ECONOMICS

INVESTMENT LED GROWTH IN INDIA: HINDU FACT OR MYTHOLOGY?

by

Peter E. Robertson

Business School
The University of Western Australia

DISCUSSION PAPER 10.08
India’s investment rate has increased fourfold since 1950 and has risen sharply this decade to 36% of GDP. But contradictory views have been expressed regarding the importance of this investment pattern for India’s economic growth. This paper evaluates the impact of the rise in India’s investment rate on its economic growth, using the neoclassical growth model. It finds that, although rises in the investment rate and capital accumulation have been strong, the increases in the investment rate have added no more than 1.2 percentage points, and perhaps as little as 0.7 percentage points, to India’s overall growth rate of GDP per worker of 2.7%. It also shows that the current investment boom will have a very small effect on future growth rates and that the benefits from further increases in the investment rate are also likely to be small.

**Keywords:** Economic Growth, India, Economic reforms, Investment, Productivity.

**JEL:** O4, O11.
1. Introduction

In the last 2-3 years India’s investment rate has burst into the dizzy heights of the East Asian miracle, reaching 36% of GDP. Consequently the investment rate has now quadrupled since 1950. What impact has this had on India’s growth, and what does the acceleration in investment imply about growth over the next decade? In attempting to answer these questions, many studies, including Athukorala and Sen (2002), Bardhan (2006), Basu and Maertens (2007) and Basu (2008, 2009), have pointed to the key role of investment in understanding India’s past and future growth prospects.

A rather different perspective is given by Bosworth Collins and Virmani (2007). They describe the contribution of capital growth as disappointing, and suggest that it has been a constraint on growth. This view is reiterated in Bosworth and Collins (2008) where the authors compare India, East Asia and China. They argue also that reforms to the business environment are needed to improve investment growth and capital accumulation.

Clearly it is disturbing to have two such different views on what would appear to be a simple issue. But there appears to be a greater consensus on the policy front. The Economist (2010), Shome (2006), Mohan (2008) and Bosworth Collins and Virmani (2007), for example, have all suggested that further increases in investment rates are desirable in order to sustain higher growth rates.

In what follows I aim to clarify how the different views regarding the role of investment arise and explain how growth accounting and the pattern of investment rates give such different impressions of India’s growth record. I shall argue that, notwithstanding Bosworth et al’s (2007, 2008) muted assessment, the pattern of investment and capital accumulation has indeed been very healthy. This assessment is based on the neoclassical growth model, rather than traditional growth accounting.

I shall also argue, however, that a policy focus on further increases in the investment would be misguided. To see this point one need only recall Krugman’s (1996) satire of savings and investment economic policy in Singapore, where he compared it with Stalinist collectivization. Too much investment will inevitably mean the funding of projects with poor rates of return. For India this may be at the expense of consumption for basic needs and spending on useful social projects.1 It follows that, at some level, further increases in investment rates must be harmful. But how much is too much?

---

1 Similar criticisms have also being levelled at China (Bardhan 2006, Prasad 2009, Tyers and Lu 2009).
2. Perspectives on India’s Investment Record?

India’s recent growth record is a remarkable improvement upon its past. Figure 1 shows an index of GDP per capita for India, in logs, since 1950. The graph clearly indicates an acceleration in the growth rate since the 1980s. A reasonable consensus is that the growth acceleration began in the late seventies or early 1980’s and has been sustained by reforms through the 1990’s (Rodrik, and Subramanian 2004, Panagariya, 2004, Virmani 2004, Basu and Maertens 2007, Kotwal et al 2009). India’s growth rate of per capita income over the 50 year period, 1950-2000, was 3.2% per year. But since 2000 the average growth rate has been 7.2% per year.

