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Concluding Remarks and Further Research

“...So, is Holcombe (2005) correct in his pessimistic and cynical conclusion that citizens are manipulated by politicians and government bureaucrats who would like to increase their power over our incomes and garner resources for themselves? The answer is no. It is clear that demand plays a significant role, but so does the agendas of politicians and bureaucrats. (...) the opportunity to tax is restrained by the negative incentive effects that set in, particularly at high levels of government spending. Moreover, politicians are forced to consider what the electorate wants... Thus, there are no simple explanations for the long-run evolution of relative government spending (...). Rather, the evolution is governed by a complex interplay between supply and demand factors, and deep-seated changes in underlying structural conditions over time"

--Durevall and Henrekson (2011)
CHAPTER 7

CONCLUSIONS AND FURTHER RESEARCH

The chapter is organized into the following major sections.

7.1 Conclusions of the Study

7.2 Some Significant Contributions of the Study

7.3 Further Research
7.1 Conclusions of the Study

We are now in a position to conclude the present study and set out its main findings. Also, any study of this sort must per force be subject to some limitations, the present one being no exception, and in the course of this chapter we will be noting some of the limitations that must have remained despite our best efforts, not the least because of the somewhat restrained scope of analysis with which we started, and which has been amply made clear in the preceding chapters.

This study set out to analyse in detail the pattern and trends in the expenditure of the Central Government in India spanning a period of close to four decades. The time period, staring from 1970-71 and reaching up to the year 2007-08, was chosen not without reason. On one hand, the decade of the 1970s marks the beginning of an almost imperceptible, but unmistakable, gradual relaxation of the fiscally strict conservative stance on the part of the authorities that had informed earlier budgets. The end point of our study period viz. 2007-08, on the other hand, is marked by the imminent Global Financial Crisis that was to unfold almost immediately afterwards, shaking up the world economy and what is even more important, necessitate a total reversal of fiscal consolidation efforts that was being attempted since some time. Hence, our study provides a useful backdrop against which the subsequent events can be highlighted and the post-Crisis period conveniently analysed.

The second noteworthy aspect that we feel lends sufficient significance to our study is that it has aimed at the significant endeavour of providing the basic analytical framework for an analysis of the government expenditure process in a developing economy.
Having presented a conscientious and, as thorough as possible, overview of the pertinent literature on government expenditure analysis in Chapter 2, we then proceeded to discuss in detail the various methodological issues associated with our envisaged analysis. Next came the main analytical body, the “core” of the Thesis as one might put it, which has been carried out in a number of sequential parts.

The first phase consisted of inspection of the individual components and their respective growths. The detailed composition of various expenditure categories, including their respective elasticity and buoyancy properties was studied next. Analysis was done for the broad as well as disaggregated functional categories, for the overall study period and also separately for the Pre-reforms as well as the Post-Reforms years. Sub-periods of individual decades were also studied in detail.

Having analyzed in detail what might be termed the “Arithmetic” of the central government expenditure over our study period 1971-2008, we next turned our attention to the “Economics” of the government expenditure process, in particular in India over our chosen period of study. We attempted to explicitly formalize the government expenditure mechanism in terms of economic/structural variables as well as political/institutional ones, that is, focusing on how, and to what extent, the process of government expenditure observed in actual practice are shaped by the various factors working in the economy, some of them observable or quantifiable in economic terms and some of them political or institutional. This phase of the study exclusively concerned itself with government expenditure classified along economic categories, which in turn exhibited significant revelations. Economic and political factors were found to have significant relationships with the government expenditure process.
Clearly, in spite of the best attempts at formalization there will always remain at least some observed characteristics that one would be unable to capture fully in terms of economic analysis, a limitation that we fully acknowledge at the outset. The justification, nevertheless, of undertaking such attempt at formalization and understanding, is in no way trivial.

The third phase of our analysis also explicitly addresses the time dimension involved in our series under discussion, as Time-series data on Government expenditure, like almost all other macro-economic variables, involve characteristics that demand explicit time-series considerations for a valid and complete analysis. These considerations required us to devote some attention to the problems involved in Time-Series Econometrics, the problems of Non-stationarity and “Spurious Regression”, and Unit Root Tests.

With the above brief overview in place, we can now present the main findings of the present study. To sum up, the broad conclusions can be enumerated as below:

1. The pattern and trend of central government expenditure over the period 1970-71 to 2007-08 has been varied and uneven. Despite fluctuations in rates of growth however, total central government expenditure over the entire period has grown from Rs.456452 Crores in 1970-71 to Rs.675620.8 Crores in 2007-08 (Actuals), an average annual compound rate of increase of 13.24% in nominal terms.

