# THE TURNAROUND IN THE GROWTH PERFORMANCE OF THE KERALA ECONOMY: AN EXPLORATION OF ALTERNATIVE HYPOTHESES

**Dissertation submitted to Jawaharlal Nehru University**
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**SUBIN DENNIS**



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## CERTIFICATE

Certified that the dissertation entitled "THE TURNAROUND IN THE GROWTH PERFORMANCE OF THE KERALA ECONOMY: AN EXPLORATION OF ALTERNATIVE HYPOTHESES" submitted by Subin Dennis in partial fulfillment of the award of the degree of Master of Philosophy (M.Phil.) of this University is his original work. This dissertation has not been submitted for the award of any other degree of this University or of any other University.

We recommend that this dissertation be placed before the examiners for evaluation.

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# Chapter 1 – Introduction

The achievements in human development for which the southern Indian state of Kerala is well-known have deep historical roots. The relative autonomy of the princely states of Kochi and Travancore during the colonial period that allowed the rulers to spend on health and education, the surge of social and religious reform movements during the latter part of the 19th and the early part of the 20th century and the activities of the missionaries were important factors that took the literacy rate in the princely states to levels higher than in other parts of the country (Sen 1992, Lieten 2002). The royal support for education created a network of schools, but it did not really reach the lower echelons of society, and education remained the privilege of specific castes and classes. Their entry into education required radical changes in the status of the people of the oppressed castes as well as land reform, i.e., "changes well outside the class and caste calling of the ruling elite of the princely states of Travancore and Cochin" (Ramachandran 1997, Franke and Chasin 1992, Lieten 2002), which had to await the initiatives of popularly elected, progressive governments from 1957 onwards. The initiatives of the governments in combination with movements from below created an enabling environment in which the hitherto excluded people could avail of their right of access to the educational and the health system.

The widespread attention that Kerala's achievements on the human development front received was marked from the year 1975, with the publication of a study[1] by the Centre for Development Studies (CDS) which underscored the role that education had played in bringing about a variety of positive changes in the state, including the impressive health achievements, in spite of Kerala being a relatively poor state in India. The CDS study triggered curiosity and scholarly interest in Kerala's development experience (Chakraborty 2005). In the academic debates on the subject that followed in the subsequent years, the state's high material quality-of-life indicators coinciding with low per capita incomes, both broadly distributed across nearly the entire population, a set of wealth and resource redistribution programmes and high levels of political participation

[1] Centre for Development Studies (1975), Poverty, Unemployment and Development Policy: A Case Study of Selected Issues with Reference to Kerala, CDS, Thiruvananthapuram, and United Nations, New York.

and activism among ordinary people which have largely brought about the high material quality-of-life indicators, which together constitute what many observers termed as the "Kerala model" (Parayil 2002), became objects of admiration for many and targets of cynicism for yet others.

The biggest criticism against the "Kerala model" was that the state was lagging behind in economic growth compared to the rest of the country. The growth impasse of the 1970s and the 1980s had indeed become a major concern, with many experts voicing their fear that the inability of the state to break out of the impasse might come to threaten the very foundations of the achievements on the human development front. George (1993), for instance, stated that "the Kerala model of development has almost reached the end of its tether. The paradoxical phenomenon of rapid social development unaccompanied by corresponding gains in economic growth has been exhausting itself." One particular version of this criticism, articulated by Tharamangalam (1998), went even further. He argued that the social, political and cultural attributes of the Kerala model are a recipe for failure. In other words, he argued, the explanation of the failure of Kerala to attain rapid economic growth is inherent in the model itself and as such, it would be a mistake to recommend the heavily welfare-oriented Kerala model of development to other states of India and elsewhere.

But the recent years have seen this dominant narrative of 'lopsided development' giving way to a new one, based on the realization that growth hasn't evaded the state after all (Chakraborty 2005). A study by Ahluwalia (2000) was among the first that called attention to the fact that Kerala's economic growth rates were close to the all-India growth rates during the 1990s. Though scholars differ on the exact year from which the revival in growth is to be marked, on the causes for this revival, on the sustainability of the higher growth trajectory, and even on whether this revival should be called a 'turnaround' and so on, that the economic growth of Kerala had picked up since the late 1980s has now been well recognized at least in academic circles.

A number of scholarly articles analyzing the revival in Kerala's economic growth have appeared in the 2000s, and a few explanations have been advanced to account for the higher growth rates observed since the late 1980s. The most widely held view has been

that the revival in growth was driven by remittances, or more specifically, remittance-induced consumption. According to this view, the increasing inflow of remittances from the huge emigrant community of Keralites(Keralites account for the largest proportion of Indian emigrants in the Middle East; the large-scale emigration to this region was triggered by the boom induced by the oil shocks of the 1970s[2] (Zachariah et al. 1999)), which was accentuated by the depreciation of the rupee following financial liberalisation in the 1990s, triggered a rise in consumption expenditure in the state, driving up growth. A variant of this view, which while concurring with the remittance-led growth view, argues that Kerala has been witnessing a virtuous cycle of human development and economic growth reinforcing each other, has also been advanced. Yet another explanation is based on the Dutch Disease model, which centres on the changes in wages and prices that were triggered as a result of large-scale emigration. Thus, for practically every account of Kerala's growth turnaround[3], remittances remain at the centre of the argument.

But as we shall see later, the remittance-led argument is based on scanty evidence; all available indications suggest that the consumption behaviour of migrants' households

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[2] The phenomenon of migration in the quest for upward mobility has a fairly long history in Kerala. Whereas the native agency of the princely states ensured that educationally the Travancore and Kochi regions were better placed compared to the other parts of the country very early on, colonialism had resulted in the production structure of the region remaining de-industrialized and undeveloped on the one hand, while opening up channels of economic mobility for the natives through the planting enterprise on the other. The incipient bourgeoisie, shackled by colonialism which acted as a fetter in its endeavour to expand its productive forces, voiced its concerns through the print media, which propagated a discourse that favoured migration to the eastern hills of the erstwhile princely state and to the erstwhile British Malabar (Varghese 2008). The peasantry of South-central Kerala (the northern parts of erstwhile Travancore), faced with war-induced distress, took to migration on a massive scale. Thus began the intra-state migration of the Christian peasant families of the above-mentioned region to the virgin lands at the foothills of northern Kerala from 1920s till about early 1960s. (Tharakan 1976, quoted in Harilal 2005). This early stream of migration firmly established migration as an important option for upward mobility in economic terms, the opportunity cost of which had to be weighed in with that of occupations that do not lead to spatial dislocation. The impact of the experience of this early stream of migration on the regional economy and the Malayali psyche was significant, so that when the opportunity for emigration to the Middle East emerged in the 1970s, the people of the regions of Kerala which had historical trade links with the Middle East were not reluctant to grab the opportunity.

[3] Since some scholars (see Oommen 2005) seem to regard the term 'turnaround' with some suspicion, we use the term 'turnaround' with the caveat that no assumptions are made about the long-run sustainability of the revival in growth.

and the changes therein might have nullified much of the impact of the increase in remittance inflows during the high-growth phase of the state economy. The Dutch Disease argument is also found to be insufficient as a coherent explanation for the growth turnaround.

On the contrary, we find that the growth process that has been observed in Kerala since the late 1980s has a wider social base and deeper roots in the commodity-producing sectors of the economy than the current explanations suggest.

## Objectives and Chapter Plan

**This dissertation sets out to unearth the reasons for the revival in the economic growth of the state of Kerala since the late 1980s, specifically since 1987-88. It would take stock of the explanations that have been advanced to account for the revival in growth to verify their validity, and if found inadequate, would seek to find (an) alternative explanation(s).**

In Chapter 2, we provide an account of the growth performance of the Kerala economy by tracing the trajectory of economic growth in the state over the period from 1970-71 to 2006-07 and briefly analyse the structural changes in the economy in terms of income and employment. Here we establish that a revival in the economic growth of the state has indeed taken place since the late 1980s.

In Chapter 3, we critically survey the explanations that have been advanced in the literature to account for the growth turnaround. The validity of the remittance-led growth argument (and its variant which emphasises the virtuous cycle of mutually reinforcing human development and economic growth) and that of the Dutch Disease argument are critically analysed. As we shall see later in this chapter, these arguments are found to be inadequate as explanations for the growth turnaround.

In Chapter 4, we attempt to provide an alternative hypothesis on the growth turnaround, which centres on the expansion in rural incomes led by the increasing prices and production of natural rubber. The contribution of rising real wages to the growth process is also analysed.

The final chapter summarises the main arguments of this dissertation.

# Chapter 2: The Growth Performance of the Kerala Economy, 1970-71 to 2006-07

## Background

Until the 1990s, the dominant narrative on Kerala's development experience emphasised the "lopsided" nature of development - impressive achievements on the human development front coupled with low economic growth - the state had been saddled with. A number of studies in the 2000s, however, suggest the supplanting of this narrative with a new one, based on the observation that growth has not eluded the state, after all (Chakraborty 2005).

The first to spot a revival in Kerala's economic growth was a study by Ahluwalia (2000). Subsequently, several authors contributed to the literature, analyzing various aspects of the revival, which many have characterized as a "turnaround".

We begin our analysis with an account of the growth performance of the Kerala economy since 1970-71. We choose this year as the starting point for the following reasons.

The impact of remittances on the economy and society of the state has been extensively analysed and commented upon. Most of the recent studies on Kerala's growth performance identify remittances as a major factor that has influenced the trajectory of economic growth of the state.[1] Therefore, 1970-71 would be an ideal starting point for an investigation into the Kerala growth story, since it allows us to start with the period immediately before the wave of international migration from Kerala, mainly to the countries of the Persian Gulf region, began in the wake of the oil shock. Moreover, as we would note later, since the turnaround phase is marked from the end of the 1980s, starting with 1970-71 would facilitate a useful comparison with an earlier phase characterized by slower growth.

[1] See Kannan (2005), Pushpangadan (2003) and Subrahmanian (2005), for instance.

The chapter is divided into two sections. In the first section, we trace the trajectory of economic growth of Kerala over the period from 1970-71 to 2006-07. In the second, we analyse the structural changes in the Kerala economy in terms of income and employment.

## (i) The Contours of the Turnaround

### Data and Methodology

Statistics on State Domestic Product in Kerala is estimated by the State Directorate of Economics and Statistics, and is published annually by the State Planning Board in the annual publication *Economic Review*. Data regarding the Domestic Product of the states of India from 1960-61 onwards has been collected in 'Domestic Product of States of India, 1960-61 to 2006-07: Second Updated Edition' (2009), published by the EPW Research Foundation, and has been relied upon for the analysis in this section.

We use exponential growth rates, estimated by fitting a semi-log ($ln\ Yt = a+bt+e$) trend for tracing secular behaviour.[2] We have estimated a single series of NSDP at constant prices, taking the 1999-00 series backward by using the splicing method and linking the different series.[3]

We use two different periodizations for our analysis of the period from 1970-71 to 2006-07:

1) Dividing the period into two, viz. 1970-71 to 1986-87 and 1987-88 to 2006-07 on the basis of the observation of a break in the trend line for NSDP; and

[2] Various scholars have used different methods for calculating growth rates. E.g., Subrahmanian (2005) has used exponential growth rates, while Pillai and Shanta (2005a) have used simple average growth rates. Kannan (2005) and Pushpangadan (2003) chose a kinked exponential model to estimate growth rates for sub-periods.

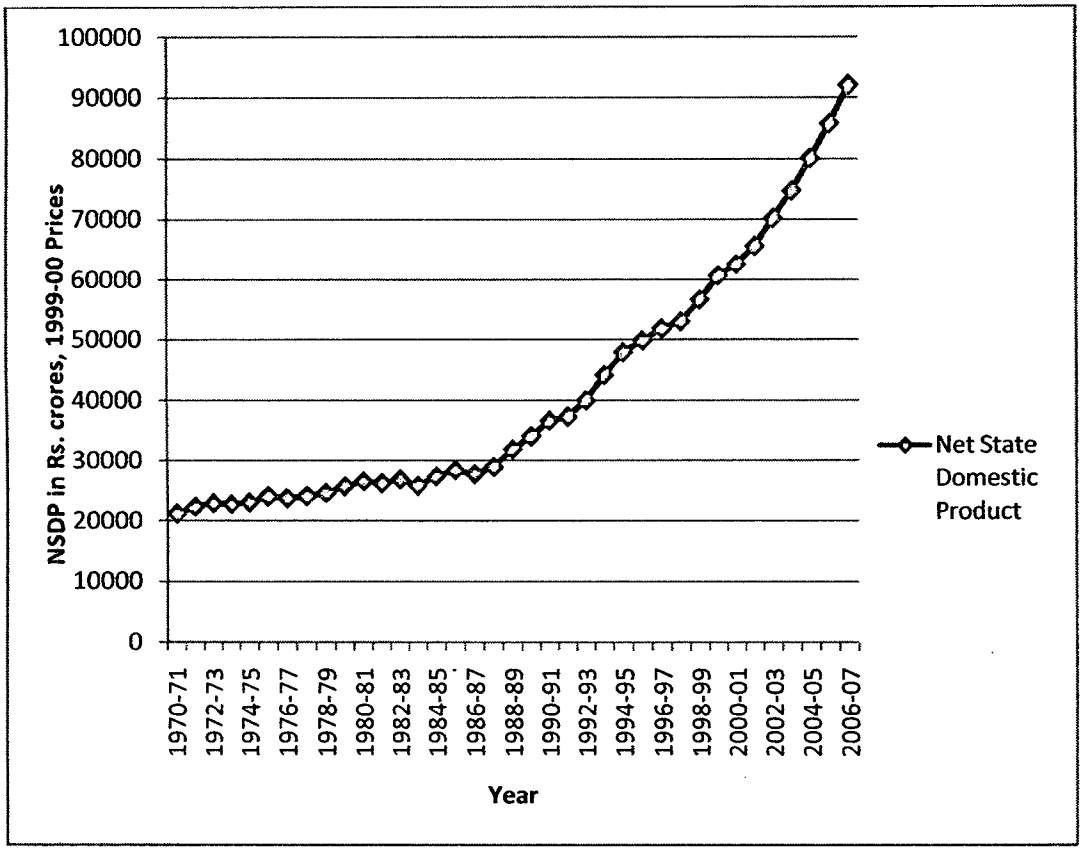
[3] Using the splicing method for linking NSDP figures over long stretches of time has its limitations, but it remains the only method available to trace long-term trends in growth rates. Different scholars have used different base years for splicing. Kannan (2005) and Subrahmanian (2005) have used 1993-94 prices – the latest available then – while Pillai and Shanta (2005a) have chosen 1980-81 prices.

2) Dividing the period in terms of decades, viz. 1970-71 to 1980-81, 1980-81 to 1990-91, 1990-91 to 2000-01 and 2000-01 to 2006-07, as a convenient and common division, which would also be helpful in comparing the findings with earlier studies.

## The Trajectory of Growth

Plotting the figures for NSDP at 1999-00 prices from 1970-71 to 2006-07, we find a break in the trend line in 1986-87 (Figure 1), with NSDP growing at a faster pace since 1987-88. In view of this, we divide the secular growth trend from 1970-71 onwards into two statistically significant phases: (a) Period I: 1970-71 to 1986-87 and (b) Period II: 1987-88 to 2006-07. While the first period saw the Kerala economy in the grip of stagnation, the phase since 1987-88 shows buoyant growth rates.

**Figure 2.1 - Trend in Net State Domestic Product of Kerala**



Kannan (2005) treats the break in the trend line as a kink, arguing that a graphical analysis of the growth trend showed a kink in 1987-88 not only for NSDP but also for the three broad sectors. Our graphical analysis[4] shows a slightly different picture - we find an upturn in growth for the secondary sector from 1987-88 onwards, but do not find any evidence of a kink in the neighbourhood of 1987-88 for the tertiary sector (which, as we would note later, is the sector that shows the highest growth rates in the high-growth period). If anything, an upturn is visible for the tertiary sector from the year 1992-93 onwards. The primary sector showed an upturn from 1987-88 onwards.[5]

Table 2.1 shows the growth rates of NSDP and per capita NSDP along with that of the three main sectors of the economy, for Kerala and India.