Figure 2 shows India’s gross domestic savings rate, gross fixed investment rate and net fixed investment rates. It shows a massive increase in savings and investment as a fraction of GDP from around 8-9% in 1950-51 to a peak of over 35% of GDP in 2008-09. These savings and investment rates compare favourably with the peak savings rates achieved by Japan, the East Asian economies and China in each of their respective economic miracles. The acceleration in investment and savings is fairly smooth except for a lull in the reform era of the 1990’s, when rates remained relatively constant. Corresponding to the rise in growth rates there is also a clear jump in all series since 2000.

According to Basu (2008) the rises in the savings and investment rates were the most significant macroeconomic change that occurred in India through the 1970s. He attributes the subsequent growth in the 1980s to the earlier acceleration in investment rates. Athukorala and Sen (2002) and Virmani (2004) attribute this rise in savings to the nationalization of banks in 1969, and the spread of branches to rural areas. Bardhan (2006) and Mohan (2008) also note the complementary effects of public investment over this period. During the 1980’s the investment rate continued to rise and Sen (2007) attributes this to a falling relative price of equipment due to the relaxation of import controls and increased access to imported machinery.

In addition to the acceleration in the investment rate, Sen (2007) argues that the investment in machinery and equipment has been associated with embodied technological progress. In his paper, “Why did the elephant start to trot?”, he points to correlations between Total Factor Productivity (TFP) growth and equipment investment in the Indian data, suggesting that investment is a cause rather than an effect of productivity growth. This builds upon a significant body of literature, including De Long and Summers (1991) and Greenwood et al (1997) that stress the role of investment spending in generating growth through technological externalities. There is also some empirical support for the proposition from prominent studies such as De Long and Summers (1991) and Levine and Renelt (1992).
Nevertheless, the link between equipment investment and productivity growth is much more of a hypothesis than an established fact. Specifically the theoretical links between investment and growth are widely debated. Prescott (1998), Hall and Jones (1999) and others, for instance, have argued that the role of investment or capital accumulation in understanding differences in income levels across countries, is very small.² So, without necessarily discarding the link between investment and productivity growth, it is useful to begin with the more fundamental issue of sorting out how the increasing share of income devoted to investment has impacted on the growth rate in the context of the standard neoclassical growth model.

3. A Balanced Growth Path?

As highlighted in the introduction, the evidence of large increases in the investment rate, emphasized by Basu (2008) and Sen (2007) and others, contrasts strongly with Bosworth et al (2007, 2008), who find only a very modest capital contribution to India’s growth. Specifically the data used in Bosworth and Collins (2008) show that between 1978 and 1994, India’s per capita output growth was 3.30% and the growth rate of capital was similar, at 3.25%. By comparison, in the East Asian average, the capital growth rate was 5.5%, which was much faster than the average output growth rate of 3.7%.

Thus capital accumulation has played a much less prominent role in India’s growth relative to East Asia. Bosworth, Collins and Virmani (2007) argue that a poor investment climate, as indicated by the World Bank’s Doing Business survey, is responsible for low investment incentives. In particular they suggest that a lack of public infrastructure is reducing private investment.

There is a broad consensus over the woeful state of India’s public infrastructure and many studies concur with the need to improve the investment climate (Kochhar et al 2006). Nevertheless there is room for dissent as to whether India’s overall investment rate growth really reflects such a dismal effort. Specifically Bosworth and Collins’ data show that the growth rates of capital and output are approximately the same. This is precisely what one would expect along a steady state growth path. It suggests that the rate of capital accumulation was about right!³

² Interestingly, with respect to India, the share of Machinery and Equipment in investment spending has fallen from 0.59% of investment in 1995-6 to 0.47% in 2007-08. This was precisely when India’s economic growth was accelerating.

