The economics of development with thresholds, catalysts and spillovers: Baloo the economist and Baloo the man

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Over a long and distinguished career Professor V. N. Balasubramanyam (Baloo hereafter) has made numerous seminal contributions to our understanding of the processes of economic development and the operation of transnational corporations. These include the role of export processing zones and the determinants and consequences of foreign direct investment flows. The purpose of this article is to highlight the central analytical elements that characterize Baloo's approach to these, and other, areas of economic and business life and thereby to recognize the major contributions to our subject made by Baloo the man and Baloo the economist.

Key Words: economics of development; spillover effects; transnational corporations.

Introduction

This article begins with a brief section that sets its historical (and personal) contexts. The following section highlights a number of major analytical themes and perspectives that have punctuated Baloo's many contributions to the literature – contributions that both individually and in their totality – have greatly enhanced our understanding of the workings and consequences of a variety of international economic and business

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phenomena. Subsequent sections explore Baloo's contributions in two specific areas of research: the terms of trade and foreign direct investment (FDI). By its very nature, this article draws on the writer's personal experiences gained from almost a decade and a half of research collaboration with Baloo. It is hoped that, through these, this short article will provide a fitting tribute to Baloo and the major contributions that he has made to our understanding of the relationships that exist between international trade, FDI and development.

Context

I first met Baloo in 1989 at the Annual Conference of the International Economics Study Group held at the University of Sussex. As I recollect, my first impression was of a scholar not only with mastery of the tools of his profession but also with an overriding belief in the ability of economics, if properly applied, to make a real difference to the lives of real people. I also recollect drawing a short-straw at this particular meeting by finding myself acting as discussant at 8.30 on a Sunday morning, following the conference dinner the evening before. The article in question was, I recollect, a demanding piece of trade theory. As the hour duly arrived, I found Baloo eagerly sitting in the front row of the – admittedly – not large audience. Even before the speaker had completed his presentation, Baloo had stolen the proverbial "discussant's floor" from under my feet by a single, seemingly innocent, question that served to reduce the essence of the article to two propositions! I was impressed but did not envisage that we would, within 18 months, become colleagues and research collaborators when I left the University of East Anglia to take up the Chair at Lancaster University. Funny thing, fate!

Baloo the Economist

It is far from straightforward to summarize the central views and influences that underlie Baloo's numerous contributions to scholarship. However, based on the experience of having worked closely with him for some 15 years, I would list the following elements as representing the analytical common denominators of his work:

- The commitment that economics is about improving the economic welfare of real, as distinct from hypothetical, people.
- The belief, following the early insight of Eugene Rostow, that the process of economic development as the path to enhanced welfare is fundamentally one of differing, but interconnected, *stages*.
- A clear appreciation of the intrinsic heterogeneity of the development experiences of particular economies, giving rise to the conviction that from the policy perspective of "one size can never fit all".
- The view that both econometrics and economic theory are the servants and most definitely *not* the masters of reality. In consequence, whenever theory and reality collide it is theory and not reality that must give way. Although this view may be unfashionable in certain current quarters of the profession, it is held by Baloo as being, to coin a phrase, self-evident.
- A healthy degree of realism (or is it scepticism?) regarding the value of econometrics as a device for genuinely advancing our understanding. When one works with a colleague over a number of years, one inevitably gets to recognize, if not anticipate, familiar forms of wording when these arise. One particular phrase that has, on many occasions, come from Baloo's pen and well summarizes his views on econometrics is that: "…….. econometrics with all of its attendant problems of data and methodology."[1]

[1] As the partner typically responsible in our joint publications for the statistical side of things I have always tried to restrict this phrase to first drafts; however, despite my best efforts it has nevertheless found its way on several occasions into the final published version. Baloo is well known for the skill, speed, efficiency and good humour with which he is able to deal with questions from the floor during seminar presentations. One example that I recollect which well illustrates this point arose at an IESG Study Group meeting when Baloo was answering questions relating to some cross-section econometric evidence reported in an article that he had jointly authored with a different collaborator (who had just discretely left the lecture room to attend a pressing appointment on the tennis court). When quizzed as to whether these particular results suffered from the problem of heteroscedasticity he retorted: "as I can not even spell the word I assume they must".