**Table 2.1: Growth Rate of NSDP by Sectors (1999-00 Prices), %**

| Sector | Kerala | | India | |
|---|---|---|---|---|
| | Period I | Period II | Period I | Period II |
| PRIMARY SECTOR | -0.49 | 2.68 | 2.38 | 2.95 |
| SECONDARY SECTOR | 2.86 | 6.00 | 4.01 | 5.81 |
| TERTIARY SECTOR | 3.45 | 7.21 | 5.03 | 7.42 |
| **NSDP** | **1.64** | **5.74** | **3.67** | **5.76** |
| **Per Capita NSDP** | **0.03** | **4.75** | **1.46** | **3.88** |

Period I=1970-71 to 1986-87
Period II=1987-88 to 2006-07

The period from 1970-71 to 1986-87 saw the Kerala economy stagnating, with growth rates falling significantly below the all-India figures, while in the second period it has

[4] See the Appendix for graphical analyses of the growth of the three major sectors from 1970-71 to 2006-07.

[5] The year in which the primary sector witnessed a growth turnaround has been a subject of debate among scholars. Pushpangadan and Parameswaran (2006) argue that the primary sector came out of the slow-growth phase in 1983-84. Using three-year moving averages to plot annual growth rates, Pillai and Shanta (2005b) argue on similar lines, observing a kink in the trend line for the primary sector in 1983-84. But our results show that the fluctuations in the growth rate meant that the NSDP generated in the sector in 1986-87 was lower than the 1982-83 level (which was in turn less than the 1970-71 level). On the other hand, clear jumps in output that took the sector out of stagnation was visible from 1987-88 onwards. This point shall be further elaborated in Chapter 4.

come closer to the all-India growth rates. The primary sector, which showed negative growth in the first period, overcame its stagnation and showed positive growth rates that are comparable to the all-India figures in the second period. The pace of growth of the secondary sector in the second period is, in fact slightly higher than the all-India growth rates. The tertiary sector, which was the sector that showed relatively higher growth rates in the first period, maintained its lead in the second period as well, with its growth rate only marginally lower than the all-India growth rate.

In per capita terms, the performance in the second period is even more impressive, owing to the 'demographic advantage' of having a low population growth rate that Kerala has achieved. As a result, the growth rate in per capita NSDP was 22 per cent higher than the all India growth rate.

At a disaggregated level (Table 2.2), a revival in the commodity-producing sectors is discernible in the second period, with agriculture staging a recovery from the total stagnation it experienced during the first period. It grew at 2.78% in the second period, while the growth for the first period was 0.04%. Strong growth in the electricity, gas and water supply sub-sector (14.48%), construction (6.91%) and unregistered manufacturing (5.67%) accounted for the buoyant growth of the secondary sector in the second period. In the tertiary sector, transport, storage and communication registered two-digit growth rates in the second period (12.73%). Transport by other means & storage, and communications led the way, with growth rates of 10.42% and 18.70%, respectively. Banking and insurance, a high-growth sub-sector in the first period as well, further improved its performance to 11.37% in the second period (compared to the growth rate of 8.59% in the first period). Public administration, even as it slowed down compared to the first period, still registered high growth rates.

The primary sector in Kerala registered negative growth in the seventies even as the all-India figures stayed positive. The agricultural sector in Kerala stagnated from the mid-1970s to mid-1980s. The second half of the 1980s was a revival phase, which resulted in the eighties showing positive, though, low growth. This was followed by poor growth during the first half of the 1990s (Kannan and Pushpangadan 1988, Thomas 1999). The production of food crops (mainly rice and tapioca) declined mainly due to the decrease in the area of cultivation (Santhakumar and Narayanan Nair 1999). The decline in area

continued through the 2000s. The area under food grains alone declined from 9.27 lakh hectares in 1970-71 to 2.89 lakh hectares in 2005-06 (Mohandas 2005 and Government of Kerala, *Economic Review* (2007)) Even as food grain production declined during the eighties and the nineties, production of commercial crops was reasonably good till the first half of the 1990s. But a sharp deceleration in the rate of growth of production of the two major commercial crops of Kerala - coconut and rubber - meant that the overall growth rate for the nineties ended up being low (Jeromi 2003a).

**Table 2.2**: Growth Rate of NSDP and NDP by Sectors, Disaggregated (1999-00 Prices), %

| | Kerala | | India | |
|---|---|---|---|---|
| **Industry** | Period I | Period II | Period I | Period II |
| Agriculture | 0.04 | 2.78 | 2.52 | 2.85 |
| Forestry and Logging | -7.70 | 3.69 | -1.38 | 1.35 |
| Fishing | -3.04 | 1.55 | 3.10 | 3.76 |
| Mining and Quarrying | 4.53 | 2.70 | 5.06 | 4.57 |
| PRIMARY SECTOR | -0.49 | 2.68 | 2.38 | 2.95 |
| Manufacturing | 2.60 | 4.07 | 4.32 | 5.44 |
| Registered | 3.40 | 3.02 | 5.20 | 6.10 |
| Unregistered | 1.84 | 5.67 | 3.43 | 4.37 |
| Construction | 3.98 | 6.91 | 3.10 | 6.46 |
| Electricity, Gas and Water Supply | 0.35 | 14.48 | 6.60 | 6.27 |
| SECONDARY SECTOR | 2.86 | 6.00 | 4.01 | 5.81 |
| Transport, Storage and Communication | 6.38 | 12.73 | 6.16 | 9.21 |
| Railways | 7.35 | 6.27 | 3.91 | 4.86 |
| Transport by other means and Storage | 6.16 | 10.42 | 6.82 | 7.14 |
| Communication | 7.58 | 18.70 | 5.83 | 18.24 |
| Trade, Hotels and Restaurants | 0.97 | 5.10 | 4.80 | 7.57 |
| Banking and Insurance | 8.59 | 11.37 | 7.53 | 8.86 |
| Real Estate, Ownership of Dwellings and Business Services | 0.37 | -5.16 | 5.78 | 6.60 |
| Public Administration | 8.81 | 6.11 | 5.24 | 5.72 |
| Other Services | 2.03 | 5.00 | 3.31 | 6.53 |
| TERTIARY SECTOR | 3.45 | 7.21 | 5.03 | 7.42 |
| **Net State Domestic Product** | 1.64 | 5.74 | 3.67 | 5.76 |
| **Per Capita NSDP** | 0.03 | 4.75 | 1.46 | 3.88 |

Period I=1970-71 to 1986-87
Period II=1987-88 to 2006-07

Table 2.3 gives growth rates of NSDP and per capita NSDP as well as those of the three main sectors for three decades since 1970-71 and for the years since 2000-01. Table 2.4 gives disaggregated growth rates of sub-sectors.

**Table 2.3: Sectoral Growth Rates of NSDP and NDP by Decades (1999-00 Prices), %**

| Period | Kerala | | | |
|---|---|---|---|---|
| | 1970-71 to 1980-81 | 1980-81 to 1990-91 | 1990-91 to 2000-01 | 2000-01 to 2006-07 |
| Primary | -0.05 | 2.10 | 1.89 | 3.54 |
| Secondary | 3.74 | 2.82 | 5.94 | 7.62 |
| Tertiary | 3.27 | 4.15 | 7.63 | 7.11 |
| NSDP | 1.86 | 3.08 | 5.56 | 6.54 |
| Per Capita NSDP | 0.06 | 1.70 | 4.59 | 5.47 |

| Period | India | | | |
|---|---|---|---|---|
| | 1970-71 to 1980-81 | 1980-81 to 1990-91 | 1990-91 to 2000-01 | 2000-01 to 2006-07 |
| Primary | 1.76 | 3.25 | 3.17 | 2.81 |
| Secondary | 3.95 | 5.29 | 5.71 | 8.20 |
| Tertiary | 4.43 | 6.82 | 7.48 | 8.52 |
| NSDP | 3.17 | 5.12 | 5.75 | 7.05 |
| Per Capita NSDP | 0.91 | 2.98 | 3.79 | 5.47 |

A high magnitude of volatility was a feature of agricultural growth (and consequently of the growth of the primary sector) during the eighties and the nineties. The growth rate of the primary sector for the first six years of the twenty-first century have been comparatively higher, outpacing the all-India growth rate for the first time during our period of analysis. Leading the recovery has been the agriculture sector, which grew at 3.49%, while the growth rate at the all-India level has been 2.70%.

Another notable feature of the trend in the growth of the sub-sectors in the primary sector has been the decline of fishing, which showed negative growth during all the four periods in the decadal analysis, in spite of the enormous increase in the number of fishing crafts operating in the state (Rajasenan 2005). The NSDP generated in this sector in 2006-07 was 2.74% lower than in 1970-71.

The secondary sector was the high-growth sector in the state during the 1970s. After a slowdown during the eighties, the sector picked up to grow at 5.94% during the nineties. The good showing continued through the 2000s, with the sector growing at 7.62% since 2000-01.

At the disaggregated level (Table 2.4), manufacturing growth was slow in the seventies and the eighties, with stagnation in the unregistered manufacturing sub-sector. Registered manufacturing boomed with 6.21% growth in the nineties, while unregistered manufacturing staged a recovery. The revival in manufacturing in fact began in 1987.[6] According to the All-India Census on SSI Units (2002), the number of small scale industrial units in the state grew by 397% between 1987-88 and 2000-01, while the growth rate at the all-India level was 145% (Muraleedharan 2005). Kerala accounted for 10.5% of the total number of SSI units in the country, ranking third behind Uttar Pradesh and Gujarat. Registered manufacturing failed to grow since 2000-01, whereas unregistered manufacturing improved its performance considerably in the 2000s, growing at 7.65%. It has to be mentioned that manufacturing has been showing considerable fluctuation over the years. Manufacturing growth in the 2000s was weighed down by its shrinking by 6.64% in 2001-02 over its level in 2000-01. Growth figures for the subsequent years suggest a better showing.

The electricity, gas and water supply sub-sector has been subject to wide oscillations in growth over the decades. Its growth in the seventies was a strong 11.04%, but it came down to 2.35% in the eighties. The decade of the nineties was boom-time, with the sector clocking double-digit growth rates (16.36%), only to show negative growth rates since

[6] The *Economic Review* (1990) notes that the expansion in the number of small scale industrial units during the triennium ended 1989-90 was substantial. Out of the total number of 63698 small scale units registered till the end of the seventh plan, 23356 units constituting 36.7% of the total number of units were registered during 1987-90, an all time record.

2000-01 (-4.85%). Construction was growing at a moderately high rate during the seventies, but it witnessed a slump during the next decade, with a meagre 1.96% growth rate. Over the nineties and the 2000s, however, construction became a high-growth sector, with growth rates reaching double digits during the latter period. The upswing was marked from 1993-94 onwards (Pushpangadan and Parameswaran 2006).

**Table 2.4: Sectoral Growth Rates of NSDP and NDP by Decades, Disaggregated (1999-00 Prices), %**

| | Kerala | | | |
|---|---|---|---|---|
| **Industry** | **1971-81** | **1981-91** | **1991-2001** | **2001-07** |
| Agriculture | 0.08 | 2.81 | 2.82 | 3.49 |
| Forestry and Logging | -1.01 | -13.94 | 3.26 | 7.96 |
| Fishing | -2.96 | -0.59 | -0.88 | -0.83 |
| Mining and Quarrying | 4.93 | 10.01 | 1.51 | 3.16 |
| PRIMARY SECTOR | -0.05 | 2.10 | 1.89 | 3.54 |
| Manufacturing | 2.82 | 3.32 | 4.92 | 3.32 |
| Registered | 4.21 | 4.70 | 6.21 | -0.67 |
| Unregistered | 1.47 | 1.02 | 3.52 | 7.65 |
| Construction | 4.17 | 1.96 | 6.36 | 11.67 |
| Electricity, Gas and Water Supply | 11.04 | 2.35 | 16.36 | -4.85 |
| SECONDARY SECTOR | 3.74 | 2.82 | 5.94 | 7.62 |
| Transport, Storage and Communication | 5.38 | 7.90 | 13.23 | 13.19 |
| Railways | 3.95 | 5.75 | 3.90 | 12.76 |
| Transport by other means and Storage | 5.31 | 8.49 | 11.77 | 8.75 |
| Communication | 6.54 | 5.72 | 17.72 | 22.29 |
| Trade, Hotels and Restaurants | 0.68 | 2.33 | 5.41 | 4.98 |
| Banking and Insurance | 8.45 | 12.87 | 12.34 | 9.79 |
| Real Estate, Ownership of Dwellings and Business Services | 2.87 | -17.18 | -3.53 | 6.40 |
| Public Administration | 7.40 | 7.98 | 6.12 | 7.70 |
| Other Services | 2.63 | 1.84 | 5.97 | 4.06 |
| TERTIARY SECTOR | 3.27 | 4.15 | 7.63 | 7.11 |
| **Net State Domestic Product** | **1.86** | **3.08** | **5.56** | **6.54** |
| **Per Capita NSDP** | **0.06** | **1.70** | **4.59** | **5.47** |

| | India | | | |
|---|---|---|---|---|
| **Industry** | **1971-81** | **1981-91** | **1991-2001** | **2001-07** |
| Agriculture | 1.89 | 3.17 | 3.15 | 2.70 |
| Forestry and Logging | -1.09 | -0.15 | 1.10 | 1.10 |
| Fishing | 2.51 | 5.75 | 4.40 | 1.15 |
| Mining and Quarrying | 4.03 | 6.54 | 3.92 | 5.58 |
| PRIMARY SECTOR | 1.76 | 3.25 | 3.17 | 2.81 |
| Manufacturing | 4.21 | 5.57 | 5.89 | 6.88 |
| Registered | 4.07 | 7.99 | 6.22 | 7.66 |
| Unregistered | 4.37 | 2.73 | 5.35 | 5.45 |
| Construction | 3.20 | 4.24 | 4.96 | 11.28 |
| Electricity, Gas and Water Supply | 5.86 | 8.45 | 7.46 | 5.05 |
| SECONDARY SECTOR | 3.95 | 5.29 | 5.71 | 8.20 |
| Transport, Storage and Communication | 6.33 | 5.96 | 8.06 | 14.50 |
| Railways | 3.59 | 5.27 | 3.54 | 7.95 |
| Transport by other means and Storage | 7.09 | 6.40 | 7.30 | 9.14 |
| Communication | 5.80 | 4.64 | 16.62 | 24.93 |
| Trade, Hotels and Restaurants | 4.59 | 5.77 | 8.05 | 8.28 |
| Banking and Insurance | 7.11 | 10.51 | 9.25 | 9.56 |
| Real Estate, Ownership of Dwellings and Business Services | 3.32 | 10.06 | 5.98 | 6.88 |
| Public Administration | 4.73 | 6.89 | 6.79 | 4.27 |
| Other Services | 2.68 | 5.34 | 6.68 | 6.34 |
| TERTIARY SECTOR | 4.43 | 6.82 | 7.48 | 8.52 |
| **Net State Domestic Product** | **3.17** | **5.12** | **5.75** | **7.05** |
| **Per Capita NSDP** | **0.91** | **2.98** | **3.79** | **5.47** |

The growth of the transport, storage and communication sub-sector was moderately high at 5.38% during the seventies. The rate of growth of the sector improved to 7.90% in the eighties and boomed in the nineties and since 2000-01, with growth rates of 13.23% and 13.19% respectively. The growth was led by strong growth recorded by transport other means & storage and communication sectors during the nineties and the 2000s. Among the sub-sectors outside the primary sector, trade, hotels and restaurants (with a 0.68% growth) was the one that was affected the most by the stagnation of the seventies.