³ On a steady state we would have both the growth rate of output per worker and capital per worker equal to the labour productivity growth rate 1+g. Hence the so called “capital contribution” from standard growth accounting techniques will equal α(1+g) and the relative contribution is simply α. If the growth rate of capital exceeds the growth rate of GDP then y/k must be falling and the relative capital contribution will exceed α. Conversely if the growth rate of capital
In contrast East Asia’s faster rate of capital growth means that capital productivity, y/k, is falling. This implies that the real rate of return to capital is falling, reflecting Krugman’s (1996) remark that “Lee Kuan Yew’s Singapore is an economic twin of Stalin’s Soviet Russia.” Thus, though many East Asian economies had high savings and investment rates, it is highly debatable that the 40% rates of Singapore were necessary, or even desirable. Taiwan and South Korea achieved equivalent growth rates with only a fraction of the investment. As shown by Robertson (2000), the growth rates in Singapore would have been only marginally less even if it had halved its investment rates.

So an equally valid interpretation of the data presented by Bosworth et al (2007) might be that India’s rate of capital accumulation was about right, and that the East Asian economies and China are too high.

This is not quite right however. The argument that India is, even approximately, on a steady state growth path is wrong since a strongly rising investment rate is inconsistent with a steady state. Rising investment rates, other things equal, will imply higher growth rates of capital over a transition and a falling average product of capital, y/k. In particular the standard neoclassical growth model implies that a doubling of the investment rates should cause a halving of y/k. Bosworth and Collins (2008) data, by contrast, imply a constant y/k, since both the growth rates of capital and GDP per worker were approximately equal. To resolve this paradox we need to trace India’s growth path more carefully. Extending Sen’s (2007) metaphor, we need to follow the elephant’s trail, looking at how y/k behaved over time.

4. The Elephant Trail

I begin by looking at Bosworth, Collins and Virmani’s (2007) output and capital stock data. Figure 3 compares the y/k series based on official data reported in Sivasubramonian (2004), the data used by Bosworth Collins and Virmani (2007), as well as the latest series taken from the Reserve Bank of India (RBI).

It can be seen first that, in the 1978-2004 period, there was considerable fluctuation in the y/k ratio, but little net change since 1978. One might argue that there is significant rise in y/k in the three year period 1987-88 to 1990-91. Thus the data show very clearly that the average product of capital y/k, has not been falling and, if anything, has been rising.

is less than the growth rate of GDP then y/k must be rising and the capital contribution will be less than \( \alpha \). See Robertson (2002) for a detailed discussion.

4 Again I am very grateful to Barry Bosworth who kindly provided me with his data.

5 In this figure, output is measured as a fraction of GDP at factor cost, measured in constant prices, and \( k \) is the net capital stock at constant prices.
What causes $y/k$ to rise, or remain constant, in the face of the strong investment growth? The neoclassical growth model suggests three factors, labour force growth, the depreciation rate and productivity growth. Specifically let $1+n$ denote the annual increase in labour inputs, $1+g$ denote the annual increase in productivity, measured in effective labour units, and $\delta$ denote the depreciation rate on capital. The steady state condition for is

$$sy / k = (1 + n)(1 + g) - (1 - \delta)$$

where $s$ is the investment rate.\(^6\) As noted above, a constant value of $y/k$ may indicate a balanced, or steady state, if all these variables, $s$, $n$, $g$, $\delta$ are constant. A doubling of the investment rate, for example, with constant values of $n$, $g$, $\delta$, would cause the average product to fall by half. As we have seen, this was not the case.

Alternatively, consider a growing economy like India, where $n$ and $\delta$ are approximately constant but $g$ and $s$ are rising. A falling $y/k$ ratio indicates a capital deepening transition with rising investment rates. A rising $y/k$ ratio indicates a transition due to higher productivity growth, $g$. What happens to the average product of capital is a balancing act between increases in $g$ and increases in $s$.

