17	0.95	44.34
2014-15	4.10	3.97	0.87	0.94	2.93	-0.30	0.62	-2.70	41.14
2015-16	3.87	3.83	0.66	0.81	2.49	-0.72	0.10	0.46	36.75
2016-17	3.48	3.36	0.36	0.34	2.06	-1.07	-0.06	1.27	31.22
2017-18	3.46	3.44	0.36	0.43	2.60	-0.50	0.02	-0.85	30.86
2018-19	3.44	3.38	0.35	0.36	2.40	-0.68	-0.01	1.73	31.24
2019-20	4.65	4.62	1.60	1.63	3.32	0.27	0.02	0.94	46.51
2020-21	9.18	8.72	5.75	5.38	7.32	3.89	-0.04	0.54	95.98
2021-22	6.72	6.58	3.28	3.23	4.60	1.16	0.74	1.49	71.96

(As a percentage to Gross Domestic Products)

Notes: 1. The source of the data is from Handbook of Statistics of Indian Economy, RBI and various issues of economic surveys, Government of India

Table 4: Percentages of respective variables to both Gross Fiscal Deficit and Gross Domestic Products (Current Prices)

Years	EF	IF	MB	OB	DDCB	EFP	IFP	MBP	OBP
2011-12	2.41	97.59	93.82	6.86	-3.10	0.14	5.76	5.54	0.41
2012-13	1.47	98.53	103.52	5.42	-10.41	0.07	4.86	5.10	0.27
2013-14	1.45	98.55	94.58	7.78	-3.81	0.06	4.41	4.23	0.35
2014-15	2.53	97.49	89.60	-7.34	15.22	0.10	3.99	3.67	-0.30
2015-16	2.39	97.61	77.88	17.26	2.47	0.09	3.78	3.01	0.67
2016-17	3.36	96.64	63.13	35.17	-1.66	0.12	3.36	2.20	1.22
2017-18	1.34	98.66	76.26	21.71	0.69	0.05	3.41	2.64	0.75
2018-19	0.85	99.15	65.09	34.26	-0.20	0.03	3.41	2.24	1.18
2019-20	0.93	99.07	50.77	47.77	0.53	0.04	4.61	2.36	2.22
2020-21	3.86	96.14	56.81	39.73	-0.40	0.35	8.83	5.22	3.65
2021-22	1.24	98.76	48.76	39.05	10.95	0.08	6.64	3.28	2.63
2022-23	1.16	98.84	67.34	31.46	0.05	NA	NA	NA	NA

Notes: 1. The source of the data is from Handbook of Statistics of Indian Economy

2. EF= External Finance, IF= Internal Finance, MB=Market Borrowing, OB=Other Borrowing, DDCB= Draw Down Cash Balance, EFP=External Finance Percentage, IFP= Internal Finance Percentage, MBP= Market Finance Percentage, OBP= Other Borrowing Percentage

The financing of fiscal deficit is examined in table 4 with the help of various components of sources of deficit financing as percentage of their total and source variables as a percentage of Gross Domestic Products (GDP). Table 4's Column 1 and 2 explain external and internal sources of financing gross fiscal deficit and internal source predominantly appears as major component and in the opinion of fiscal experts, the dependence of external financing such as borrowings from the foreign governments and from other international financial institutions and markets should be bare minimum as this involves resource transfer to the foreigners and precisely in our case external borrowings is almost negligible. This is of course a very good sign. Among the other sources of internal financing, market borrowing pre-occupies the pattern of borrowing and particularly after 2016, other borrowings, that is from outside the market borrowing, is increasing. Similarly, if one looks at the Gross Domestic Products (GDP) ratio, initially, the size of market borrowing is very high and on an average account for approximately about Five percent. After 2016, the percentage of market borrowing to Gross Domestic Products (GDP) has fallen below three percent except for the Corona years. Among the all the sources of borrowing, market borrowing is significant both in term of size and role.

V. SUMMING UP

This article throws some observations on taxation, tax revenue and borrowing by analysing the estimates by using ratio analysis. Consequently, the inferences drawn could be more generic rather than complex. The major limitations of this attempt are two dimensional, one is that the expenditure-based analysis to understand elementary and fundamental issues are not separately presented and second, the reflections on debt management are limited. However, there are very important implications and issues have emerged from the analysis. The behaviour of centre's direct tax has direct impact on trend of the combined direct tax, but evidently indirect tax of the centre has not produced any significant impact on combined indirect tax due to the fact states' indirect taxes have been reasonably and strongly stable even when economic growth rate slipped during COVID-19. Gross Fiscal Deficit and revenue deficit are moving in tandem, and this importantly means unless a significant decrease in revenue expenditures are brought down in the form of decline in the current expenditure, the fiscal prudency in bringing the fiscal deficit below the three percent of Gross Domestic Products (GDP) is extremely difficult exercise. Manageable and viable fiscal deficit can pave way for meaningful and useful debt management. The market borrowing as a critical and pre-dominant source of deficit financing has created dynamic changes in both money markets and capital markets. Along with financial deepening, integration of government securities and treasury bills play an important role in deciding particularly short-term financial rates by giving greater substitutability and greater return with almost no risk. The scenario narrated on taxes and borrowing could well produce some mixed implications for macro management and financial sectors. Government should look forward for correcting their fiscal course at least in terms of bringing fiscal deficit closer to the sustainable level while making taxes to strengthen market mechanism.