Growth continued to be sluggish in the eighties, but with the general buoyancy experienced in the economy during the nineties and 2000s, the sector showed moderately high growth rates: 5.41% during the nineties and 4.98% since 2000-01. Banking and insurance has been showing strong growth all through our period of analysis, with high growth rates during every decade. The same goes for public administration, which, even with wide year-on-year fluctuations, has grown at a compounded annual rate of 7.80 over the period from 1970-71 to 2006-07. A remarkable feature of the trends in the growth of the tertiary sector has been the massive decline of the real estate, ownership of dwellings and business services sub-sector. It declined by a massive 17.18% during the eighties and growth continued to be negative during the nineties. The result was that the sector, which had peaked at Rs. 88,806 crores in 1983, shrank to 2,579 crores by the year 1992. The big decline was marked from the year 1985-86; the year-on-year average growth rates starting that year were -23.89%, -15.23%, -17.21%, -45.48%, -19.95%, 1.92% and in 1991-92, a whopping -87.02%. The sector has recorded positive growth rates thereafter, but as of 2006-07, the NSDP generated in it was still not back to the 1984-85 levels.

For sectoral analysis of the economy, following Reserve Bank of India practices, many scholars have adopted the modern practice of classifying the sector typology into Agriculture, Industry and Services by re-allocating the constituents of the conventional typology of primary, secondary and tertiary sectors. (Subrahmanian 2005). In this typology, the mining and quarrying sub-sector (which is included in the conventional primary sector) is included in Industry, and construction (included in the secondary sector) is included in Services.

This typology has an added advantage – the Services sector corresponds more closely to the Non-tradables, while the Agriculture and Industrial sectors taken together would correspond closely to the Tradables. This would be useful as we would see later that some arguments that have been advanced to explain the growth performance of the state since the seventies distinguish between the effects remittances have had on sectors producing tradables and non-tradables. Table 2.5 gives the growth rates of the three sectors in terms of the modern typology by decades.

**Table 2.5: Sectoral Growth Rates of NSDP by Decades (1999-00 Prices), Modern (RBI) Typology, %**

| Period | Kerala | | | |
|---|---|---|---|---|
| | Agriculture | Industry | Services | NSDP |
| 1970-71 to 1980-81 | -0.07 | 3.19 | 3.44 | 1.86 |
| 1980-81 to 1990-91 | 2.05 | 3.86 | 3.75 | 3.08 |
| 1990-91 to 2000-01 | 1.89 | 5.41 | 7.43 | 5.56 |
| 2000-01 to 2006-07 | 3.54 | 2.36 | 7.85 | 6.54 |

Sectoral analysis using the modern typology shows that agriculture has been performing relatively better since 2000-01. It further shows that the industrial growth rate has slowed down during the 2000s, as registered manufacturing and electricity, gas & water supply showing negative growth rates. The growth rate has been even lower than the seventies and the eighties. The construction sector, which has enjoyed a boom during this period, is part of the Services, adding to its growth. Services have been enjoying the highest growth rates during the nineties and since 2000-01.

Importantly, the results also show that the seventies and eighties witnessed slow growth across all sectors.[7] This is at variance with the view that sectors producing non-tradables were not affected by the slowdown in economic growth.[8] It needs to be mentioned that the construction sector, which is part of the non-tradables sector and which receives

[7] Pushpangadan and Parameswaran (2006) point out that all the three (conventional) sectors of the economy performed well during the high growth phase of the economy during the 1960s, while all the three sectors recorded a growth slowdown during the stagnation phase of the economy, making the lower growth phase a combined outcome of all the three sectors.

[8] See Harilal and Joseph 2003, for instance.

particular mention in the literature, was not immune to the slowdown either - it virtually stagnated during the eighties.[9]

To sum up, the growth of the Kerala economy since the late 1980s has been on a higher trajectory compared to the previous years in the period since 1970-71.

The services (both in terms of conventional and "modern" typologies) have recorded the highest growth among all sectors, with an upturn in the growth of the sector especially visible from 1992-93 onwards. The performance of the commodity-producing sectors, though better than the stagnation during the seventies and during the eighties till 1986-87, has been more modest and beset with wide fluctuations. The primary sector (and agriculture, its major constituent), which saw an upturn from 1988-89 onwards, saw the growth rates slow down yet again during the second half of the nineties; the last slowdown was less severe than the one compared to the ones before, though. The years since 2004-05 have seen stronger growth. The trends in the manufacturing sector, the most important component of the industrial sector, are similar, with an upturn marked from the late 1980s, and a slowdown since the second half of the 1990s and persisting till 2002-03, when growth rates saw a moderate revival. The trends in the industrial sector corresponded more or less with the trends in manufacturing, barring from 2004-05 onwards, when a sharp dip in the growth of the electricity, gas and water supply sub-sector pulled the overall growth rate of the sector downwards.

## (ii) Structural Transformation

A recurring theme in the recent literature on Kerala's growth performance has been the question of structural transformation - whether the structural changes in terms of income and employment in the economy of the state have been on the lines suggested by Simon Kuznets, Hollis Chenery, Moshe Syrquin, Colin Clark etc.[10] In their studies of the nature and changes of the economic structures of countries undertaken by these economists from the 1930s onwards, they had argued, on the basis of empirical data for

[9] Kannan (2005) argued that there was a boom in construction during the period 1970-71 to 1986-87; but his own results show only a 2.23% growth for the sector during the period - something that can scarcely be termed a boom.

[10] See Chakraborty 2005, Jeromi 2003a and Subrahmanian 2005, for instance.

a number of (mainly developed western) countries over fairly long periods of time, that the major change associated with economic growth was the movement away from agricultural to non-agricultural activities towards the process of industrialisation. The hypothesis advanced was that with economic development, the share of the primary sector in national income and in total employment would decline and that of the secondary sector would increase followed by the increase in the share of the tertiary sector (Kuznets 1966; Clark 1957; Chenery & Syrquin 1986).

Following this hypothesis, the view that this trajectory in the shift in economic structure in terms of output and employment would be the one that would be followed by developing countries as well is widely held (Chakraborty 2005).

To gain more insights into the structural changes that have accompanied the growth of the Kerala economy in recent years, we present, in Table 2.6, the shares of the different sectors of the economy in income (net domestic product) and employment for both Kerala and India since 1983.

**Table 2.6 - Sectoral Shares in Income and Employment (%)**

| | | Primary Sector | | Secondary Sector | | Tertiary Sector | |
|---|---|---|---|---|---|---|---|
| | | Kerala | India | Kerala | India | Kerala | India |
| 1983-84 | Income | 35 | 41 | 25 | 22 | 40 | 37 |
| | Employment | 50 | 69 | 22 | 13 | 28 | 18 |
| 1987-88 | Income | 35 | 35 | 22 | 24 | 43 | 41 |
| | Employment | 52 | 66 | 20 | 15 | 28 | 19 |
| 1993-94 | Income | 32 | 33 | 20 | 24 | 48 | 43 |
| | Employment | 49 | 65 | 21 | 14 | 30 | 21 |
| 1999-00 | Income | 21 | 28 | 21 | 21 | 58 | 51 |
| | Employment | 32 | 60 | 28 | 16 | 40 | 24 |
| 2004-05 | Income | 18 | 23 | 21 | 22 | 61 | 55 |
| | Employment | 33 | 57 | 27 | 18 | 40 | 25 |

Source: Income: For Kerala - EPW Research Foundation (2009); For India - Government of India (2007), *NAS Back Series: 1950-51 to 1999-2000* and Government of Kerala, *Economic Review* (various issues).
Employment: For 1983-84, 1987-88, 1993-94 and 1999-00 - Kannan 2005; For 2004-05 - *Report No. 515(61/10/1), Employment and Unemployment Situation in India, 2004-05, NSS 61st Round (Quinquennial Survey).*

The figures in Table 2.6 show that the share of the primary sector in state income (NSDP) has declined significantly over the years - from 35% in 1983-84 to 18% in 2004-05. The shift is observed mainly during the period between 1993-94, when the share of the sector was 32%, and 1999-00, by which it declined to 21%. A similar shift occurred in the case of the share of the primary sector in employment as well. The sector accounted for as much as 50% of the total employment in the state in 1983, and the share was 49% in 1993-94. By 1999-00, the share of the sector in employment declined to 32%.

The figures at the all-India level show a steady decline in the share of the primary sector in NDP - from 41%in 1983-84 to 21% in 2005. The decline in the share of the sector in employment has been slower that in the case of Kerala - from 69% in 1983 to 57% in 2004-05.

The share of the secondary sector in NSDP has declined, from 25% in 1983-84 to 21% in 2004-05. The share of the sector has tended to hover between 20% and 22% since 1987-88. In terms of employment, on the other hand, the share of the secondary sector has recorded a moderate increase. The sector's share in employment, which was 22% in 1983 and 21% in 1993-94, increased to 28% by 1999-00. The figures have not changed much subsequently - the share of the sector in 2004-05 was 27%.

The trend at the national level showed little change in the share of the secondary sector in NDP over the period between 1983-84 and 2004-05 - the figures were 22% for both years. The share of the sector in employment showed a steady rise from 13% in 1983 to 18% in 2004-05.

The decline of the share of the primary and secondary sectors in income was accounted by the increase in the share of the tertiary sector. The share of the sector in Kerala's NSDP showed a steady rise over the years, from 40% in 1983-84 to 61% in 2004-05. In the case of employment, the share of the sector increased steeply from 30% in 1993-94 to 40% in 1999-00. The share remained unchanged at 40% in 2004-05.

Likewise, at the all-India level, the share of the tertiary sector in NDP showed steady increase over the period, from 37% in 1983-84 to 55% in 2004-05. The rise in the share of the sector in employment was much slower - it rose from 18% in 1983 to 25% in 2004-05.

At the disaggregated level, within agriculture, substantial changes in the cropping pattern took place during the 1980s and 1990s, as the area under commercial crops expanding (in the case of rubber the area almost doubled), and the area under food grains falling, with the composition of output reflecting those changes (Jeromi 2003a). Manufacturing constituted the biggest sub-sector in the secondary sector through the seventies, eighties and the nineties. The 2000s, however, have seen an important structural change - the construction sector has claimed the largest share in the secondary sector, pushing manufacturing to the second place. The structure of the manufacturing sector itself saw little diversification since the eighties. Three industries (viz, food products, chemicals and rubber products) that together accounted for more than one-half of the total value added in the sector in the period from 1980-81 to 1990-91 continued to be the dominant ones in the output structure in the 1991-92 to 2001-02 period as well, accounting for more than 63 per cent of the total output (Subrahmanian 2006). Within the tertiary sector, the trade, hotels and restaurants sub-sector maintained its position as the largest sub-sector all through the period of our analysis. Transport, storage and communication came next in terms of its share in the tertiary sector. Real estate, ownership of dwellings and business services recovered from the steep fall it experienced in output during the 1980s to increase its share during the nineties and 2000s. As for employment, the contraction of the area under paddy, which is a highly labour-intensive crop, and the conversion of cultivated land to perennial crops like coconut and rubber which are much less labour-absorbing have led to an acceleration in the decline in agricultural employment, affecting women more adversely than men (Oommen 1993). Agriculture in fact showed negative growth in employment since 1987-88, even as there was rapid growth in employment in the construction sector followed by transport and other services (Kannan 2005).

**Table 2.7 - Shares (%) in NSDP by Disaggregated Sectors**

| Industry | Average Share | | | |
|---|---|---|---|---|
| | 1971-81 | 1981-91 | 1991-2001 | 2001-07 |
| Agriculture | 43.00 | 33.25 | 24.94 | 14.95 |
| Forestry and Logging | 0.78 | 1.35 | 2.70 | 1.90 |
| Fishing | 1.84 | 1.62 | 2.42 | 1.78 |
| Mining and Quarrying | 0.08 | 0.16 | 0.22 | 0.13 |
| **PRIMARY SECTOR** | 45.71 | 36.38 | 30.38 | 18.76 |
| Manufacturing | 13.37 | 14.88 | 11.77 | 7.71 |
| Registered | 6.54 | 8.45 | 6.07 | 4.09 |
| Unregistered | 6.82 | 6.43 | 5.70 | 3.62 |
| Construction | 3.30 | 8.10 | 7.30 | 11.79 |
| Electricity, Gas and Water Supply | 1.47 | 0.77 | 1.01 | 1.19 |
| **SECONDARY SECTOR** | 18.13 | 23.75 | 20.11 | 20.69 |
| Transport, Storage and Communication | 5.51 | 4.80 | 6.25 | 10.23 |
| Railways | 0.52 | 0.18 | 0.25 | 0.43 |
| Transport by other means and Storage | 4.16 | 3.81 | 4.46 | 6.36 |
| Communication | 0.83 | 0.81 | 1.58 | 3.44 |
| Trade, Hotels and Restaurants | 12.33 | 14.92 | 19.67 | 22.58 |
| Banking and Insurance | 2.02 | 5.08 | 5.70 | 6.19 |
| Real Estate, Ownership of Dwellings and Business Services | 1.95 | 2.13 | 8.70 | 8.04 |
| Public Administration | 3.95 | 5.18 | 4.76 | 4.27 |
| Other Services | 10.39 | 7.77 | 8.20 | 9.23 |
| **TERTIARY SECTOR** | 36.16 | 39.87 | 49.55 | 60.55 |
| **State Domestic Product** | 100.00 | 100.00 | 100.00 | 100.00 |

(N.B. The average share of an industry over a sub-period refers to the arithmetic mean of the shares of the industry for the individual years in the sub-period.)

For a clearer understanding of the growth patterns that led to the structural changes in the regional economy as described above, we undertake a growth accounting exercise to ascertain the contribution of different sectors to the growth in NSDP.

Following Chenery (1986)[11], we estimate each sector's contribution to NSDP growth using the following equation whereby the growth of the economy is given by a weighted average of the sectoral growth rates:

$$Gv = \sum \bar{\rho}_i \; Gv_i$$

where $Gv$ and $Gv_i$ are the growth rates of total output $(V)$ and sector output $(V_i)$ respectively, and the weights are the average shares[12] of each sector, $\bar{\rho}_i = {}^{V_i}/_{V}$.

As Table 2.8 shows, the primary sector's contribution to the NSDP growth of Kerala was negative during the seventies on account of the stagnation experienced by the sector. While the eighties saw considerable improvement, the contribution of the sector during the nineties and the 2000s, when the economy witnessed faster overall growth, was around the ten per cent mark. The contribution of the secondary sector in NSDP growth was higher in the seventies only due to the negative growth recorded by the primary sector. During the eighties and the nineties, the contribution of the sector was around 21 to 22%, while the years since 2000-01 saw a small increase in the contribution of the sector. The contribution of the tertiary sector to NSDP growth was the highest during all the sub-periods, though the contribution of the sector was notably lower during the eighties. In terms of the RBI typology, the contribution of services was the highest during all sub-periods by a wide margin, except during the eighties. As Table 2.8 shows, the contribution of the industrial sector goes down substantially once we exclude the construction sub-sector from it. The contribution of industry to NSDP growth was only 12.68% during the nineties, and a meagre 3.26% during the 2000s.

[11] Chenery, Hollis., 'Growth and Transformation' in Chenery et al. (1986).

[12] These are the same as the average shares given in Table 2.7

**Table 2.8 - Sectors' Contribution to NSDP Growth (%)**

| | 1971-81 | 1981-91 | 1991-2001 | 2001-07 |
|---|---|---|---|---|
| Primary | -1.26 | 24.76 | 10.31 | 10.15 |
| Secondary | 36.54 | 21.74 | 21.48 | 24.12 |
| Tertiary | 63.72 | 53.75 | 68.06 | 65.88 |
| Services | 73.22 | 58.36 | 75.99 | 86.89 |

At the disaggregated level (Table 2.9), the contribution of manufacturing to overall growth was low during the nineties and since 2000-01 - 10.42% and 3.91% respectively. The contribution of construction increased during the nineties compared to the previous decades, and became the highest among all sub-sectors in the 2000s. Among the sub-sectors in the tertiary sector, transport, storage and communication remained a big contributor to growth during all sub-periods. Communication alone substantially increased its contribution from 2.93% and 1.51% respectively during the seventies and the eighties to 5.04% during the nineties and further to 11.74% since 2000-01. Trade, hotels and restaurants was the largest contributor to NSDP growth during the nineties and the third largest contributor in the 2000s. Notably, the contribution of public administration has shrunk from its high levels in the seventies and eighties to around 5% during the nineties and the 2000s.