The principal reason why the doubling of the investment rate has not led to a halving of $y/k$, is an acceleration in the rate of productivity growth, $g$. The average value of productivity since 1950, measured in effective labour units, $g$, has been 2.8%. From 1951-1979, however, the average value is 1.4% and from 1980-2008 the average is 4.4%.\(^7\) A simple calculation using (1) shows that this three percentage point increase in $g$ is sufficient to raise the average product of capital by approximately 50%. The fact that $y/k$ didn’t increase is due to the contemporaneous increase in the investment rate, $s$, which is dragging $y/k$ down.

Thus India has not been on a steady state, but on a slow transition with rising $s$ and $g$ and an approximately constant average product of capital, $y/k$. This is what lies behind Bosworth et al’s (2007, 2008) results. The only reason why the capital contribution was not larger, was that productivity growth was also trending upwards. But strong productivity growth does not mean that the investment rate increases have not been important or substantial.

---

\(^6\) I have used the discrete time formula here, to assist with mapping the formula to annual data. Readers may be more familiar with the continuous time version, $sy / k = n + g + \delta$.

\(^7\) Recall that I am measuring productivity growth in effective labour units. The assumed production function is $y = k^\alpha A^{1-\alpha}$ and $1+g = A_{t+1} / A_t$. Note that $(1 + g)^{1-\alpha} - 1 = TFP$ where $TFP$ is the conventionally measured Solow-Residual or the TFP growth rate.
There is one caveat, which is to do with depreciation rates. Though productivity growth rates have been rising, so too has the implicit depreciation rate. The net investment rate, calculated as \((k_{t+1} - k_t) / y_t\), has been much more constant over time than the official gross or net investment rates shown in Figure 2.\(^8\) Thus the relationship in the data between the gross investment rate and changes in the capital stock has not been constant.

Whether one attaches much importance to this depends on whether one believes that the accounting practices in national accounts reflect real economic depreciation or not. But it does help explain the different pictures painted by the investment optimists (who refer to gross investment data) and Bosworth et al (2007, 2008) (who base their conclusions on the growth rates of capital).\(^9\)

The central insight then is that the increases in investment rates have been large and consequently there has been a high rate of capital accumulation. With a constant rate of productivity growth, at any level, the increases in the investment rate would have caused the average product of capital to fall sharply. Because the rate of productivity growth was also accelerating, however, the growth rate of capital remained fairly close to the growth rate of output. This pattern of growth ensures that the growth accounting “capital contribution” will be close to the assumed capital share and that \(y/k\) remains fairly constant. But this in itself does not mean that the investment process has been restricted or is inadequate.

5. India’s Investment Boom: How Much is Too Much?

We have seen that the “capital-contribution” in growth accounting results depends on both the investment rate and the rate of productivity growth. It does not tell us how the change in a potentially interesting policy variable, the investment rate, affects the growth rate. This, however, would seem to be a useful way of approaching the issue of evaluating the role of the increases in the investment rate. To do this we need a growth theory. As above, the most useful starting point is the standard textbook Solow-Swan or Ramsey neoclassical growth model.

In the Solow-Swan growth model an increase in investment from \(s\) to \(s’\) on the growth rate of per capital income is \(y’/y = (s’/s)^{\alpha(1-\alpha)}\), where \(\alpha\) is the income share of capital, and \(y’\) refers to the new steady state level of per capital income. Thus, with a capital income share of \(\alpha=1/3\), we have

---

\(^8\) A similar picture emerges if one compares RBI capital consumption rates with capital stock estimates. The comparison suggests that the depreciation rate has risen from around 2\% to 4\% since the early 1950’s.

\(^9\) It is straightforward to construct an alternative capital series using the gross investment rates and assuming a constant depreciation rate. In this alternative series the \(y/k\) increases until 1965, then falls steadily during the 1970’s and 1980’s by about 10\%. There is still, however, little net change over the whole period.
\( \alpha / (1 - \alpha) = 0.5 \)\(^{10}\). This means that to double GDP per capita we need to quadruple the investment rate. India’s investment rate has indeed quadrupled since 1950, from 9\% to 36\% of GDP. But income per capita over this period has increased 5-fold. Over 58 years that translates to a growth rate of 1.2\% per year due to investment rate growth relative to the average growth rate of GDP per worker of 2.8\%.