Some specific contributions post-1989

As will be clear from the other contributions to this Special Edition, Baloo has made numerous significant contributions to scholarship and knowledge since he completed his undergraduate studies at the Delhi School of Economics in the early 1960s. I concentrate exclusively on two areas of his work: the behaviour of the terms of trade and the determinants and consequences of FDI flows. This restriction is not intended to deny the importance of his numerous other contributions – both before and since this year. On the contrary, it is hoped by focusing on these two areas in which I have been privileged to work with Baloo, that I will be able to provide some first-hand evidence relating not only to Baloo the economist, but also to Baloo the man.

Baloo's work in these two areas provides clear illustrations of the pivotal roles exercised by trade theory and the notions of thresholds, catalysts and spillovers as central analytical underpinnings in his thinking. Furthermore, they demonstrate the point made in the preceding section that, to Baloo, economics is, in the final analysis, ultimately about improving economic welfare.

Terms of trade debate: from Prebisch-Singer to software

Prebisch-Singer and beyond

In a series of publications Baloo and collaborators added greatly to the terms of trade debate. Like most contributors in this field, Baloo begins with the well-known Prebisch-Singer hypothesis. However, in a paper published in 1994 (Balasubramanyam and Sapsford, 1994). Baloo resists the temptation that he saw as all too readily accepted by many recent authors to wade into the statistical/econometric debate as to whether or not the data relating to the net barter terms of trade for internationally traded primary commodities *vis à vis* manufactured goods actually exhibit the significant downward trend observed by both Prebisch and Singer almost half a century earlier. Seeing this path as inevitably leading to an intellectual *cul-de-sac*, Baloo instead chose to follow what he saw as an altogether more fruitful route by recognizing the distinction between trend and cycle, and by observing that what appears to be a non-declining trend during any particular time period might in reality be the resultant of a significant downward trend and a significant cyclical upswing.

In short, even if one is able to sort out all of the problems of data and methodology attendant upon econometric analysis in this field, the over-emphasis in much of the recent terms of trade literature on matters statistical at best does understanding a disservice and at worse constitutes a smoke screen hiding the fundamental issue of how the seriously poor economies of the world (who are without exception heavily dependent on primary commodities as their sole available source of export revenues and foreign currency – UNCTAD, 2002) can maintain if not enhance economic welfare when confronted with down-trending and increasingly volatile terms of trade. Like others before him, Baloo's solution to this problem is a strategy of export diversification. However, his solution differs in at least four crucial respects from those preceding it. Firstly, it recognized that such diversification need not – indeed should not typically – be into manufacturing. Under appropriate conditions, diversification into processing was seen as being a superior approach to import substitution, with all of its now widely recognized potential difficulties, adopted by several countries. Secondly, it put at centre-stage the prerequisites that must be in place if a diversification strategy is to succeed in practice. Included amongst these are an efficiently functioning non-distorted set of factor and product markets, a labour force in possession of appropriate skills and a sufficiently high level of productivity, and a sufficient stock of marketing know-how. Thirdly, it recognized, almost a decade before the Cancun debacle, the need for the developed economies of the world to open their borders to the primary commodity exports of the developing countries. Last, and perhaps most innovative, was Baloo's insight that TNCs are not necessarily the villains of the piece. On the contrary, he saw TNCs as having the potential to serve an important role as transmitters or routers of know-how. In short, he recognized the potential for the situation, with the assistance of appropriate policy instruments, to become a positive as opposed to a zero-sum game.

Terms of trade: back to the future

The second strand of Baloo's work on the terms of trade concerns the implications of Hans Singer's (1950) seminal argument for the recent development of India's booming software industry. Few would have made this association, but in characteristic Baloo fashion he went back to the analytical framework contained in Singer's original article that was, as is perhaps too often forgotten, constructed in terms of the division of the gains from FDI between home and host countries. In a article published jointly with his wife Ahalya (Balasubramanyam and Balasubramanyam, 1997) the Baloos develop Singer's original model and argue convincingly that, in order to properly understand the phenomenon that is India's software boom, one needs to look beyond the "Gandhi with satellites" hypothesis and recognize the pivotal role played by the reverse brain-drain as a mechanism by which India enhanced its stock of human capital of the entrepreneurship variety to the level necessary to incubate and subsequently nurture the emerging industry.