2. Over the same period, expenditure in real terms has grown from Rs. 60059.0 Crores (at constant 2004-05 prices) in 1970-71 to Rs. 579435.0 Crores (at constant 2004-05 prices) in 2007-08, an annual compound average rate of increase of 5.91% in real terms (base 2004-05).
3. For the pre-reform period, viz. 1970-71 to 1989-90, overall central expenditure growth has been much faster with an annual average growth rate of 15.52% (nominal terms), and real rate of growth (annual average compound) of 7.57% at constant prices (base 2004-05).

4. For the post-reform period, viz. 1990-91 to 2007-08, overall central expenditure has grown at a relatively slower rate, with an annual compound growth rate of 10.52% (nominal terms), and real rate of growth of 4.78% at constant prices (base 2004-05).

5. The major component in the total central expenditure has been revenue expenditure which has completely dominated the trend in total expenditure. Revenue expenditure of the central government in nominal terms has grown from Rs. 2,992.86 crores at 1970-71 to Rs. 56,729.41 crores in 2007-08, at an annual rate of increase of 14.34% at current prices between 1970-71 to 2007-08.

6. Capital expenditure, on the other hand, has been remarkably erratic, fluctuating continually and registering in nominal terms a growth from Rs. 1,571.66 crores in 1970-71 to Rs. 10,832.69 crores in 2007-08 at an annual compound rate of 9.40% overall (current prices).

7. The respective real rates of growth in the two categories between 1970-71 and 2007-08 have been 6.95% (annual average compound rate) for revenue expenditure, and 1.98% for capital expenditure.

8. Looking at the pre-Reforms vis-à-vis post-Reforms growth, the respective growth rates in revenue expenditure, in real terms, were a pre-Reforms 7.83% vs. for 6.13% post –Reforms, while that of capital (development plus non-development) expenditure were rather fluctuating and uncertain. From
7.02% pre-Reforms at real rate, there has been a distinct deceleration in the growth of capital expenditure post-Reforms which in fact went down to a negative --1.62% in real terms, subsequently picking up slightly in the period 2000-01 to 2007-08 to 7.35% (constant prices).

9. Such growth pattern in the respective components has important implications for the macro-economy. This is because revenue expenditure creates no permanent assets or yield future returns, while the capital component is analogous to investment with returns in the future. Hence growth of revenue expenditure at the expense of capital expenditure has led to a sluggish rate of public sector investment.

10. Among Revenue expenditure, growth in non-development expenditure has outstripped development expenditure. Breaking down into functional categories shows that weightage-wise, the lion’s share has been consistently claimed by interest payments, followed by defence, and subsidies.

11. As far as rate of growth is concerned, the fastest growing item in revenue expenditure has been subsidies.

12. Of capital expenditure, development vs. non-development expenditure growth shows a relative faster growth.

13. Elasticity and buoyancy estimates of the detailed expenditure components reveals that of total and revenue (developmental and non-developmental) expenditure, revenue expenditure has been most buoyant, whereas capital expenditure lacks the similar buoyancy.

14. Coming to the time-series properties of Government Expenditure, in particular its economic components, Unit Root Tests for Stationarity check were duly
carried out. Government expenditure series were found to be generally non-stationary, that is, possessing Unit Roots, with most of them I(1) processes (that is, “Integrated” series of order 1) becoming stationary after first differencing.

15. Although the $R^2$ found in our analysis has been uniformly high all throughout, the value of the DW-statistic has been found to suggest strong probability of serial autocorrelation, suggesting that the time-series properties of our variables should have been taken more adequately into account.

16. Among the explanatory variables, Unit Root Tests also showed most of the relevant series to be I(1), with a few being I(2).

17. Indeed, this non-uniformity in the orders of Integration is also another major reason why we refrained from straightaway delving into cointegration analysis as that would have demanded more complicated technical sophistication (Bhaskara Rao 1994, Maddala and Kim 1998).

18. Relating the government expenditure process to the structural-economic and political-institutional factors in the economy that interact with and affect the government expenditure mechanism, Central Government Expenditure (Total and Final Expenditure), Central Government Final Consumption Expenditure, and Transfer Payments consisting of current and capital transfers, were found to have significant relationships with most explanatory factors.

19. Of the above mentioned categories, explanatory power was found to be most prominent in case of Final Consumption and Transfer Payments.

20. Explanatory variables on the structural/ economic side that were generally found to be significant and as per expectation include per capita income, urbanization, structural/ economic policy regime change and trade share.
21. The role of relative prices (RP) or “Baumol’s Cost Disease” was significant in some but not all cases.

22. Among political/institutional factors, fiscal illusion proved to be significant, although not always having high coefficient.

23. Significant political events like General Elections were found to have appreciable influence on all aspects of government expenditure.