This, however, is an overestimate since the changes in investment are gradual and the peak rate has only reached in the last few years. With a convergence rate of 5\% only half of this increase in GDP per capita from a given increase in the investment rate is realized after 14 years, and only 3/4 of it would be realized after 28 years. Hence the total contribution of increases in the investment rate to India’s GDP per capita growth since 1950 is likely to be closer to half of this amount. Indeed simulations suggest that the growth contribution is around 0.75 percentage points of India’s 2.7\% growth rate of GDP per worker, or 28\% of India’s overall growth.\(^{11}\)

This reduced figure still suggests that investment has been very important. But it also emphasizes that the gains from investment rate rises are distributed over a long period so its impact on growth rates over several decades is modest.

In this decade India’s investment rates have increased from 25\% to 36\% of GDP. This is a similar absolute increase to what was achieved over 30 years from 1960-1990. However, the effect of a change in the investment rate on the growth rates depends on the percentage changes, and not the absolute change. Thus increasing the investment rate from 25\% to 36\% only implies a 1.2-fold, or 20\%, increase in per capita incomes over a full transition.\(^{12}\)

With a half life of 14 years, this change in the rate of investment implies a 10\% increase in income levels over 14 years, or approximately 0.7\% per year between 2000-2014. Though 0.7\% is a significant number, it will only account for a small fraction of the India’s growth in the near future growth rates of around 6-7\% per year.

Thus the neoclassical growth model suggests that each percentage point rise in the investment rate has an increasingly smaller effect on the income level and on the growth rate over a transition.\(^{13}\)

\(^{10}\) An identical result holds in the Ramsey growth model for any parameter that affects the steady state investment rate, such as a tax on investment.

\(^{11}\) The results are sensitive to the assumed capital share however. A capital share of 0.4 would significantly increase the role of investment, though it would still account for much less than half of India’s economic growth.

\(^{12}\) That is, \( y' / y = (36 / 24)^{1/2} = 1.22 \)

\(^{13}\) Of course these conclusions are based firmly on the assumptions of an aggregate production function. An alternative subtitle for this paper might be “Hindu Fact versus Neoclassical Parable”.
Hence further increases in the investment rate must play an increasingly diminishing role in India’s growth.

6. Conclusion

Despite the stratospheric investment rates of recent years, the picture that emerges for India is that rising productivity has been the key ingredient of economic growth. Specifically the lack of change in the capital-output ratio, or its inverse \( y/k \), is not due to a lack of capital deepening, but to an acceleration in the productivity growth rate. This gives cause to reconsider Bosworth, Collin and Virmani’s (2007) gloomy assessment of India’s record on capital accumulation.

But one may also take issue with the upbeat assessment of investment. Can further increases in investment really keep the elephant trotting? Perhaps inauspiciously, recent research shows that Asian Elephants can’t actually run in a technical sense. They are simply too big and heavy.\(^{14}\) The metaphor is apt since the neoclassical model also suggests that adding capital without productivity growth will cause India to stumble under the weight of a large and inefficient capital stock.

The four-fold increase in the investment rate from around 9% to 36% of GDP has produced some significant growth over the post independence era. But with an investment rate now above 30%, a similar percentage increase in the investment rate is impossible. What has made the difference for India, especially recently, is that the higher investment rates have been supported by higher productivity growth. Incremental increases in the investment rate are unlikely to generate any further significant growth benefits. Hence productivity growth, and not investment, will dominate India’s growth over the coming decades.

\(^{14}\) Rather, they just walk fast without the necessary vertical oscillation to really get up speed. For a further discussion of Asian elephant biomechanics, see Genin et al (2010).
References


Figure 1: Logarithmic Index of Real GDP (Constant 1999-2000 prices)

Source: Reserve Bank of India (2010)
Figure 2: Investment and Savings (Percent of GDP at current market prices)

Source: Reserve Bank of India (2010)
Figure 3: Average Product of Capital ($y/k$).