The results clearly show that the trajectory of structural change of the Kerala economy is at variance with the path suggested by Kuznets, Clark, Chenery and Syrquin. Before we conclude this section, we pause to answer the question, how sound it is at all to *expect* that the path of growth of a developing economy, let alone that of a regional economy within a developing economy operating under capitalism, would follow the trends observed in the context of the developed Western countries. Apart from actual differences noted in the experience of developing countries which were at variance with the hypothesis put forward by Kuznets and others (Eapen 1994), the European experience of industrialisation itself gives us enough indications that their trajectory of development might not be replicated in today's developing world.

**Table 2.9 - Contribution to NSDP Growth (%) by Disaggregated Sectors**

| Industry | Share in Growth, % | | | |
|---|---|---|---|---|
| | 1971-81 | 1981-91 | 1991-2001 | 2001-07 |
| Agriculture | 1.78 | 30.38 | 12.65 | 7.98 |
| Forestry and Logging | -0.43 | -6.11 | 1.58 | 2.31 |
| Fishing | -2.94 | -0.31 | -0.38 | -0.23 |
| Mining and Quarrying | 0.22 | 0.52 | 0.06 | 0.06 |
| **PRIMARY SECTOR** | -1.26 | 24.76 | 10.31 | 10.15 |
| Manufacturing | 20.33 | 16.04 | 10.42 | 3.91 |
| Registered | 14.86 | 12.90 | 6.79 | -0.42 |
| Unregistered | 5.40 | 2.13 | 3.61 | 4.24 |
| Construction | 7.42 | 5.14 | 8.36 | 21.05 |
| Electricity, Gas and Water Supply | 8.72 | 0.59 | 2.97 | -0.89 |
| **SECONDARY SECTOR** | 36.54 | 21.74 | 21.48 | 24.12 |
| Transport, Storage and Communication | 16.00 | 12.31 | 14.88 | 20.65 |
| Railways | 1.10 | 0.33 | 0.17 | 0.84 |
| Transport by other means and Storage | 11.92 | 10.49 | 9.45 | 8.51 |
| Communication | 2.93 | 1.51 | 5.04 | 11.74 |
| Trade, Hotels and Restaurants | 4.52 | 11.29 | 19.15 | 17.19 |
| Banking and Insurance | 9.22 | 21.24 | 12.65 | 9.26 |
| Real Estate, Ownership of Dwellings and Business Services | 3.02 | -11.88 | -5.53 | 7.88 |
| Public Administration | 15.75 | 13.41 | 5.24 | 5.04 |
| Other Services | 14.74 | 4.65 | 8.81 | 5.74 |
| **TERTIARY SECTOR** | 63.72 | 53.75 | 68.06 | 65.88 |
| **State Domestic Product** | 100.00 | 100.00 | 100.00 | 100.00 |

The earlier years of the nineteenth century witnessed acute poverty even in Britain, the country of the industrial revolution. Nearly a century later, on the eve of World War I, the capitalist countries were characterized by substantial sectoral diversification of output and employment, greatly diminished poverty and unemployment, and notable increases in real wages.[13] This dramatic transformation in the fortunes of capitalism was

[13] The discussion in this paragraph is based on Patnaik (2000).

directly related to two circumstances: first, the migration of nearly fifty million persons of European origin to the temperate regions of white settlement, where they drove off the 'natives' from their land and enjoyed much higher levels of per capita income as a consequence than they would otherwise have done back home; second, the availability of tropical colonies like India which could be used as markets for European products 'on tap', and from which surplus could be extracted through the mechanism of the 'drain'. Thus, colonial exploitation, while precipitating de-industrialisation in the colonies, contributed to the boom in the metropolitan capitalist countries. The prolonged boom of what Eric Hobsbawm calls the 'long nineteenth century' thus rested upon the edifice of colonialism, which is not available today to countries like India. This constitutes a *prima facie* reason for expecting the trajectory of development in the case of the developing countries to be different from that in Europe.

# Chapter 3 - Explanations for the Revival in Growth: A Critical Survey of the Debate So Far

The recognition of a revival in Kerala's economic growth came with the study by Ahluwalia (2000). Studies by Harilal and Joseph (2000)[1] and Subrahmanian & Azeez (2000) also took note of the spurt in the growth rates since the late 1980s. A number of articles dealing with the subject were published in subsequent years. The emphasis of most of the studies was on tracing the growth trends of the economy, identifying the exact point of time when the revival in growth began, ascertaining the sectors that are leading the revival and so on. Attempts to provide in-depth explanations for the revival in growth were fewer.

In this chapter, we attempt a critical survey of the hypotheses put forward in the literature to explain the improved growth performance of the Kerala economy since the late 1980s. For most of the studies, the role of remittances is central to the explanations for the revival in Kerala's growth. The most widely held view is that growth in the "turnaround" phase is driven by remittance-induced consumption. The proponents of this view differ with each other on the relative importance they give to economic reforms. All of them, however, hold that the achievements of the state on the human development front had enabled the populace to take advantage of opportunities for emigration.

Some scholars subscribe to a variant of this view, namely that Kerala has been witnessing a virtuous cycle whereby human development and economic growth are reinforcing each other. They argue that remittance-led economic growth has prevented setbacks to the state on the human development front.

An explanation belonging to an altogether different genre was proposed by K.N. Harilal and K.J. Joseph, who used a Dutch disease model to explain the stagnation experienced during the 1970s and 1980s and the subsequent revival.

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[1] A modified version of the paper was published later viz., Harilal and Joseph (2003).

These are the three major hypotheses that engage our attention in the three sections into which this chapter is divided. In the first section, we lay down the analytical framework for the analysis of the remittance-led growth argument, following an analysis of the impact of remittances on prices, investment, consumption and growth. A district-wise analysis of the link between remittances and economic growth is also attempted. The section closes with an examination of the validity of the claim that the onset of economic reforms was the proximate reason for the growth turnaround. In the second section, we analyse the claim that continued improvements in human development in the state during the high-growth period was due to the increased purchase of education and healthcare from the market that the people were resorting to as remittance incomes rose. In the final section, we examine the Dutch Disease argument that has been advanced to explain the revival in Kerala's growth since the late 1980s.

## (i) The Remittance-led Growth Argument

That the revival in Kerala's economic growth has been driven by remittances from abroad which resulted in increasing levels of consumption has been the most widely held view among scholars who have analysed the recent growth performance of the state. While all of them concur on the central proposition viz. that the revival in the economic growth of the state since the late 1980s has been driven by remittance-induced consumption, they differ in the relative importance they place on the effect of remittances and economic reforms in contributing to growth.

The first to advance the remittance-led growth argument was Pushpangadan (2003), who argued that the revival and acceleration of growth of the regional economy in the nineties are mainly attributable to the growth and the structural change in the consumer expenditure, which was made possible to a considerable extent by the combined effect of migration in the eighties to the Gulf countries and the reform process that started in the late eighties. According to him, the growth in trade and in transport is attributable to the

shift in demand in favour of consumer durables arising from the three-fold increase in income (owing to remittances[2]) and the inability of the domestic sector to supply them.

According to Kannan (2005), the underlying factor in generating the high growth regime was the income received from abroad and its persistence in the form of flow of remittances to the Kerala economy. The discontinuation of fixed-exchange rate system in favour of a market-determined one, contributed to the strengthening of the role of remittances as it meant a higher rate of growth in remittance income as a result of the depreciation of the rupee. Given a steady flow of income to the households, part of it was translated into effective demand. Commodities (traded items) in which Kerala did not have a comparative advantage (due to higher labour costs without a commensurate increase in labour productivity) were procured from outside the state, whereas those goods and services that are of a non-tradable nature experienced an increase in their supply. These were mainly in construction, trade and commerce, banking and insurance, travel and tourism, education, and health care. In short, increases in effective demand in a regional economy like Kerala led to an increase in investment in non-tradable goods and services while it also expanded the market for traded goods and services emanating from outside the region.

Pushpangadan and Parameswaran (2006) noted that the acceleration of growth toward the end of the 1980s is not only confined to the service sectors but also to the primary sector and the secondary sector (registered manufacturing, construction, electricity, gas and water supply). But since registered manufacturing (the only commodity-producing sector that sustained its growth rate in the 1990s) accounts for only a small share in the incremental growth in NSDP since 1988-89, the authors concluded that the growth in 1990s was driven by the service sector, boosted by the remittance-induced consumption demand.

Subrahmanian (2005) argued that the inflow of migrant's remittances at an increasing scale raised the average per capita income and hence, enhanced the purchasing power of

[2] The author has used estimates of remittance income by Kannan and Hari (2002). The estimates by the latter for remittance income and modified state income (which comprises net state domestic product and remittance income) have been used by many scholars who have studied the recent growth performance of Kerala.

the people during the nineties, which led to a consumption boom for goods and services. As consumer services are more non-tradable in character, the increased purchasing power must have stimulated the domestic production of these services and raised the growth of the tertiary sector in terms of income and employment within the state. But the increasing consumer demand for commodities has been met by importation from outside the state.

Analyses by Pushpangadan (2003), Kannan (2005) and Pushpangadan and Parameswaran (2006) were the ones which placed the most importance on economic reforms for having contributed to economic growth.

Pushpangadan (2003) argued that the second round of economic reforms initiated in 1991 especially in the case of foreign exchange has almost doubled the ratio of foreign remittances to state domestic product in the nineties compared to the eighties, which triggered the transition to a higher growth trajectory. According to Kannan (2005), the proximate reason for the turnaround in Kerala's economic growth was the economic reforms initiated during the mid-1980s. According to him, the onset of economic reforms led to a release of the pent-up demand for a number of consumer goods and services that were not previously available. The acceleration and intensification of these reforms from the beginning of the 1990s contributed further to removing the remaining supply constraints, which provided further impetus to the growth process. In addition to this, the removal of a number of minor and major constraints to investment, import of technology and raw materials, along with the introduction of a market-determined exchange rate, provided a far more favourable climate for investment. He identifies the role of remittances as having helped in removing the effective demand constraint in a developing economy and the role of reforms as removing the supply constraints. To Pushpangadan and Parameswaran (2006), the role of the devaluation of the rupee, which led to a higher rate of growth in remittance income in rupee terms, was particularly important in contributing to the growth of sectors such as Banking & Insurance and Communication.

(Some scholars, while concurring with the remittance-led growth argument, argue that Kerala has been witnessing a virtuous cycle whereby human development and

economic growth are reinforcing each other, and that the continuing improvements in social development during the high-growth period have been because increased incomes have allowed people to access the services provided by private providers of education and health. This argument is dealt with in detail in Section (ii)).

**(a) Analytical Framework**

Following Nayyar (1994), we lay down the basic framework for our analysis in this section as follows:

In a situation where the departure of migrants does not reduce domestic output, remittance inflows should increase national income. Alternatively, as long as the value of remittances exceeds income foregone as a consequence of migration, which is a plausible assumption, the migration of workers across national boundaries should lead to some increase in national income. In order to analyse the impact of such an increase in national income on macroeconomic aggregates, let us begin with the simple national income accounting identity: Y=C+I+G+X-M.

An increase in aggregate consumption expenditure, C+G as a result of the exogenous stimulus provided by an increase in remittance income[3] can have the following consequences. In a demand-constrained situation, it may lead to an increase in output. In a supply-constrained situation, it may stimulate a price rise, or it may spill over into imports to meet the increased demand which cannot be met through domestic production; the distribution of the consumption expenditure as between non-traded goods and traded goods would determine the relative importance of inflation and imports as a consequence.

The difference between the increase in income and the increase in consumption attributable to remittances would be saved. The rate of saving may rise or fall depending on the propensities of domestic income and foreign income. The utilisation of savings would influence not only the level but also the mix of investment. The consequent increase in investment may lead to a further increase in output and income through the

[3] Note that remittances do not figure in the national income identity, since they are not part of either the national domestic product or factor income from abroad.

multiplier effect. However, in a situation where output is supply constrained, the multiplier would work in terms of money incomes rather than real incomes, thereby leading to inflation or imports or some combination of both.

The national income accounting identity can be re-written as I - S = M - X, given that Y - (C + G) = S. Therefore, the increase in income attributable to remittances may enable the economy to realize an excess of investment over savings, through a corresponding excess of imports over exports, with a smaller drawal on external resources than would otherwise be the case. In principle, therefore, the remittance flows arising from international labour migration can alleviate either the savings constraint or the foreign exchange constraint, thus enabling the economy to attain a higher rate of growth, which is somewhat akin to the role of foreign aid in two-gap models.

Remittances represent an inflow of foreign resources for which the economy does not have to part with any domestic resources except for the labour which has already migrated. Remittance inflows are, therefore, somewhat akin to a stream of export earnings which arise from a once and for all export of labour. In sharp contrast, capital inflows, mostly in the form of repatriable deposits, are like any external borrowing which involves a subsequent outflow in repayment of the principal and payment of the interest, for which the economy has to transform domestic resources into foreign resources. This is somewhat akin to a stream of the debt-servicing payments which arise from an import of capital (such as those which arise from commercial borrowing in international capital markets), though the terms may differ in terms of maturity profiles or interest rates or both.

The impact of labour outflows on output may not be negligible and the impact on employment may not be favourable, if labour markets are segmented either due to geographical factors and regional specificities or due to labour-force attributes such as profession, skill and unionisation. The skill composition of the migrants is important in this context. The migration of unskilled workers should have little or no impact on output and should reduce unemployment. However, the migration of skilled workers or high-skill professionals is likely to affect both output and employment if the migrants cannot be replaced without training, which absorbs not only resources but also time.

### (b) Remittances and Prices

Following the analytical framework given in the previous section, an important question arises. Has the heavy inflow of remittance inflows into Kerala resulted in a rise in prices? In other words, has the increase in aggregate consumption expenditure that resulted from remittance inflows worked itself out by raising the level of money incomes rather than real incomes? In fact a basic premise of the Dutch disease argument (elaborated in Section (iii)) is that remittance inflows had resulted in a situation whereby the rate of inflation in Kerala was higher than that of the rate of inflation at the all-India level.

Early evidence on this was provided by Gulati and Mody (1985), who pointed out that the consumer price movements in the districts with higher concentration of migrants during the period 1979-1982 have not been particularly out of line with price movements in other districts. Evidence for subsequent years (since 1982) confirms this (Table 3.1).

Table 3.1 - Growth rates of Consumer Price Index (Cost of Living Index) Numbers for Agricultural Labourers and Industrial Workers, Selected Centres in Kerala.

| Centre | 1982-1987 | 1987-1992 | 1992-1997 | 1997-2001 | 2002-2007 |
|---|---|---|---|---|---|
| Thiruvananthapuram | 55.56 | 46.03 | 66.49 | 25.35 | 23.28 |
| Kollam | 56.00 | 46.41 | 64.97 | 22.29 | 21.37 |
| Punalur | 50.42 | 51.96 | 59.56 | 26.73 | 19.47 |
| Pathanamthitta | - | - | - | - | 22.81 |
| Alappuzha | 50.83 | 51.23 | 65.94 | 26.20 | 20.35 |
| Kottayam | 51.43 | 49.60 | 63.78 | 27.61 | 18.26 |
| Mundakayam | 47.90 | 56.82 | 61.23 | 25.39 | 16.81 |
| Munnar | 47.93 | 51.12 | 61.00 | 28.93 | 11.30 |
| Ernakulam | 50.00 | 52.54 | 65.19 | 24.33 | 20.18 |
| Chalakudy | 53.50 | 49.87 | 66.01 | 26.62 | 17.70 |
| Thrissur | 48.57 | 48.08 | 68.46 | 24.12 | 19.30 |
| Palakkad | 50.63 | 50.83 | 69.06 | 24.40 | 22.12 |
| Malappuram | 58.82 | 51.32 | 62.06 | 21.90 | 20.18 |
| Kozhikode | 53.91 | 47.86 | 63.11 | 25.06 | 16.81 |
| Meppady | 48.79 | 53.12 | 67.43 | 26.64 | 13.91 |
| Kannur | 56.72 | 48.53 | 66.61 | 22.32 | 15.79 |
| Kasaragod | - | - | - | - | 19.47 |
| State Average | 52.07 | 50.27 | 64.74 | 25.14 | 18.42 |

Source: Government of Kerala, *Economic Review* (various issues)

The rise in the price levels in districts like Malappuram, Thrissur, Kannur, Kozhikode and Thiruvananthapuram which account for a higher proportion of emigrants and remittances has not been substantially higher than the state average in any of the periods examined, except for the slightly higher rates of inflation during the 1982-1987 period in Malappuram, Kannur and Thiruvananthapuram.