Foreign direct investment

In a series of influential articles, Baloo and his collaborators studied both the determinants of FDI flows and the influence that FDI exerts upon economic growth performance.

Determinants of FDI flows

In a pivotal article in the literature (Balasubramanyam and Salisu, 1991) Baloo argued convincingly that much of the earlier work that purported to show the significance of political factors in determining FDI flows was misleading because the particular political variables cited were no more than crude proxies for various underlying economic factors. Given the supremacy of economic over political factors, Baloo demonstrated the crucial role exerted by the complexion of the host country's trade policy, drawing attention to the intrinsic differences that exist between FDI of the "tariff jumping" sort and the FDI flows that are attracted to countries pursuing an export promoting set of trade policies. Baloo's analysis also highlights the crucial importance of the appropriateness of the potential host country's human capital and skills infrastructure as a determinant of FDI flows, where appropriateness refers to the extent to which the skill base matches supply side characteristics in the labour market with those on the demand side. Both the Indian software boom discussed above and the emergence of Ireland's Liffey Corridor as Europe's "silicon valley" are clear testaments to this point. In essence, what Baloo's research on the determinants of FDI flows has demonstrated is the fact that, in order to attract FDI flows, potential host countries need to engineer the correct set of domestic market characteristics. There is a major role here for domestic policy makers who are serious about attracting enhanced inflows of foreign capital in terms of both the design and implementation of an appropriate set of policy instruments.

At the time of writing, Baloo's ongoing work is focussing on the role of Diaspora effects in explaining FDI flows into China, as well as on the importance of wage costs relative to labour productivity in the investment decisions of TNCs.

FDI and growth

The title of this article includes the three keywords *thresholds*, *catalysts* and *spillovers*. Although passing mention has already been made to the position of each of these phenomena in Baloo's work, it was, in an important sense, perhaps only once he came to work on the formidable analytical problems involved in untangling the inter-relationship between FDI flows and economic growth performance that, given the very nature of the phenomena involved, these three analytical insights jelled together. As has already been noted, a "bottom line" in Baloo's thinking is that economics is, in the final analysis, about increasing the economic welfare and well being of real people. It was quite natural, therefore, for him to turn his attention to the roles of international trade, TNCs and international capital flows in the growth process, seeing improved economic growth performance as being a necessary (but not necessarily sufficient) condition for improved welfare.

In a series of articles (see, in particular, Balasubramanyam, Salisu and Sapsford, 1996, 1999; Silvestriadou and Balasubramanyam, 2000), Baloo and collaborators developed an endogenous growth theoretic model that explicitly included the potential growth enhancing effects of foreign capital inputs. In essence this work recognized, like some of its predecessors, the potential of FDI to promote host country output growth via spillovers of technology and know-how. However, most importantly, Baloo demonstrated that such externalities do *not* occur like "manna from heaven", as was typically assumed in previous studies; instead they have to be induced and nurtured by an appropriate set of domestic policies in the fields of trade, domestic competition and research and development (R&D). The empirical evidence reported in these articles suggests that the growth enhancing potential of FDI is most effectively unlocked in an economic environment that is export promoting (as distinct from import substituting) in character, especially so when there is a high degree of competition with locally owned firms via both production and R&D.

However, not content with these contributions to our understanding of the FDI-growth relationship, Baloo went analytically further and arrived at what is, in the opinion of the current writer, the truly major insight that FDI itself is not an *engine* of growth (as effectively argued by most previous writers) but instead it is a *catalyst*. According to the *Oxford Compact English Dictionary* a catalyst is

> "…..a substance that, without itself undergoing any permanent change, increases the rate of reaction."

The implication of this insight is that the engine approach is at best misleading and at worst wrong in that it implies that causation runs from FDI, via spillovers, to growth. However, according to Baloo's catalyst approach, the role of FDI is that of a catalyst in the sense that its addition to the appropriate "solution" (i.e. combination of domestic conditions) speeds up the rate of economic growth seen as the "reaction". Stated differently, Baloo's view of FDI as a catalyst implies that, without FDI, a given package of domestic (including policy) conditions will not enhance economic growth performance to the same extent as it will with FDI. It is in this sense that FDI actually unlocks the growth potential of a host economy.