Source: Reserve Bank of India (2010). Note that all the data series are identical prior to 1993-94.
<table>
<thead>
<tr>
<th>DP NUMBER</th>
<th>AUTHORS</th>
<th>TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>09.01</td>
<td>Le, A.T.</td>
<td>ENTRY INTO UNIVERSITY: ARE THE CHILDREN OF IMMIGRANTS DISADVANTAGED?</td>
</tr>
<tr>
<td>09.02</td>
<td>Wu, Y.</td>
<td>CHINA’S CAPITAL STOCK SERIES BY REGION AND SECTOR</td>
</tr>
<tr>
<td>09.03</td>
<td>Chen, M.H.</td>
<td>UNDERSTANDING WORLD COMMODITY PRICES RETURNS, VOLATILITY AND DIVERSIFICATION</td>
</tr>
<tr>
<td>09.04</td>
<td>Velagic, R.</td>
<td>UWA DISCUSSION PAPERS IN ECONOMICS: THE FIRST 650</td>
</tr>
<tr>
<td>09.05</td>
<td>McLure, M.</td>
<td>ROYALTIES FOR REGIONS: ACCOUNTABILITY AND SUSTAINABILITY</td>
</tr>
<tr>
<td>09.06</td>
<td>Chen, A. and Groenewold, N.</td>
<td>REDUCING REGIONAL DISPARITIES IN CHINA: AN EVALUATION OF ALTERNATIVE POLICIES</td>
</tr>
<tr>
<td>09.07</td>
<td>Groenewold, N. and Hagger, A.</td>
<td>THE REGIONAL ECONOMIC EFFECTS OF IMMIGRATION: SIMULATION RESULTS FROM A SMALL CGE MODEL.</td>
</tr>
<tr>
<td>09.08</td>
<td>Clements, K. and Chen, D.</td>
<td>AFFLUENCE AND FOOD: SIMPLE WAY TO INFER INCOMES</td>
</tr>
<tr>
<td>09.09</td>
<td>Clements, K. and Maesepp, M.</td>
<td>A SELF-REFLECTIVE INVERSE DEMAND SYSTEM</td>
</tr>
<tr>
<td>09.10</td>
<td>Jones, C.</td>
<td>MEASURING WESTERN AUSTRALIAN HOUSE PRICES: METHODS AND IMPLICATIONS</td>
</tr>
<tr>
<td>09.11</td>
<td>Siddique, M.A.B.</td>
<td>WESTERN AUSTRALIA-JAPAN MINING CO-OPERATION: AN HISTORICAL OVERVIEW</td>
</tr>
<tr>
<td>09.12</td>
<td>Weber, E.J.</td>
<td>PRE-INDUSTRIAL BIMETALLISM: THE INDEX COIN HYPOTHESIS</td>
</tr>
<tr>
<td>09.13</td>
<td>McLure, M.</td>
<td>PARETO AND PIGOU ON OPHELIMITY, UTILITY AND WELFARE: IMPLICATIONS FOR PUBLIC FINANCE</td>
</tr>
<tr>
<td>09.14</td>
<td>Weber, E.J.</td>
<td>WILFRED EDWARD GRAHAM SALTER: THE MERITS OF A CLASSICAL ECONOMIC EDUCATION</td>
</tr>
<tr>
<td>09.15</td>
<td>Tyers, R. and Huang, L.</td>
<td>COMBATING CHINA’S EXPORT CONTRACTION: FISCAL EXPANSION OR ACCELERATED INDUSTRIAL REFORM</td>
</tr>
<tr>
<td>09.16</td>
<td>Zweifel, P., Plaff, D. and Kühn, J.</td>
<td>IS REGULATING THE SOLVENCY OF BANKS COUNTER-PRODUCTIVE?</td>