The price level in Kerala has not been moving up substantially faster than the other states either. The consumer price index for India as a whole registered an increase of 228 per cent between 1970-71 and 1981-82; the corresponding rise in Kerala state was of the order of 230 per cent (Gulati and Mody 1985). The growth rates in consumer price index numbers for industrial workers and for agricultural labourers for subsequent years are presented in Tables 3.2 and 3.3.

The figures show that the growth rates in consumer price index numbers for industrial workers were not higher than the growth rates at the all-India level for any sub-period except for 1992-97. As for the consumer price index numbers for agricultural labourers, the growth rates in Kerala were higher than the all-India figures in two out of five sub-periods, and lower than the all-India figures for the rest of the three sub-periods.

Table 3.2 - Growth in the Consumer Price Index Numbers for Industrial Workers, India and Selected Centres in Kerala.

| Period | All India | Aluva | Mundakayam |
|---|---|---|---|
| 1982-1987 | 51.31 | 46.71 | 51.25 |
| 1987-1992 | 59.31 | 59.75 | 58.88 |
| 1992-1997 | 53.09 | 66.09 | 64.78 |
| 1997-2002 | 30.11 | 25.84 | 18.67 |
| 2002-2007 | 28.19 | 25.30 | 21.24 |

Source: Government of Kerala, *Economic Review* (various issues); Reserve Bank of India, *RBI Bulletin* (various issues)

Table 3.3 - Growth in Consumer Price Index Numbers for Agricultural Labourers, India and Kerala

| | All India | Kerala |
|---|---|---|
| 1982-1987 | 36.82 | 50.53 |
| 1987-1992 | 63.15 | 61.66 |
| 1992-1997 | 46.28 | 65.85 |
| 1997-2002 | 21.13 | 13.40 |
| 2002-2007 | 28.66 | 21.52 |

Source: Government of Kerala, *Economic Review* (various issues); Reserve Bank of India, *RBI Bulletin* (various issues)

It must be added, however, that a good part of the remittances are known to be absorbed in the purchase of land and construction of houses (Gulati and Mody 1985). Nair (1989) provides some evidence that suggests that the inflow of remittances indeed pushed up prices of land in urban and rural areas in those districts where the intensity of migration was high. To the extent that remittances were channeled towards purchase of land or financial assets, it may have reduced the pressure on consumer goods prices. It may even be a reasonably valid assumption that sums realised in land sales (including capital goods thereon) will not ordinarily get directed to consumer goods purchases (Gulati and Mody 1985). There is no evidence however that the price rise in Kerala would still be very much above that in the rest of the country, and it is difficult to pin down on the growth in remittance receipts a price rise in the state out of line with that in the country as a whole.

Even as the inflationary consequences of the increased spending due to remittance income might not be substantial, the other possibility that might arise in a supply-constrained situation remains - the aggregate consumption expenditure may spill over into imports to meet the increased demand which cannot be met through domestic production.

Gulati and Mody (1985) point out that an important factor that has helped in stabilizing consumer prices in Kerala, despite a large infusion of demand in the form of remittances has been the availability of imports from other states. In regard to the crucial item of

food grains, Kerala has been, for long, importing more than half of its requirements from other states of India. Vast quantities of durable goods and construction materials are also imported. Therefore, the price impact of additional demand generated by the remittance income would be considerably diffused.

Nair (1989) provides some empirical evidence on this. Data collected from various official sources and compared between two time points 1974-75 and 1980-81 show that in inter-state trade, the trade deficit rose from Rs. 1487 million (about 8 per cent of the state's net domestic product) to Rs. 3549 million (more than 10 per cent of the state's net domestic product) during the period. The phenomenal growth in trade deficit must have been financed to a large extent by the remittances received from the Middle East.

**(c) Remittances and Investment**

As pointed out earlier, an increase in aggregate consumption expenditure which results from remittance inflows may lead to an increase in output in a demand-constrained situation. If the savings out of remittance income is utilised for investment, it would lead to a further increase in output and income through the multiplier effect. Thus, remittance inflows could lead to a higher rate of economic growth by inducing output expansion, and this could be mediated by consumption and investment.

Early evidence regarding the use of remittance income from the Middle East by South Asian households with emigrants points to the relative absence of any major impact of remittances on the domestic *rate* of investment. Much of the savings out of remittance income are channeled towards land purchases, house purchases, construction, etc. (Saith 1989). A significant portion is often used for debt repayment. As such, the direct impact of the expenditure pattern of emigrants' households does not result in much of an addition to the productive capacity of the domestic economy.

Available evidence indicates that these conclusions hold in the case of Kerala as well. All early micro-level studies stress the large investments made by migrant households in land and construction or renovation of houses.

Gulati and Mody (1985) quotes the study by the Agro Economic Research Centre (1982)[4], which found that remodelling and construction of dwelling houses was the most popular choice for the investment of surplus funds left after meeting current consumption expenditure; acquisition of land was next in importance. It found that even in the households with the smallest remittances (i.e. those receiving less than Rs.5000 a year) acquisition of land had the highest priority, with land acquired accounting for 79 per cent of the funds invested in the acquisition of assets. The study observed that current consumption expenditure forms about 52 per cent of the income received from abroad by migrant households. According to the study by Mathew and Nair (1978), about three-quarters of the capital expenditure was taken up by land purchase and house renovation or construction. In contrast, less than one per cent went into financing business or livestock investment. About 5 per cent was set aside for financing emigration of close relatives, 12 per cent for marriages and 7 per cent for jewellery and other durable consumer goods. Among other assets acquired, gold was the most common.

That productive use of funds occupies only a low rank in the order of priorities in the expenditure pattern of the migrants' households was noted by all earlier micro-level studies. The survey conducted by Nair in 1985 (quoted in Nair and Pillai 1994) found that daily consumption expenditure accounted for about 44 per cent in the spending. Construction and renovation of buildings, marriages and purchase and improvements of land together accounted for about two-thirds of the total disposition of savings. As much as 40.8 per cent of households have spent on construction and renovation of buildings, while 20.8 per cent have spent on purchase and improvements of landed property. 38.1 per cent had spent a portion of remittance earnings on repayment of loans, while the percentage of households that had spent on marriage, purchase of consumer durables and purchase of ornaments was 29.6, 26.9 and 20.7 per cent, respectively (Nair 1994).

A survey on the utilisation of gulf remittances in Kerala conducted in 1987 by the Department of Economics and Statistics of the Government of Kerala found that

[4] Agro Economic Research Centre (1982), 'Impact of Foreign Remittances on the Economy of a Rural Area in Kerala', Agricultural Situation in India, Vol. XXXVII (7).

migrants' households invest the major share of their savings on land and houses. Their investment in business is small and in productive activities, almost nil (Prakash 1999).

Practically all early studies report large increases in land prices that have resulted from this pattern of expenditure of migrants' households. Radhakrishnan and Ibrahim[5] (1981) observe further that the relatively small plots have experienced the largest price rise. The inflow of remittances pushed up prices of land in urban and rural areas in those districts where the intensity of migration was high (Nair 1989). With the inflow of remittances, migrant households began to purchase land even in rural areas, resulting in steep increases in the price of land. This rising trend in the price of land attracted a lot of speculative investment, pushing up prices further (Prakash 1999).

From the macro-economic point of view, land and real estate purchase constitutes a transfer. Large scale real estate investments, especially when concentrated regionally, may raise land prices, and set up other re-distributional and cost-push effects, but again the net investment impact of this is nil in direct terms (Saith 1989). The transaction would have second round effects depending on the expenditure/saving/investment behaviour of the person who sells the land or house and receives the transfer payment. But as pointed out earlier, it may be a reasonably valid assumption that sums realised in land sales (including capital gains thereon) will not ordinarily get directed to consumer goods purchases (Gulati and Mody 1985). An identical argument applies in the case of transfers made by the migrant for debt repayment upon return, in so far as the repayment of debts (incurred mostly from money lenders and informal financing institutions) results in an accretion to the income of the rentier class with a low propensity to consume.

A good proportion of the surpluses out of migrant remittances was found to be kept in the form of financial assets. In fact, financial investment out of remittance receipts is probably quite substantial in the first few years after a worker's migration if repayment

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[5] Radhakrishnan, C and Ibrahim P (1981), 'Emigration, Inward Remittances and Economic Development, *The Manpower Journal*, January-March, Vol. 16 (40), quoted in Gulati and Mody (1985).

of debts is included as financial investment. As was noted above, the general tendency is to clear the old debts, particularly the debts incurred in connection with migration itself, in the first few years after migration. Mathew and Nair (1978) noted that borrowing was a major source of financing migration and that the bulk of the loans is repaid within a year or two after the migrant secures employment abroad. Repayment of loans apart, there is evidence that, as a consequence of remittance receipts, bank deposits in Kerala state have registered increases which are above the national average and that within the state the same is the case with regard to districts of high migration (Gulati and Mody 1985). Studies at the micro-level also reported the opening of new bank offices in villages of high migration (Agro Economic Research Centre 1982, quoted in Gulati and Mody 1985). In addition, migrant workers themselves opened non-resident external accounts in their personal names and remitted funds directly into these accounts.

The evidence indicates that the saving/investment behaviour of the most migrants' households is akin to that of rentiers in that after meeting their priority consumption, debt repayment and chosen investments in say, house improvements, they maintain the rest of their savings as financial deposits with banks (Saith 1989). This is not surprising since most such households would not be experienced investors on a small/medium scale prior to migration. These savings then become available for investment within the rest of the domestic economy according to the priorities and demands operating and determining the direction of investment there.

More recent evidence confirms the trend among migrants' households to spend large amounts on housing. According to the Kerala Migration Study conducted in 1998 by scholars at CDS, the proportion of houses which are characterized as "luxurious" or "very good" was 24.9 per cent for emigrants and 10.6 per cent for non-migrants[6] (Zachariah et al. 1999). Similarly, among the emigrants, the proportion of such houses was 38.7 per cent among those who emigrated prior to 1991, 24.0 per cent among those who emigrated between 1991 and 1995, and only 18.6 per cent among those who emigrated after 1995. Thus, the quality of houses is better for those who have been away for longer periods, as expected.

[6] This was based on an assessment of the quality of the houses by the investigators.

The published reports of the more recent surveys and studies do not give sufficient data regarding the end-use of remittance income.[7] There is a lone mention though, in the study by Zachariah and Rajan (2004), that the proportion of cash remittances that is used for business purposes is a measly 0.1 per cent.

Table 3.4 - Credit-Deposit Ratio in India and Kerala (Per cent)

| Year (end-March) | India | Kerala | % Point Difference |
|---|---|---|---|
| 1970 | 76.0 | 71.0 | -5.0 |
| 1980 | 67.0 | 68.0 | 1.0 |
| 1990 | 65.0 | 62.0 | -3.0 |
| 1991 | 60.6 | 59.0 | -1.6 |
| 1992 | 55.4 | 51.7 | -3.7 |
| 1993 | 56.3 | 48.0 | -8.3 |
| 1994 | 51.6 | 43.1 | -8.5 |
| 1995 | 55.6 | 44.7 | -10.9 |
| 1996 | 57.3 | 44.4 | -12.9 |
| 1997 | 56.8 | 44.9 | -11.9 |
| 1998 | 55.3 | 44.5 | -10.8 |
| 1999 | 54.8 | 43.1 | -11.7 |
| 2000 | 56.0 | 41.3 | -14.7 |
| 2001 | 58.5 | 42.8 | -15.7 |
| 2002 | 62.3 | 42.7 | -19.6 |
| 2003 | 57.7 | 45.5 | -12.2 |
| 2004 | 58.7 | 48.3 | -10.4 |
| 2005 | 66.1 | 59.0 | -7.1 |

Source: Jeromi (2008)

Overall, there is no evidence at all that suggests that emigrants or their households have been taking to invest in the productive sectors of the economy of the state at any substantial scale. Nor is there any evidence that savings out of remittances, channeled through the banking system, has been used for investment purposes, if the Credit-Deposit Ratio (CDR) is used as an indicator. Kerala's CDR has ruled below the all-India

[7] Zachariah et al. (1999) have given the data on the proportion of migrants' households that mention various items as the main expenditure item met out of remittances. But this is not the same as the proportion of remittance income spent on those items of expenditure.

figures for quite a long time, as Table 3.4 shows. The percentage point difference has been quite substantial since the nineties.

**(d) Remittances and Consumption**

Having found that the impacts of remittance inflows to Kerala on prices and on investment have not been substantial, we now proceed to investigate the impact of remittances on consumption in the state. The central proposition of the remittance-led growth argument, as we noted earlier, is that the revival in Kerala's economic growth since the late 1980s has been driven by remittance-induced consumption.

An analysis of this argument would require that estimates of the magnitude of remittance inflows to the state be available. But the lack of reliable time series data regarding remittance inflows poses difficulties in carrying out such an exercise.

The estimates that have been most widely used in the recent literature on the revival of the growth of the state economy were made by Kannan and Hari (2002)[8]. Unlike Nayyar (1994), whose study has been drawn on a lot for much of the assumptions on the basis of which these estimates have been made, Kannan and Hari have classified the net inflow of NRI deposits as being part of remittance inflows. Nayyar had pointed out that the inflows of NRI deposits in fact represent capital inflows, and are repatriable. Besides, the estimates for many years have been made using the techniques of interpolation and extrapolation, with the result that yearly fluctuations in remittance inflows have not been adequately captured. In spite of these and other problems (for details, see the note at the end of this chapter), we choose to depend on these estimates for want of better ones, as this is indeed based on a better informational base compared to other such estimates. We reproduce the estimates in Table 3.5.

[8] See the note given at the end of this chapter for the method used by the authors for arriving at the remittance estimates.