Taking the chemical analogy slightly further, Baloo argued that, in the same way that it is no use adding the catalyst to a test-tube containing a solution that is either of the wrong sort or of the right sort but of too weak a solution, FDI can not fully exert its beneficial influence on host country growth if the initial conditions are inappropriate. But what are the appropriate initial conditions? According to Baloo's analysis these can be seen under the following three headings:

- First, the achievement of a *threshold* level of *appropriate* human capital.
- Second, the achievement of a *threshold* level of physical infrastructure and/or development.
- Third, there needs to exist an appropriate policy environment.

It is important to recognize that both of the thresholds referred to above constitute necessary rather than sufficient conditions for unleashing the growth-enhancing potential of FDI. Hence, there is a major role to be played by domestic and indeed international policy makers here in converting the potential growth-enhancing effects of FDI into reality. According to Baloo's analysis, such policies should include initiatives designed to enhance, via training and education, the accumulation of appropriate human capital skills, plus initiatives designed to develop the physical infrastructure up to the required threshold level. Although this policy prescription is addressed to host countries, it might also be prescribed for the countries of the developed world as a sensible policy package to be implemented (via various sorts of aid programmes perhaps) if they are serious about helping the poorer counties of the world to improve the welfare and living standards of their citizens via sharing in the potential fruits generated by the investment activities of TNCs.

Concluding remarks

In such a short article as this, it is not possible to do full justice to the numerous contributions that Baloo has made throughout his long and distinguished career to enhancing our understanding of the inter-relationships that exist between international trade, economic growth and the investment activities of TNCs. However, by concentrating on a number of the contributions that he made since 1989, it is hoped that this article has met its objective of summarizing some of the characteristics that define Baloo as an economist and a person.

A tale of two cities

Baloo has often joked with me about my hometown of Liverpool (scheduled to become Europe's Capital of Culture in 2008) and Delhi being, by their intertwined history and common intellectual strands, spiritual twins. It would not be appropriate to finish this article without drawing the reader's attention to some of the many other areas in which Baloo has made major intellectual contributions since he began his first post as a newly minted graduate of the University of Delhi working as a Research Assistant in the Indian Planning Commission in 1962. These areas include the economy of India, the economics of export processing zones, technology transfer[2] and trade in services, to

[2] It is one of those strange ironies of life that, as someone who has contributed so much to our understanding of the nature and consequences of technology transfer and the information technology industry, Baloo is one of those individuals who seems to be unable to co-exist with information technology. Put simply, Baloo and information technology do just not work when put together. One example will suffice to illustrate this point. One day in the mid-1990s, on his daughter Maya's suggestion, Baloo set about changing the colours on his personal computer display away from the rather user unfriendly combination of green foreground on a purple background. Following the step-by-step written instructions provided by Maya, Baloo decided to select the combination of white foreground on a white background! Much intellectual capital was expended by the best information technology brains at Lancaster University in rectifying this situation. The quill pen and inkwell that Baloo used to write the manuscript of his highly regarded book on the economy of India still hold pride of place on his desk at Lancaster.

name but a few. Unbeknown to Baloo working at the Planning Commission in Delhi in 1962, one of the clearest illustrations of the working of Ricardo's principle of comparative advantage and trade in services had appeared in Delhi's twin city of Liverpool, with the emergence of the Beatles, destined to become a truly global TNC.

It is therefore perhaps appropriate to conclude this article with some quotations from two of the founders of this truly transnational corporation which summarize the essence of Baloo the economist and Baloo the man:

- "Imagine all the people sharing all the world…." (John Lennon, *Imagine*, 1971).

Having worked with Baloo for a decade and a half, I can vouch for the fact that this captures only part of Baloo. Accordingly, I take the not-unusual academic liberty of changing this quotation to read as follows:

- "Imagine all the people sharing all the *increase in* world *output resulting from specialization according to the pattern of comparative advantage*." ■

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