24. Although the break-away point of the 1991 was duly recognized, any possible structural break in the series would be highly plausible. However, we refrained from explicit considerations of the same for the time being.

25. In our study, use of the lagged adjustment factor in Government Expenditure process, whose influence was indeed found to be significant in most cases, provides a possible route to introduce disequilibrium considerations. Arguments could of course be made for more plausible representations of the disequilibrium aspect.

7.2 Some Significant Contributions of the Study

1. Explicit attempt at capturing the government expenditure mechanism in economic and institutional terms

2. Attempt at synthesizing the diverse in case of a developing economy

3. Explicitly dealing with aspects like fiscal illusion: we feel an important aspect has been incorporated in Indian Public Expenditure Analysis as the literature is still rather scarce in India.

4. Attempting a comprehensive canvas against which central government expenditure in post-Reforms and pre-Global Financial Crisis could be understood.
7.3 Limitations of the Study and Direction of Further Research

Although we have taken every pain and effort to come up with as extensive an analysis as possible within the scope of a Thesis, we are only too aware of some limitations or difficulties that have inevitably crept up in the work. Some of these are in the nature of limitations. However, there are other aspects that have made us keener and more deeply involved in our research, having served the crucial purpose of making us aware of the areas that merit further and more comprehensive research. We enumerate both these aspects in the following:

Data Limitations: Some Observations

1. For a long time, researchers in the area of Indian Public Finance had been facing difficulties in access to suitably detailed, classified, continuous and comparable data over long periods of time. Although, as of now, decided improvements have been made, even then, access to publicly available long time-series on a comparable basis covering all aspects of government expenditure remains somewhat of a problem.

2. Availability of continuous constant price data continues to be a major problem, as opposed to the case of Australia, for example, where the government provides continuous data on constant price basis. In India, although constant price series on government expenditure is available to some extent, the availability is non-uniform and scattered across different sources. The NAS has been carrying out the commendable task of providing constant price series so far as final consumption expenditure, and its further
components, for the central government administration are concerned. However, similar constant price series on the other economic categories including government capital formation is hard to come by. This is an area which needs urgent attention of the Statistical and Data Collection Organizations.

3. The same difficulty of access to suitable constant price figures has also been faced in case of functional categories of expenditure. While the NIPFP has been providing valuable long span of time-series data on functional components of central government expenditure, similar data on constant price basis is still unavailable. The result is that the researcher has to come up with individual decisions regarding suitable deflation procedures and the appropriate, as well as available, deflators to apply. These are among some of the data limitations that this researcher felt need to be shared.

Scope and Limitations of Study including Suggestions towards Further Research

1. The present study has rigorously examined the expenditure trends/patterns in sufficient detail over our study period 1970-71 to 2007-08. However, formal rigorous analysis of the implications of such observed changes for the macro-economy merits further research—which we intend to take up in our next and continuing research efforts.

2. Adequate analysis separately of the pattern of government investment pre- and post-Reforms seems necessary, given the extremely wide fluctuations in the gross capital formation component of government expenditure, and the generally very low level at which it has remained nearly all throughout our study period (1970-71 to 2007-08). If indeed, as Rajaraman et al (2001) put it
bluntly, there exists “prior evidence that capital expenditure is an accommodative component that is compressed at times of fiscal stress” (Rajaraman et al. 2000) cited in Rajaraman, Mukhopadhyay and Rao 2001 pp 3), then of course, formal analysis of this aspect becomes fraught with difficulties.

3. In the present study, thus, we deemed it more logical to focus on government final consumption so far as the growth in Final Expenditure is concerned. Further Research on this point is therefore indicated.

4. Although the patterns in Central Government Expenditure have been studied in depth in the present work, we have not explicitly considered HOW government expenditure has been financed, and its future trends. Yet this is an aspect that has crucial implications for the economy, and hence, the aspect of financing is reserved for further research in the area.

5. Similarly, this study can be further enriched by an explicit incorporation of the Public debt aspect and the requisite fuller analysis. Further Research along these lines is eagerly anticipated.

6. In the present study, cointegration considerations have been eschewed, with the rationale behind our decision fully explained and justified. However, we fully intend to extend the data set to include the omitted period of time and employ the nuances of Cointegration Analysis in the course of our future research.

7. In spite of providing a significant route through which the disequilibrium aspect can enter the analysis via the lagged adjustment factor, in our model however, we have not attempted at explicitly introducing disequilibrium considerations. This is because doing so would have taken us beyond the
purview of the present thesis. Such an analysis is reserved for future research explorations to be taken up in subsequent more advanced treatments.