**Table 3.5 - Foreign Remittance to and State Income (NSDP) in Kerala (Rs. Crores)**

| Year | Net Private Transfers | Net Inflow of NRI Deposit | NRI Deposit as % of Total Remittance | Remittance in Kind | Total Remittance | Total Remittance (Excluding NRI Deposits) | NSDP | Remittance as % of NSDP |
|---|---|---|---|---|---|---|---|---|
| 1972-73 | 5.77 | 1.7 | 20 | 0.84 | 8.31 | 6.61 | 1457 | 0.57 |
| 1973-74 | 8 | 1.4 | 13 | 1.2 | 10.6 | 9.2 | 1823 | 0.58 |
| 1974-75 | 13.47 | 5.9 | 27 | 2.64 | 22.01 | 16.11 | 2086 | 1.06 |
| 1975-76 | 33.72 | 3.7 | 8 | 8.52 | 45.94 | 42.24 | 2228 | 2.06 |
| 1976-77 | 56.99 | 35 | 32 | 16.26 | 108.25 | 73.25 | 2398 | 4.51 |
| 1977-78 | 92.44 | 44 | 27 | 25.24 | 161.68 | 117.68 | 2521 | 6.41 |
| 1978-79 | 93.36 | 36 | 24 | 22.76 | 152.12 | 116.12 | 2754 | 5.52 |
| 1979-80 | 138.57 | 41 | 19 | 37.5 | 217.07 | 176.07 | 3156 | 6.88 |
| 1980-81 | 244.4 | 48 | 14 | 55.84 | 348.24 | 300.24 | 3823 | 9.11 |
| 1981-82 | 274.22 | 63 | 16 | 45.16 | 382.38 | 319.38 | 4050 | 9.44 |
| 1982-83 | 326.67 | 105 | 21 | 48.74 | 480.41 | 375.41 | 4712 | 10.2 |
| 1983-84 | 380.97 | 187 | 30 | 55.72 | 623.69 | 436.69 | 5523 | 11.29 |
| 1984-85 | 509.36 | 271 | 31 | 67.18 | 847.54 | 576.54 | 6141 | 13.8 |
| 1985-86 | 472.47 | 50 | 8 | 58.84 | 581.31 | 531.31 | 6503 | 8.94 |
| 1986-87 | 562.11 | 299 | 32 | 68.12 | 929.23 | 630.23 | 7354 | 12.64 |
| 1987-88 | 715.09 | 176 | 17 | 81.18 | 972.27 | 796.27 | 8258 | 11.77 |
| 1988-89 | 608.98 | 215 | 23 | 75.58 | 899.56 | 684.56 | 9182 | 9.8 |
| 1989-90 | 727.89 | 428 | 34 | 84.04 | 1239.93 | 811.93 | 10668 | 11.62 |
| 1990-91 | 581.24 | 292 | 30 | 72.6 | 945.84 | 653.84 | 12173 | 7.77 |
| 1991-92 | 1693.22 | 735 | 29 | 109.11 | 2537.33 | 1802.33 | 15102 | 16.8 |
| 1992-93 | 1565.24 | 1460 | 46 | 99.09 | 3124.33 | 1664.33 | 17175 | 18.19 |
| 1993-94 | 2366.3 | 1516 | 37 | 146.62 | 4028.92 | 2512.92 | 23401 | 17.22 |
| 1994-95 | 5212.67 | 871 | 13 | 326.67 | 6410.34 | 5539.34 | 28697 | 22.34 |
| 1995-96 | 5851.76 | 1217 | 16 | 365.91 | 7434.67 | 6217.67 | 35087 | 21.19 |
| 1996-97 | 7446.37 | 2075 | 20 | 478.25 | 9999.62 | 7924.62 | 40819 | 24.5 |
| 1997-98 | 8203.73 | 2557 | 22 | 541.3 | 11302.03 | 8745.03 | 47924 | 23.58 |
| 1998-99 | 8145.46 | 2672 | 23 | 468.16 | 11285.62 | 8613.62 | 56563 | 19.95 |
| 1999-00 | 8257.14 | 5395 | 38 | 505.74 | 14157.88 | 8762.88 | 62557 | 22.63 |

Source: Kannan and Hari (2002)

The data shows that remittances (including NRI Deposits) as a percentage of the Net State Domestic Product (NSDP) has risen from under 1 per cent in 1972-73 to 11.77 per

cent in 1989-90 and further to 22.63 per cent in 1999-00. Even if we exclude NRI Deposits, the percentage of remittances to NSDP has increased from under 1 per cent in 1972-73 to 7.61 per cent in 1989-90 and to 14.01 per cent in 1999-00.

According to the remittance-led growth hypothesis, it is this huge increase in remittances that is the underlying factor behind Kerala's growth turnaround. In other words, remittance-induced consumption has become the engine of growth for the state economy. Kannan and Hari sought to provide evidence that the increase in the per capita consumption expenditure[9] in Kerala has been driven by remittances, using the figures reproduced in Table 3.6.

The figures for average per capita consumption expenditure (APCE) are taken from various quinquennial sample surveys of the NSS. Once again, the figures for the intervening years have been filled up using interpolation and extrapolation, which glazes over yearly fluctuations, much more than in the case of remittance figures. An indication of this is that while the standard deviation for annual growth rates of total remittances from 1973-74 to 1999-2000 is 46.34, the standard deviation for the annual growth rates of APCE for the same period is just 0.74.

Using long-term trends might solve the problem partially. Table 3.6 shows that the average propensity to consume increased from 0.81 in 1972-73 to 0.91 in 1988-89, but fell quite drastically in the 1990s, to end up at 0.51 in 1999-2000. Estimates of the marginal propensity to consume (MPC) that we arrive at by regressing the average per capita consumption expenditure on per capita NSDP show that the marginal propensity to consume which was 0.91 during the eighties (1980-81 to 1989-90), fell to 0.40 during the nineties (1990-91 to 1999-2000).

[9] The per capita consumption expenditure in Kerala has been higher than the all-India figures since 1976-77 (Kannan 2005).

Table 3.6 - Estimates of Modified State Income and Average Per capita Consumption Expenditure in Kerala

| Year | NSDP | PNSDP | Total Remittances | Total Remittance (Excluding NRI Deposits) | MSI | APCE (Rs.) | APC | APC out of MSI |
|---|---|---|---|---|---|---|---|---|
| 1972-73 | 1457 | 661 | 8.31 | 6.61 | 1466 | 534 | 0.81 | 0.80 |
| 1973-74 | 1823 | 811 | 10.6 | 9.2 | 1834 | 593 | 0.73 | 0.73 |
| 1974-75 | 2086 | 910 | 22.01 | 16.11 | 2108 | 659 | 0.72 | 0.72 |
| 1975-76 | 2228 | 955 | 45.94 | 42.24 | 2274 | 732 | 0.77 | 0.75 |
| 1976-77 | 2398 | 1010 | 108.25 | 73.25 | 2507 | 813 | 0.80 | 0.77 |
| 1977-78 | 2521 | 1043 | 161.68 | 117.68 | 2682 | 903 | 0.87 | 0.81 |
| 1978-79 | 2754 | 1121 | 152.12 | 116.12 | 2906 | 1013 | 0.90 | 0.86 |
| 1979-80 | 3156 | 1270 | 217.07 | 176.07 | 3373 | 1137 | 0.90 | 0.84 |
| 1980-81 | 3823 | 1508 | 348.24 | 300.24 | 4171 | 1276 | 0.85 | 0.78 |
| 1981-82 | 4050 | 1576 | 382.38 | 319.38 | 4432 | 1432 | 0.91 | 0.83 |
| 1982-83 | 4712 | 1809 | 480.41 | 375.41 | 5192 | 1600 | 0.88 | 0.80 |
| 1983-84 | 5523 | 2092 | 623.69 | 436.69 | 6147 | 1795 | 0.86 | 0.77 |
| 1984-85 | 6141 | 2296 | 847.54 | 576.54 | 6989 | 1976 | 0.86 | 0.76 |
| 1985-86 | 6503 | 2398 | 581.31 | 531.31 | 7085 | 2177 | 0.91 | 0.83 |
| 1986-87 | 7354 | 2676 | 929.23 | 630.23 | 8284 | 2400 | 0.90 | 0.80 |
| 1987-88 | 8258 | 2937 | 972.27 | 796.27 | 9230 | 2647 | 0.90 | 0.81 |
| 1988-89 | 9182 | 3233 | 899.56 | 684.56 | 10081 | 2938 | 0.91 | 0.83 |
| 1989-90 | 10668 | 3718 | 1239.93 | 811.93 | 11908 | 3262 | 0.88 | 0.79 |
| 1990-91 | 12173 | 4200 | 945.84 | 653.84 | 13119 | 3624 | 0.86 | 0.80 |
| 1991-92 | 15102 | 5140 | 2537.33 | 1802.33 | 17639 | 4028 | 0.78 | 0.67 |
| 1992-93 | 17175 | 5768 | 3124.33 | 1664.33 | 20300 | 4479 | 0.78 | 0.66 |
| 1993-94 | 23401 | 7788 | 4028.92 | 2512.92 | 27430 | 4982 | 0.64 | 0.55 |
| 1994-95 | 28697 | 9432 | 6410.34 | 5539.34 | 35108 | 5587 | 0.59 | 0.48 |
| 1995-96 | 35087 | 11390 | 7434.67 | 6217.67 | 42521 | 6268 | 0.55 | 0.45 |
| 1996-97 | 40819 | 13089 | 9999.62 | 7924.62 | 50819 | 7034 | 0.54 | 0.43 |
| 1997-98 | 47924 | 15195 | 11302 | 8745.03 | 59226 | 7896 | 0.52 | 0.42 |
| 1998-99 | 56563 | 17756 | 11285.6 | 8613.62 | 67849 | 8866 | 0.50 | 0.42 |
| 1999-00 | 62557 | 19461 | 14157.9 | 8762.88 | 76715 | 9959 | 0.51 | 0.42 |

Source: Kannan and Hari;
PNSDP = Per capita NSDP; MSI (Modified State Income) = NSDP + Total Remittances; APCE = Average Per capita Consumption Expenditure; APC = Average Propensity to Consume.

Mention must be made of an earlier estimate of the marginal propensity to consume made by Pushpangadan (2003), who, on the basis of the estimates by Kannan and Hari that we have used (Table 3.6), argued that the MPC out of domestic income as well as the MPC out of Modified State Income (domestic income plus remittances) had fallen in the nineties compared to the eighties. Since MPC out of MSI ($MPC_M$) has supposedly fallen faster than the MPC out of domestic income ($MPC_D$), he concluded that the propensity to consume out of domestic income is higher than that the propensity to consume out of remittances. The reasoning adopted here is wrong. The estimates of per capita expenditure used to arrive at $MPC_D$ and $MPC_M$ are the same (no separate estimates are available for per capita consumption expenditure out of domestic income and out of remittances). Therefore the observation of a lower $MPC_M$ is nothing but a mathematical truism arising out of the fact that per capita MSI is higher than per capita NSDP, and does not indicate a higher level of MPC out of domestic income than out of remittances.[10] Moreover, there is a problem in trying to estimate $MPC_M$ and $MPC_D$ separately - a household can have just one propensity to consume; it is not as if it has a different propensity to consume for each source of income. Since remittances would not be the only source of income for a sizable section of emigrants' households, it would not be possible to muster empirical evidence regarding separate marginal propensities to consume out of domestic income and out of remittance income.

We would argue, though, that the MPC of emigrants' households is lower than the MPC of other households. The reasons we explain below.

Micro-level studies conducted during 1977 and 1978 in the villages of southern and northern Kerala showed that a majority of the migrants belonged to poor families, lived in rural areas and engaged in low productivity traditional activities such as fishing, agricultural labour, household industry and service sector jobs such as helpers in country tea shops and salesmen in grocery shops. A subsequent study based on a sample of about 700 returned migrants in 1984 revealed that nearly 58 per cent of the

[10] Curiously, Pushpangadan (2003) claims further that the higher savings out of remittance income along with the change in consumer spending in favour of consumer durables explain the accelerated growth observed in Kerala. At the same time, he admits that the savings in the economy have not translated into investments! How unutilised savings would lead to higher growth is not clear.

migrant households were classified as poor households (Nair 1986, quoted in Prakash 1999).

At least for this section of migrants' households, a bulk of the income would be spent on consumption (including current consumption expenditure and acquisition of consumer durables). The bulk of the loans incurred to finance the migration would be repaid within a year or two after the migrant secures employment abroad (Mathew and Nair 1978; Nayyar 1989). But the receipt of remittances has resulted in a large number of such households being pushed up to higher income levels (Prakash 1999). It is commonly known that a portion of the remittances is spent by emigrants to finance the emigration of relatives (Mathew and Nair 1978), which would mean that the debt burden on the new migrants would be lower, and that over time, proportionately less numbers of migrants would be coming from poor households.

That income levels would be higher with longer durations of employment abroad should be obvious, and is reflected in the better quality of houses for those who have been working abroad for longer periods, as we noted earlier. That migrants' households had a better position in terms of possession of assets than non-migrants is also evident (Prakash 1999; Zachariah and Rajan 2004). The proportion of emigrants who have worked for long periods of time among the total number of emigrants is quite high. According to a field survey conducted among emigrants from Kerala in the United Arab Emirates, 61.2 per cent of the emigrants had been working there for more than 5 years, while 41.8 per cent had been working in UAE for more than 10 years. Moreover, the proportion of unskilled workers among emigrants have been coming down - the educational level of 66 per cent of the emigrants from Kerala was below secondary school in 1980 (Gulati and Mody 1985), while the proportion was 50 per cent in 2003 (Zachariah and Rajan 2004).

Since the sections of society with a higher income are known to have a lower marginal propensity to consume, it would be reasonable to conclude, therefore, that migrants' households have a lower propensity to consume compared to other households.

The long-term trends in per capita consumption expenditure provided by Kannan (2005) are worth examining here. According to him, the annual growth rate of monthly per capita consumption expenditure in Kerala was 10.71 per cent during the period from 1970-71 to 1986-87 and 10.73 per cent for the period 1987-88 to 2003-03. The all-India figures were 8.96 per cent and 9.59 per cent for the same periods. These figures clearly show that the growth rate in monthly per capita consumption expenditure in the high-growth phase is not substantially higher than the slow-growth phase. Even with a 10 per cent increase in the relative size of remittances as a percentage of NSDP[11], the difference in per capita consumption expenditure was a meager 0.02 per cent.

This substantially weakens the persuasiveness of the remittance-led growth argument, as the hypothesis could be sustained only if (assuming that the MPC of emigrant's households was higher than that of other households in the slow-growth phase as well) the MPC of emigrants' households has fallen much faster than the MPC of other households, so that the former has turned out to be higher than the latter, which is very unlikely due to the reasons we described above. If, on the other hand, it is argued that the growth in per capita consumption expenditure in the first period (1970-71 to 1986-87) was also due to remittance income, the argument that the growth turnaround was a result of remittance-induced consumption becomes even more difficult to sustain.

To add to all these, the possibility of the marginal propensity to save of the agriculture-dependent population (33 per cent of the workforce in Kerala are employed in agriculture) to be higher than the households of the migrants is certainly very low. The relatively low levels of bank deposits in districts like Wayanad and Idukki which have a higher proportion of people dependent on agriculture (Jeromi 2003b) can be taken as an indicator of this. Nor is it likely that the MPS of low-paid workers in industry or service would be higher.

Further, it is well known that a large proportion of consumption expenditure of emigrants' households goes towards acquiring consumer durables. As we noted in our

[11] In the period from 1972-73 to 1986-87, the size of total remittances as a percentage of NSDP amounted, on an average, to 6.87 per cent, which increased to 17.49 per cent in the period 1987-88 to 1999-00. The figures were 10.86 per cent for the eighties (1980-81 to 1989-90) and 19.42 per cent for the nineties (1990-91 to 1999-00).

discussion on the impact of remittances on investment, early micro-level studies provided evidence that emigrants' households are more prone to purchasing consumer durables compared to other households. Recent studies confirm these findings. In the Kerala Migration Study of 1998 that we mentioned earlier, the possession of 23 different household consumer durables (HCDs) was analysed to see where the emigrants' households stood vis-à-vis other households (Zachariah et al. 1999). An index of the possession of HCDs was calculated for each migrant group and for the emigrants by duration of emigration (the index could vary between 0 and 100). The index was 32 for households with emigrants and return emigrants, 27 for households with return out-migrants[12] and 22 for households with out-migrants. For the non-migrant household, the index was only 15. The comparison indicates that migration has a positive influence on ownership of consumer durables. It was found that the households of international migrants have a higher propensity to acquire HCDs than those of internal migrants, and that the households of internal migrants have a higher propensity to acquire HCDs than households without migrants. Analysis of the percentage of households possessing specific consumer durables by duration of emigration led to an identical conclusion: the longer the duration of emigration, the higher is the proportion of households possessing a car, a television, a telephone or all of them.

That most of such consumer durables would be sourced from outside the state, given the production structure of Kerala's manufacturing industry which is dominated by manufactured wage goods, is also widely accepted (Subrahmanian 2005).

These points regarding the consumption pattern of emigrants' households have important implications, as they suggest that the tendency for the demand arising from increments in income to "leak out" of the state would be higher in the case of emigrants' households that it would be in the case of other households. In other words, the import-intensity (imports defined to include the sourcing of goods from other states as well; this would be the sense in which we would be using the term henceforth in this study) of the consumption pattern of emigrants' households is higher than that of households without emigrants.

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[12] Out-migrants refer to the people who migrate to other parts of the country rather than to other countries.

We sum up the conclusions from our analysis of the impact of remittances on consumption as follows:

1. The marginal propensity to consume of emigrants' households is likely to be lower than the marginal propensity to consume of other households, since emigrants' households belong, on an average, to a higher income bracket compared to other households.
2. The MPC of emigrants' households, on an average, is likely to be lower in the high-growth phase of the Kerala economy compared to the earlier period of stagnation, on account of the progression of emigrants' households towards a higher income bracket.
3. At the margin and on an average, increments in the income of households without emigrants are more likely to be spent (either on consumption or investment in productive sectors[13]) rather than being parked in banks or spent on land purchases, etc. than is the case with increments in the income of emigrants' households.
4. A large part of the consumption that is financed out of remittance income is of a conspicuous nature and highly import-intensive. Emigrants' households are more prone to use increments in their income for the purchase of consumer durables, most of which are not produced within the state.