</tr>
<tr>
<td>09.17</td>
<td>Clements, K.</td>
<td>THE PHD CONFERENCE REACHES ADULTHOOD</td>
</tr>
<tr>
<td>09.19</td>
<td>Harris, R.G. and Robertson, P.</td>
<td>TRADE, WAGES AND SKILL ACCUMULATION IN THE EMERGING GIANTS</td>
</tr>
<tr>
<td>09.20</td>
<td>Peng, J., Cui, J., Qin, F. and Groenewold, N.</td>
<td>STOCK PRICES AND THE MACRO ECONOMY IN CHINA</td>
</tr>
<tr>
<td>09.21</td>
<td>Chen, A. and Groenewold, N.</td>
<td>REGIONAL EQUALITY AND NATIONAL DEVELOPMENT IN CHINA: IS THERE A TRADE-OFF?</td>
</tr>
<tr>
<td>DP NUMBER</td>
<td>AUTHORS</td>
<td>TITLE</td>
</tr>
<tr>
<td>-----------</td>
<td>---------</td>
<td>-------</td>
</tr>
<tr>
<td>10.01</td>
<td>Hendry, D.F.</td>
<td>RESEARCH AND THE ACADEMIC: A TALE OF TWO CULTURES</td>
</tr>
<tr>
<td>10.02</td>
<td>McLure, M., Turkington, D. and Weber, E.J.</td>
<td>A CONVERSATION WITH ARNOLD ZELLLNER</td>
</tr>
<tr>
<td>10.03</td>
<td>Butler, D.J., Burbank, V.K. and Chisholm, J.S.</td>
<td>THE FRAMES BEHIND THE GAMES: PLAYER’S PERCEPTIONS OF PRISONER’S DILEMMA, CHICKEN, DICTATOR, AND ULTIMATUM GAMES</td>
</tr>
<tr>
<td>10.04</td>
<td>Harris, R.G., Robertson, P.E. and Xu, J.Y.</td>
<td>THE INTERNATIONAL EFFECTS OF CHINA’S GROWTH, TRADE AND EDUCATION BOOMS</td>
</tr>
<tr>
<td>10.05</td>
<td>Clements, K.W., Mongey, S. and Si, J.</td>
<td>THE DYNAMICS OF NEW RESOURCE PROJECTS A PROGRESS REPORT</td>
</tr>
<tr>
<td>10.06</td>
<td>Costello, G., Fraser, P., Groenewold, N.</td>
<td>HOUSE PRICES, NON-FUNDAMENTAL COMPONENTS AND INTERSTATE SPILLOVERS: THE AUSTRALIAN EXPERIENCE</td>
</tr>
<tr>
<td>10.07</td>
<td>Clements, K.</td>
<td>REPORT OF THE 2009 PHD CONFERENCE IN ECONOMICS AND BUSINESS</td>
</tr>
<tr>
<td>10.08</td>
<td>Robertson, P.E.</td>
<td>INVESTMENT LED GROWTH IN INDIA: HINDU FACT OR MYTHOLOGY?</td>
</tr>
<tr>
<td>10.09</td>
<td>Fu, D., Wu, Y., Tang, Y.</td>
<td>THE EFFECTS OF OWNERSHIP STRUCTURE AND INDUSTRY CHARACTERISTICS ON EXPORT PERFORMANCE</td>
</tr>
<tr>
<td>10.10</td>
<td>Wu, Y.</td>
<td>INNOVATION AND ECONOMIC GROWTH IN CHINA</td>
</tr>
<tr>
<td>10.11</td>
<td>Stephens, B.J.</td>
<td>THE DETERMINANTS OF LABOUR FORCE STATUS AMONG INDIGENOUS AUSTRALIANS</td>
</tr>
</tbody>
</table>