8. The break-away point of 1991 in the economic policy climate has been duly recognized and incorporated via Dummy variable. However, we refrained from explicitly investigating the highly possible existence of structural breaks in the various series involved. Since the existence of structural breaks is a “fact of life” so far as long time series macro-data are concerned, this is an issue that merits explicit consideration and integration into the analysis, thereby enhancing the robustness of results obtained.

9. The aspect of Fiscal illusion needs to be developed more fully in the Indian context, contrasting it with the significant studies on Ricardian Equivalence. We are actively anticipating working further on this still relatively under-represented but extremely promising research area.

10. To capture the full extent of the influence of the interest group factor in shaping government expenditure, the influence of the farm lobby (represented, for instance, by share of agricultural employment) needs to be included. In our analysis we decided to postpone its inclusion for the time being. Hence this aspect deserves future, fuller analysis.

11. Consequent upon the successive Finance Commission awards and the conscious policy efforts towards fiscal decentralization in the Federal Finances of India, finances at the State and local government level are becoming more and more important—indicating the need for further research incorporating the latter.
12. The analysis we have carried out should yield extremely promising results should we employ Panel of similarly placed countries over the same time period. Further Research in this direction is being actively contemplated by this researcher.

13. Finally, “a lot of water has flown through the Ganges, the Thames and the Volga” since this study was initiated. The situation post-Global Financial Crisis and in particular, in the context of the Euro-zone Crisis merits further research so far as the problems and prospects facing government revenue-expenditure operations are concerned.

With these observations, we conclude our present study on the Indian Central Government Expenditure over the four-decade long span of 1970-71 to 2007-08.

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1 For a detailed definition, derivation and measurement issues of the Herfindahl index see Gemmell (1999), Hackl et al (1993)

2 For an extensive discussion on the various checks for Stationarity, Unit Root tests and their limitations, as well as the alternative proposed tests, see Maddala and Kim (1998).
Epilogue

The story of India's development journey is _seldom_ told completely.

As we stand at the autumn of 2013, and events continue to unfold well beyond the period in time originally envisaged in this dissertation, it _would be useful_ to look around and to follow the saga unfolding all around us in the complex politico-economic scenario that indeed is the Indian economy.

We had opened this study by embarking upon the dramatic changes with regard to government presence in the national economies the world over, and also the way events have almost turned a full-circle in the purview of the government's desired extent of presence in the global economy. The watershed years of 1990-91 in India's economic fate brought forth subsequent events with their wide-ranging policy implications and the ensuing Reforms era, and when the Global Financial Crisis reached its climax in 2008, threatening to shake the very foundations of the
increasingly interconnected Global Economic Structure, India's ability and resilience to the threats posed were (and are still being) vigorously debated.

The year 2007-08, then, just under the shadow of the crisis, seemed a natural and logical cut-off point for the scope of our present analysis that sought to concern itself essentially with India's Pre-\textit{vis-a-vis} Post- Reforms era experience with its government finances. Since then, as the crises in the global economic scenario and in the Euro-zone seem well on way towards at least partial recovery, the challenges India has been facing seem increasingly to lie internally. in the dramatic developments unfolding within the country's own economy and polity, with Governance and the reputation for a Corruption-free Public Sphere seemingly at stake.

While these are essentially political concerns taking one way beyond the purview of pure economic analysis\textsuperscript{1}, a few points are in order here. For one, so far as our concern is with the public finances of the economy, as in the present dissertation, the problems of appropriate pricing of public assets can never be turned away from, and it is precisely the one crucial aspect that has been creating furore and unease all around in recent times.
Admittedly, the *present dissertation* as we pointed out at the very outset, has consciously steered clear of value judgments of any sort, or issues like efficiency/economic transparency in public sphere. This fact might be held as a point of criticism against the present study. However, even as our avowedly *pure* objective analytical endeavour over the envisaged time period has been concluded, we felt it necessary to look back from the vantage point of today in 2013 towards events that have potential crucial implications for the public finances and indeed, the entire economic fate of the country.

It is this concern that has prompted putting down these concluding remarks. The issues of governance, and efficiency, and honesty, in administering the crucial responsibility of political mandate\(^\text{ii}\) are aspects that no serious research endeavour can completely abstract itself from. Hence, it is our modest aim to offer the present dissertation as a preliminary contribution, and a building block towards developing a full-fledged analytical future framework with all the necessary tools of analysis in place for a hopefully holistic approach towards the complex arena of Indian public finance.

**ENDNOTES**
See the insightfully incisive article by Professor C.V. Devan Nair, MOTHER INDIA, Golden Jubilee Special Issue February-March 1999, p. 322.

"...it is questions, not of taxation, but of the proper organisation and administration of the economic life of the society which are preparing the revolutions of the future." The words quoted above are those of the seer-poet Sri Aurobindo that appeared first in the book-form in the year 1919. (The name of the book: 'The Ideal of human Unity')