The multiplier effects on *domestic* output arising from the increased consumption due to increments in the income of emigrants' households would, therefore, be lower compared to those arising from increments in the income of households without emigrants.

### (e) Remittances and Economic Growth: District-wise Analysis

If remittance income is the principal stimulus for the growth of the state economy as the proponents of the remittance-led hypothesis argue, it would not be unreasonable to expect that the districts in the state with a heavier concentration of migrants' households

[13] For instance, the investment expenditure on productivity-augmenting measures is highly and positively correlated with crop prices and the resultant income of the farming households, as Mohanakumar and Chandy (2005) notes in a study of rubber cultivation in Kerala.

and which receive larger inflows of remittances would show greater dynamism in terms of economic growth.

It might be instructive to look at some evidence provided in the earlier literature in this regard before we embark on an analysis of the recent scenario. A 1980 survey by the Department of Economics and Statistics of the Government of Kerala had yielded district-wise estimates of the number of emigrants. It had found that migration to the Middle East was concentrated heavily in the coastal districts of Thiruvananthapuram, Thrissur, Malappuram, Kozhikode and Kannur. Nair (1989) reported that all these districts (except Thiruvananthapuram where the capital of the state is located) have registered growth rates of per capita domestic product at rates lower than that for the state as a whole. Their ranks among the various districts remained the lowest throughout the 1970s and the first half of the 1980s. Nevertheless, the districts with higher incidence of migration experienced greater expansion of the tertiary sector. House construction activities were, on the average, higher in the districts in which incidence of migration was high. Nair adds that the inter se position of districts in terms of per capita net domestic product had remained almost unchanged since the onset of the Gulf migration. Migration and its benefits had not raised economic growth rate for the state as a whole; nor had they changed the relative economic position of districts taken separately.

Circumstances have changed subsequently, as the size of remittance inflows in rupee terms as a proportion of the NSDP doubled in the nineties compared to the eighties. If the growth turnaround of the economy is indeed due to remittance-induced consumption, we would expect it to be reflected in the growth performance of the districts which receive more remittances.

To test this, we undertake rank correlation exercises with respect to emigration and economic growth, and household remittances and economic growth. District-wise break-up of the number of emigrants and households remittances for the years 1998 and 2003 are available from the migration studies[14] by scholars at the Centre for

[14] The reference is to the Kerala Migration Study of 1998 and the South Asia Migration Study of 2003.

Development Studies (CDS), Thiruvananthapuram (Zachariah and Rajan 2007), and have been used here for the purpose.

First, we rank the districts according to the number of emigrants per 100 households for the years 1998 and 2003, and according to their economic growth rates for groups of subsequent proximate years. The results are given in Table 3.7:

Table 3.7 - Emigration and Economic growth rates: Results of Rank Correlation Exercise

| Variables (District-level) | | Rank Correlation Coefficient (R) |
|---|---|---|
| Emigrants per 100 households, 1998 | NSDP growth rate (CAGR) for 1998-2004 | **-0.35** |
| Emigrants per 100 households, 1998 | NSDP growth rate (CAGR) for 1998-2005 | **-0.04** |
| Emigrants per 100 households, 1998 | NSDP growth rate (CAGR) for 1999-2005 | **-0.08** |
| Emigrants per 100 households, 2003 | GSDP growth rate (CAGR) for 2004-2007 | **-0.20** |
| Emigrants per 100 households, 2003 | GSDP growth rate (CAGR) for 2004-2008 | **-0.17** |
| Emigrants per 100 households, 2003 | GSDP growth rate (CAGR) for 2005-2008 | **0.09** |

(N.B. The *Economic Review* published by the Kerala State Planning Board gives data for NSDP till 2003-04 and for GSDP thereafter.)

Secondly, we undertake a rank correlation exercise relating emigration and the increase in economic growth rates for the districts. Districts were ranked according to the number of emigrants per 100 households for 1998, and according to the increase in economic growth recorded over some subsequent years in each respective case. We carry out the exercise using two base years and two ending years to reduce the impact of fluctuations in changes in growth rates. The results are presented in Table 3.8.

Table 3.8 - Emigration and Change in economic growth rates: Results of Rank Correlation Exercise

| Variables (District-level) | | Rank Correlation Coefficient (R) |
|---|---|---|
| Emigrants per 100 households, 1998 | Increase in NSDP Growth Rate, 1998-2005 | **-0.15** |
| Emigrants per 100 households, 1998 | Increase in NSDP Growth Rate, 1998-2004 | **-0.22** |
| Emigrants per 100 households, 1998 | Increase in NSDP Growth Rate, 1999-2005 | **0.28** |
| Emigrants per 100 households, 1998 | Increase in NSDP Growth Rate, 1999-2004 | **0.27** |

Our results show that the statistical correlation between the number of emigrants per 100 households and the economic growth rate at the district level is very weak. In five out of the six cases that we examined, the correlation turned out to be negative. In other words, the districts that have been registering the highest growth rates are not the ones which have sent out the largest number of emigrants.

The results hold when we correlate the number of emigrants per 100 households and increase in the economic growth rates at the district level as well. The correlation is negative for two out of four cases, and is fairly weak for the remaining two. Assuming that the number of emigrants from a district gets reflected in the remittances accruing to the district in significant measure, these results suggest that remittances might not explain the differences between districts with regard to economic growth.

We repeat the exercise using per capita household remittances and economic growth, and per capita household remittances and increase in economic growth at the district level.[15] The results are presented in Tables 2.9 and 2.10.

[15] The margin of error is likely to be higher for the figures for per capita household remittances, compared to the figures for emigrants per 100 households. We have reason to be uncertain about

Table 3.9 - Remittances and Economic growth rates: Results of Rank Correlation Exercise

| Variables (District-level) | | Rank Correlation Coefficient (R) |
|---|---|---|
| Per capita household remittances, 1998 | NSDP growth rate (CAGR) for 1998-2004 | -0.15 |
| Per capita household remittances, 1998 | NSDP growth rate (CAGR) for 1998-2005 | 0.11 |
| Per capita household remittances, 1998 | NSDP growth rate (CAGR) for 1999-2005 | 0.06 |
| Per capita household remittances, 2003 | GSDP growth rate (CAGR) for 2004-2007 | -0.40 |
| Per capita household remittances, 2003 | GSDP growth rate (CAGR) for 2004-2008 | -0.24 |
| Per capita household remittances, 2003 | GSDP growth rate (CAGR) for 2005-2008 | 0.24 |

Table 3.10 - Remittances and Change in Economic growth rates: Results of Rank Correlation Exercise

| Variables (District-level) | | Rank Correlation Coefficient (R) |
|---|---|---|
| Per capita household remittances, 1998 | Increase in NSDP Growth Rate, 1998-2005 | 0.16 |
| Per capita household remittances, 1998 | Increase in NSDP Growth Rate, 1998-2004 | 0.15 |
| Per capita household remittances, 1998 | Increase in NSDP Growth Rate, 1999-2005 | 0.37 |
| Per capita household remittances, 1998 | Increase in NSDP Growth Rate, 1999-2004 | 0.38 |

These results confirm the conclusions we derived from the rank correlation exercises using the number of emigrants per 100 households. The statistical correlation between per capita household remittances and economic growth is very weak. The correlation is in fact negative for three out of six cases and quite weak even in the cases where the

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the accuracy about the former, as the first estimates that Zachariah et al. had made for remittance inflows were too low and had to be re-estimated (Kannan and Hari 2002).

coefficient is positive. The correlation between per capita household remittances and increase in economic growth is also quite weak in all the cases we examined.

To add to this, districts with the highest per capita household remittances are not the ones with the highest per capita domestic product. Rank correlation analysis in this regard yields negative coefficients for both 1998-99 and 2003-04. Malappuram, the district with the highest number of emigrants per 100 households for both 1998 and 2003, and with respectively the highest and second highest per capita household remittances for 1998 and 2003, is the district with the lowest per capita NSDP in the state.

It would have been useful if we could have done a similar analysis for the tertiary sector and construction, the sectors that are supposed to have benefitted the most from remittance inflows. But for this purpose, district-wise data becomes unreliable. For all the sub-sectors of the tertiary sector, with the sole exception of 'Transport by other means', the increments in value added every year at the state level are divided among districts proportionately, so that the growth rates for the districts work out to be more or less the same. As a result, the estimates for tertiary sector growth rates do not vary much among the districts, and do not capture actual growth rates. The same methodology is followed in the case of the construction sector as well. But since we have the data for the 'transport by other means' sub-sector, we present the rank correlation analysis for the same in Table 3.11.

The results show that as in the case of aggregate growth rates, the statistical correlation between remittances and the growth rate in the sector is very weak. In three out of the six cases examined, the coefficient is negative.

Table 3.11 - Remittances and the Growth rates in the Transport by other means sub-sector: Results of Rank Correlation Exercise

| Variables (District-level) | | Rank Correlation Coefficient (R) |
|---|---|---|
| Per capita household remittances, 1998 | Growth rate in Transport by other means (CAGR),1998-2004 | 0.20 |
| Per capita household remittances, 1998 | Growth rate in Transport by other means (CAGR),1998-2005 | 0.20 |
| Per capita household remittances, 1998 | Growth rate in Transport by other means (CAGR),1999-2005 | 0.20 |
| Per capita household remittances, 2003 | Growth rate in Transport by other means (CAGR), 2004-2007 | -0.45 |
| Per capita household remittances, 2003 | Growth rate in Transport by other means (CAGR), 2004-2008 | -0.38 |
| Per capita household remittances, 2003 | Growth rate in Transport by other means (CAGR), 2005-2008 | -0.53 |

Based on available evidence, however, we make the following additional remarks with regard to the growth in the tertiary sector and construction:

The vast majority of the households in the states do not have emigrants. The proportion of households with at least one emigrant or one return emigrant was 24 percent in 1999 and 26 percent in 2004 (Zachariah and Rajan 2004). There is no reason why a big chunk of the demand for services would not come from households without emigrants, especially the direct and indirect beneficiaries of the growth in domestic income among them. This is likely to be the case in transport by other means, as our rank correlation analysis suggests, as also for communication. We argue that this would hold in the case of the services in 'Trade, hotels and restaurants' as well. Apart from the demand from domestic households, the big growth experienced in tourism in the state since the nineties (which was, in turn, a result of a successful and innovative state-led campaign) has also been a major contributor to the growth in hotels and restaurants, as Pushpangadan (2003) points out. Trade, hotels & restaurants, and transport, storage &

communication constitute the biggest sub-sectors in the tertiary sector. They accounted, respectively, for 37.29 per cent and 16.9 per cent shares in the tertiary sector during the 2001-2007 period.

A substantial share of the demand for 'Other Services' is also likely to come from households of non-migrants. Some findings regarding education (which is an important component of 'Other Services') from the study by Zachariah et al. (1999) point in this direction - although a large number of migrants' households used a significant part of the remittances they received for education of their children, not much difference is observed in this respect between emigrant and non-migrant households. The average number of years of schooling of the members of the non-migrant households is found to be, in fact, higher than that of the emigrant households. Further, another important sub-sector viz. Public Administration, has little to do with remittances.

The sub-sectors in the tertiary sectors that remain are Banking and insurance, and Real Estate, ownership of dwellings and business services. A substantial portion of the stimulus for growth in these sectors, as also in Construction, is likely to have come from remittances. As earlier micro-level studies and recent surveys have revealed, the tendency of migrants' households is to spend heavily on investing in real estate, buying/constructing/remodelling houses, etc. as well as to park a significant portion of remittance income in banks. It can be safely assumed that migrants' households are major consumers of other financial services as well. But since real estate, ownership of dwellings & business services, banking & insurance and construction sectors together accounted for only 27.34 per cent of the total growth of the state economy since 1990-91 (the figure has been calculated from Table 9 in Chapter 2), the likelihood of the conclusion of our rank correlation analysis - that the districts which receive the most remittances are not always the ones which grow the fastest - to change is pretty low even if district-wise estimates of service sector growth were correct.

To conclude, the correlation between the economic growth of the districts of Kerala and the remittances received by them is very weak. Much of this is due to the differences in the growth rates in the commodity-producing sectors of the economy, and the district-wise estimates of economic growth in the tertiary sector and construction do not show

much variation across the districts due to the methodology being used now. Nevertheless, read along with our earlier conclusions that the marginal propensity to consume of emigrants' households has fallen in the high-growth phase compared to the low-growth phase, and that the MPC of emigrants' households is lower than the MPC of other households, the reasons outlined in the paragraphs above suggest that the possibility of service sector growth to be skewed substantially in favour of the districts which receive the most remittances is low. Thus, even if correct district-wise estimates for the tertiary sector and construction were used, the correlation between the growth performance of the districts and the amount of remittances received by them would remain quite weak. This strongly suggests the presence of other significant factors that play a substantial role in determining the relative growth performance of the districts, and by implication, the overall growth performance of the state itself.

### (f) Economic Reforms and the Turnaround

Scholars who adhere to the "remittance-led growth" view differ on the relative importance they attach to economic reforms in contributing to the growth turnaround of the state economy.

According to Pushpangadan (2003) and Kannan (2005), for instance, the removal of a number of minor and major constraints to investment, import of technology and raw materials provided a more favourable climate for investment[16]. According to Kannan, this became the proximate reason for the turnaround that occurred in 1987-88. Pushpangadan and Parameswaran (2006), in contrast, argue that the turnaround in aggregate growth started from 1983-84[17], well before the initiation of economic liberalisation and as such, there is a lack of relationship between policy changes in the mid-1980s and the growth revival.

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[16] Kannan (2005) also argues that the onset of economic reforms led to a release of the pent-up demand for a number of consumer goods and services that were not previously available, but such release of pent-up demand can only be a one-time stimulus, and would not be able to explain higher growth rates for a long period of time.

[17] The point that we made in Chapter 2 could be recalled here - that the turnaround should be marked from 1987 onwards rather than 1983-84. For a more elaborate account on this, see Chapter 4.

That the discontinuation of the fixed-exchange rate system in favour of a market-determined one, which strengthened the role of remittances (as it meant a higher rate of growth in remittance income as a result of the depreciation of the rupee), was crucial in accelerating growth is a view shared by the proponents of the remittance-led growth view.[18] According to this argument, given a steady flow of remittance income to the households, part of it was translated into effective demand. To Pushpangadan and Parameswaran (2006), the role of the devaluation of the rupee was particularly important in contributing to the growth of sectors such as Banking & Insurance and Communication.

In this section, we briefly analyse the role of economic reforms with respect to the arguments mentioned above in contributing to the revival in Kerala's economic growth.

First we take up the role of "the removal of a number of minor and major constraints to investment, import of technology and raw materials". The liberalisation of imports initiated in the 1980s pertained to capital goods and components required for a number of commodities catering to luxury consumption, especially of electronics and automobiles (Chandrasekhar and Ghosh 2004)[19].

Did such liberalisation lead to higher growth rates for the industries that were supposed to benefit from it? Evidence clearly shows such expectations were not realised in the case of Kerala. Table 3.12 shows the growth rates (for the eighties and over a medium term following the initiation of economic reforms) in net value added in the 2-digit industry groups that were supposed to benefit from the liberalisation of capital goods and components. Electronic goods come under NIC codes 35, 36 and 38 (machinery & equipment and other manufacturing), while transport equipment comes under NIC code 37.

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[18] See Kannan (2005), and Pushpangadan (2003), for instance.

[19] The basis for this strategy was the argument - explicitly stated by some government officials - that since even the small segment of the population that demanded such goods amounted in absolute terms to a fairly large number, the economy could grow on the basis of such an industrialisation strategy whose benefits would eventually 'trickle down' to the poorer sections of the population as well (Chandrasekhar and Ghosh 2004).