REFERENCES

- 1. Abizadeh, S. (1979). Tax ratio and the degree of economic development. Malayan Economic Review, 24, 21-34.
- 2. Abizadeh, S., & Gray, J. A. (1992). Politics and provincial government spending in Canada. Canadian Public Administration, 35, 519–33.
- 3. Chelliah, R. J. (1975). Tax ratios and tax effort in developing countries, 1969-71. IMF Staff Papers, 22, 187–205.
- 4. Chelliah, R. J. (1989). Changes in tax revenue structure: a case study of India. in Changes in Revenue Structures: Proceedings of the 42nd Congress of the International Institute of Public Finance (Eds) A. Chiancone and K. Messere, Wayne State University Press, Athens, pp. 153–65.
- 5. Chittenden, F., Hall, G., & Hutchinson, P. (1996). Small firm growth, access to capital markets and financial structure: review of issues and an empirical investigation. Small Business Economics, 8(1), 59-67.
- 6. Conte, M. A., & Darrat, A. F. (1988). Economic growth and expanding public sector: A re-examination. Review of Economics and Statistics, 70, 322-30.
- 7. Easterly, W., & Rebelo, S. (1993). Fiscal policy and economic growth. Journal of Monetary Economics, 32, 417-58.
- 8. Engen, E. M., & Skinner, J. (1999). Taxation and economic growth. in Tax Policy in the Real World(Ed.) J. Slemrod, Cambridge University Press, New York, pp. 305–30.
- 9. Fama, E.F., & French, K.R. (1998). Taxes, financing decisions, and firm value. Journal of Finance, 53, 819-43.
- 10. Gerson, P. (1998). The impact of fiscal policy variables on output growth. IMF Working Paper 98/1, International Monetary Fund, Washington DC.
- 11. Graham, J.R. (2000). How big are the tax benefits of debt?. Journal of Finance, 55, 1901-41.
- 12. Groves, H. M., & Kahn, C. H. (1952). The stability of state and local tax yields. American Economic Review, 42, 87-102.
- 13. Jensen, M., & Meckling, W. (1976). Theory of the firm: managerial behavior, agency costs and ownership structure. Journal of Financial Economics, 3, 305-60.
- 14. Jones, J. D., & Joulfaian, D. (1991). Federal government expenditures and revenues in the early years of the http://mjar.singhpublication.com

American Republic: evidence from 1792 to 1860. Journal of Macroeconomics, 13, 133-55.

- 15. Joulfaian, D., & Mookerjee, R. (1990). The intertemporal relationship between state and local government revenues and expenditures: evidence from OECD Countries. *Public Finance*, 45, 109–17.
- 16. Joulfaian, D., & Mookerjee, R. (1991). Dynamics of government revenues and expenditures in industrial economies. *Applied Economics*, 23, 1839–44.
- 17. King, R. G., & Rebelo, S. (1990). Public policy and economic growth: developing neoclassical implications. *Journal of Political Economy*, 98, S126–50.
- 18. Martin, A., & Lewis, W. A. (1956). Patterns of public revenue and expenditure. *The Manchester School of Economic and Social Studies*, 24, 203–44.
- 19. Messere, K. (1998). The tax system in industrialized countries. in *The Tax System in Industrialized Countries* (Ed.) K. Merssere, Oxford University Press, New York, pp. 1–38.
- 20. Messere, K. (1999). Half a century of changes in taxation. *Bulletin for International Fiscal Documentation*, 53, 340-65.
- 21. Miller, M.H. (1977). Debt and taxes. Journal of Finance, 32, 261-76.
- 22. Volkerink, B., & De Haan, J. (1999). Political and institutional determinants of the tax mix: an empirical investigation for OECD countries, SOM Research Report, 99E05. *University of Groningen, Groningen*.
- 23. Winer, S. L., & Hettich, W. (1998). What is missed if we leave out collective choice in the analysis of taxation. *National Tax Journal*, 52, 373–89.
- 24. World Bank. (2002). World development indicators. World Bank, Washington, DC.