Table 3.12 - Growth Rates in Net Value Added in Selected Industries in Kerala

| NIC Code | Industry | % Share in total value added in manufacturing (current prices), 1997-98 | | Exponential annual growth rates in Net Value Added | | | |
|---|---|---|---|---|---|---|---|
| | | | | Kerala | | India | |
| | | Kerala | India | 1981-82 to 1990-91 | 1991-92 to 1997-98 | 1981-82 to 1990-91 | 1991-92 to 1997-98 |
| 35 & 36 | Machinery and equipment | 9.4 | 14.5 | 7.41 | 2.86 | 5.54 | 7.91 |
| 37 | Transport equipment | 2.6 | 8 | -3.09 | 9.31 | 4.51 | 15 |
| 38 | Other manufacturing | 1.1 | 1.8 | 17.83 | -1.17 | 12.5 | 16.53 |

Source: Subrahmanian and Azeez (2000)

The figures presented show that the growth rates in net value added in both machinery & equipment and other manufacturing were substantially lower in Kerala after the reforms were initiated compared to the period preceding it. While transport equipment showed a large increase in growth rate, its share in the total value added in manufacturing in the state was too low (2.6 per cent) even by 1997-98 for it to have contributed substantially to the growth turnaround. (This contrasts sharply with what was happening at the all-India level, where growth rates were substantially higher for all the three industry groups considered.)

Given the structure of the manufacturing sector in Kerala, the removal of controls in capacity creation and expansion that was initiated as part of the reforms in 1991 was far less consequential for the industries in the state. The turnaround in Kerala's economic growth (and in manufacturing growth) had begun before the removal of capacity controls came about. The triennium ended 1989-90 saw a big expansion in the number of small scale industrial units (Government of Kerala, *Economic Review* (1990)). Out of the total number of 63698 small scale units registered till the end of the seventh plan, 23356 units constituting 36.7% of the total number of units were registered during 1987-90, an

all time record. Moreover, the growth rate of the unregistered manufacturing sector since 1987-88 was in fact higher than that of the registered manufacturing sector.

The sheer lack of any correspondence between the timing of the beginning of the growth turnaround and the initiation of accelerated economic reforms in 1991, especially allowing for some time lag for the effect of the reform to make itself felt, is telling. Moreover, the revival of the fortunes of the primary sector in the late 1980s had nothing to do with economic reforms.

To examine the argument that the transition away from the fixed exchange rate regime led to increases in the magnitude of remittances, thereby reinforcing the higher growth rates, we take a look at the figures that Kannan and Hari (2002) had estimated to demonstrate the gain in remittances in rupee terms that has resulted due to exchange rate liberalisation (Table 3.13). In the table, the estimated exchange rate refers to the rate under a regime of fixed exchange rate system. The figures for 1991-92 onwards refer to the projected exchange rates had there been no liberalisation of the exchange rate system.

From a close reading of the figures, it is clear that the depreciation of the exchange rate during the period under analysis in Table 3.13 actually happened in two lots - one, when the rupee depreciated against the US dollar by nearly thirteen rupees from Rs. 17.94 per US$ in 1990-91 to Rs. 30.65 per US$ in 1992-93, and two, when the domestic currency depreciated against the US dollar by Rs. 37.16 per US$ in 1997-98 to Rs. 42.07 per US$ in 1998-99. In other words, the depreciation of the rupee that resulted from the abandoning of the fixed exchange rate system brought one-off increases at two points of time.

We had observed in Chapter 2 that the turnaround in the growth performance of the primary and secondary sectors is observed from 1987-88 onwards, an upturn in the growth of the service sector is visible from Rs. 1992-93 onwards. But the years immediately preceding 1992-93 (as well as a few subsequent years) were the ones during which agricultural incomes were rising very fast. For instance, 1991-92 was the year in which the command of agricultural income over manufactured goods grew by 76.6 per cent - something that was unprecedented (during our period of analysis in Chapter 4, from 1981-82 onwards) and unmatched ever since. This factor, as we would see in Chapter 4, turned out to be significant.

Table 3.13 - Impact of Exchange Rate Liberalisation on Remittances

| Year | Remittance (Rs. Crores) | Exchange Rate (Rs./US$ Actual) | Remittance in US$ (Crores.) | Estimated Exchange Rate (Rs./US$) | Estimated Remittance (Rs. Crores) | Gain due to exchange rate liberalization (Rs. Crores) |
|---|---|---|---|---|---|---|
| 1985-86 | 522.47 | 12.23 | 42.72 | 12.23 | 522.47 | 0 |
| 1986-87 | 861.11 | 12.77 | 67.43 | 12.77 | 861.11 | 0 |
| 1987-88 | 891.09 | 12.96 | 68.76 | 12.96 | 891.09 | 0 |
| 1988-89 | 823.98 | 14.48 | 56.9 | 14.48 | 823.98 | 0 |
| 1989-90 | 1155.89 | 16.64 | 69.46 | 16.64 | 1155.89 | 0 |
| 1990-91 | 873.24 | 17.94 | 48.68 | 17.94 | 873.24 | 0 |
| 1991-92 | 2428.22 | 24.47 | 99.23 | 19.18 | 1903.25 | 525 |
| 1992-93 | 3025.24 | 30.65 | 98.7 | 20.5 | 2023.9 | 1001 |
| 1993-94 | 3882.3 | 31.36 | 123.8 | 21.92 | 2713.88 | 1168 |
| 1994-95 | 6083.67 | 31.39 | 193.81 | 23.44 | 4542.24 | 1541 |
| 1995-96 | 7068.76 | 33.44 | 211.39 | 25.06 | 5296.52 | 1772 |
| 1996-97 | 9521.37 | 35.49 | 268.28 | 26.79 | 7186.64 | 2335 |
| 1997-98 | 10760.73 | 37.16 | 289.58 | 28.64 | 8293.1 | 2468 |
| 1998-99 | 10817.46 | 42.07 | 257.13 | 30.62 | 7872.67 | 2945 |
| 1999-00 | 13652.14 | 43.33 | 315.07 | 32.73 | 10313.34 | 3339 |

Source: Kannan and Hari (2002)

While the impact of increased remittance inflows due to the one-off increase that occurred between 1990-91 and 1992-93 was indeed significant for a while and

contributed to the upturn in service sector growth, the impact of such one-off increases could not have lasted for long owing to the rise in prices in the subsequent years. That the lowest rates of growth in services since 1991-92 were recorded in 2000-01 (3.07 per cent), when agrarian distress resulted in the command of agricultural goods over manufactured goods fell for the first time since 1981-82, could be a pointer in this direction. That a second lot of one-off increase in remittances had occurred due to the depreciation of the domestic currency against the US dollar from Rs. 37.16 per US$ to Rs. 45.68 in 2000-01 (RBI 2009) does not seemed to have helped beyond a point[20].

Thus the overall impact of such increases in remittances to affect the economic growth of the state was limited compared to the demand arising out of domestic income, as we found out earlier.

## (ii) Remittances, Private Provisioning and Human Development in Kerala

The proponents of the remittance-led growth argument give credit to the achievements of the state on the human development front for having enabled the people to take advantage of opportunities for emigration, and thereby for having caused a heavy inflow of remittances that supposedly led to a higher growth path[21]. Some scholars subscribe to a variant of this view, namely that Kerala has been witnessing a virtuous cycle whereby human development and economic growth are reinforcing each other. They argue that remittance-led economic growth has prevented setbacks to the state on the human development front, and that the continuing improvements in social development during the high-growth period has been because increased incomes have allowed people to access the services provided by private providers of education and health.

[20]We have not presented remittance figures after 1999-00. But the number of emigrants per 100 households in the state increased from 21.4 in 1998 to 26.7 in 2003 (Zachariah and Rajan 2007), which can be reasonably assumed to have reflected in the remittance inflows during the intervening years between 1998 and 2003.

[21] See Kannan (2005) and Pushpangadan & Parameswaran (2006), for instance.

The idea of the "virtuous cycle" to describe the growth process in Kerala was first put forward by Pushpangadan (2003). According to him, the study by Ranis and Stewart (2001) provides the analytical framework for understanding Kerala's growth experience. In their analysis, Ranis and Stewart classify developing countries into four categories on the basis of a two-way classification of human development (HD) and economic growth (EG). They are countries with (1) HD and No EG (HD-lopsided), (2) No HD and EG (EG-lopsided), (3) HD and EG (Virtuous) and (4) No HD and No EG (vicious). Pushpangadan argued that Kerala's growth can be characterized as belonging to the 'vicious' category in the 70s (stagnation period) and 'virtuous' in the 80s and 90s (revival and acceleration period). He, however, did not give any explanation for this line of argument.

A clearer articulation of the argument was later provided by Chakraborty (2005), who suggested that with the turnaround witnessed since the end of the 1980s, Kerala might have seen the onset of a virtuous cycle of development whereby human development and economic growth are mutually enforcing each other. The idea was articulated in terms of the possibilities of two alternative consequences of lopsided development - termed as the "virtuous and vicious cycles of development" - put forward by Ranis et al. (2000), who had suggested that there are two distinct causal chains - one runs from growth (EG) to human development (HD) and the other from HD to EG. These causal chains may give rise to a mutually reinforcing upward or downward spiral. High HD may lead to high EG, and high EG in turn makes a higher level of HD possible. Conversely, low HD constrains EG, which in turn stymies further HD. As people become healthier and more educated they contribute more to economic growth, although not all dimensions of HD contribute to EG. Thus Ranis et al classified countries into four categories: virtuous, vicious and two types of lopsidedness. Lopsidedness could be of either HD-lopsided type (i.e., strong HD and weak EG) or EG-lopsided type (weak HD and strong EG).

Chakraborty went on to elaborate the linkages that appear to run from EG to HD in the context of Kerala. According to him, Kerala had so far avoided slipping into a situation of slow improvement in human development as slow growth becomes a constraining

factor on financing welfare expenditure, largely because private expenditure seems to have complemented public expenditure to finance health and education. He sought to provide evidence for this argument by pointing out that 59.9 per cent of those who receive hospitalised treatment in rural areas, and 61.4 per cent in urban areas, go to private hospitals. The number of 'private unaided' schools and self-financed courses in colleges had increased dramatically in the 1990s. Remittances from Keralites working outside the state provide the vital link in this chain of arguments. Apart from house construction, education and healthcare are two major items on which households spend their money received as remittances. Thus the author comes to the conclusion that the continued improvement in human development in the 1980s and 1990s could partly be attributed to this indirect mechanism, leading to increasing private income and resulting growth in purchase of healthcare from the market. In this section, we try to see how valid this argument is.

First we examine the case of healthcare. Is it indeed the case that a larger proportion of the population has been turning to private hospitals for healthcare in the high-growth phase compared to the previous period? Regarding the evidence on this regard, there is one problem with the data that Chakraborty (2005) had reported - the NSS reports give data on the percentage of ailments receiving hospitalised and non-hospitalised treatments, and not on the percentage of persons who receive such treatments. If people with higher income have a higher tendency to demand treatment for diseases, as can be reasonably assumed, the data that NSS provides might not be sufficiently accurate as a proxy for the number of persons who receive hospitalised and non-hospitalised treatments.

The published figures from NSS reports[22] do not convincingly prove Chakraborty's point. The percentage of ailments receiving hospitalised treatment by public providers went down from 40.1 per cent in 1995-96 to 35.6 per cent in 2004 in rural areas and from 38.4 per cent to 34.6 per cent during the same period in urban areas. On the other hand, the percentage of ailments receiving non-hospitalised treatment by public providers went down from 32 per cent in 1986-87 to 28 per cent in 1995-96, only to go up to 37 per

[22] National Sample Survey Organisation (1998 and 2006a)

cent in 2004. For urban areas, the corresponding figures were 33 per cent, 28 per cent and 22 per cent. Since the number of outpatient episodes (non-hospitalised treatment) exceeds the number of inpatient episodes by a very large margin[23], we would require combined data for hospitalised and non-hospitalised treatments to get the correct picture. Since this data is not available from NSS reports, we look at data available from an alternative source.

'Kerala Padanam'[24] (A Study of Kerala) published by the Kerala Sastra Sahitya Parishad (KSSP) in 2006 gives the data for the number of persons who depend on the public sector and the private sector for healthcare for the years 1987, 1996 and 2004, based on surveys conducted by KSSP during those years.[25] The estimates show that the percentage of people who depend on the public sector steadily went up from 23 in 1987 to 28 in 1996 and further to 32 in 2004. This increase occurred even as the number of hospital beds in the private sector increased by 40 per cent between 1986-87 and 1995-96 (Dilip 2008). [26]

Thus, we find no evidence that a higher proportion of the population are dependent on private hospitals during the high-growth period than before, even as health indicators have continued to improve.

For an analysis of the issue vis-à-vis education, we carry out a rank correlation exercise with regard to district level data on emigration and remittances on the one hand and educational attainment on the other hand. The variables we use are emigrants per 100

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[23] The share of inpatient cases in the total number of cases treated in private hospitals was only 5.1 per cent in 1995-96 (Dilip 2008).

[24] Aravindan (2006)

[25] The years correspond to the years for which NSS has published reports on morbidity and health. The sample sizes for the KSSP surveys were bigger compared to the NSS surveys. For instance, the sample size for the 2004 survey was 6000 households for the KSSP survey compared to 1839 for the NSS survey.

[26] Interestingly, the period between 1995-96 and 2004 saw a 9 per cent drop in the number of hospital beds in the private sector. The number of beds in the public sector continued to expand in both the periods. The increase was 14 per cent between 1986-87 and 1995-96 and 7 per cent between 1995-96 and 2004 (Dilip 2008).

households, per capita household remittances, literacy, the growth of literacy over the period 1991 to 2001, and the Human Development Index rank.

The results are as follows.

Table 3.14 - Emigration and Human Development: Results of Rank Correlation Exercise

| Variables (District-level) | | Rank Correlation Coefficient (R) |
|---|---|---|
| Emigrants per 100 households, 2003 | Human Development Index Rank, 2005 | **-0.07** |
| Emigrants per 100 households, 1998 | Growth rate of Literacy, 1991-2001 | **-0.03** |
| Emigrants per 100 households, 1998 | Literacy Rate, 2001 | **-0.02** |
| Emigrants per 100 households, 2003 | Literacy Rate, 2001 | **0.00** |
| Per capita household remittances, 2003 | Human Development Index Rank, 2005 | **0.21** |
| Per capita household remittances, 1998 | Growth rate of Literacy, 1991-2001 | **-0.29** |
| Per capita household remittances, 1998 | Literacy Rate, 2001 | **0.27** |
| Per capita household remittances, 2003 | Literacy Rate, 2001 | **0.21** |

The correlation between emigration and the literacy is clearly weak, and so is the case with the correlation between per capita remittance and literacy. The correlation between emigrants per 100 households and the growth in literacy rate is very weak. The correlation between emigration/remittances and the human development index rank is also weak, owing to the effect of per capita income and literacy, both of which are

comparatively lower in many districts which send out the most number of emigrants and receive the bulk of the remittances. This result significantly weakens the argument that improvements in the achievements on the education front can be attributed to the purchase of educational facilities from the private sector.

The number of private unaided schools has increased sharply during recent years. Districts like Malappuram, Thrissur, Kollam and Kannur that rank high on emigration and/or per capita household remittance showed big increases, as Table A3.2 (see Appendix) shows. In 1990-91, out of a total student population of 5.9 million, private unaided schools accounted for only 2.5 per cent. By 2005-06, this proportion rose to 7.4 per cent while the student intake in the government schools declined from 39 per cent in 1990-91 to 31.5 per cent in 2005-06 (Oommen 2008). There is, evidently, an outflow of students from affluent backgrounds to unaided schools, but the largest increases in literacy rates during the 1991-2001 period have been recorded in Palakkad and Wayanad (see Table A3.1 in the Appendix) - the districts with the highest proportion of Scheduled Castes and Scheduled Tribes (sections who are the least likely to derive much benefit out of unaided schools that cater to the relatively well-off) respectively. There is no evidence, in short, to suggest that improvements in literacy rates would result on account of the availability of more expensive educational facilities.

To sum up, the period of high economic growth in the state since the late 1980s has seen an increase in the healthcare facilities in the private sector. The number of hospital beds recorded a huge increase between 1986-87 and 1995-96, though the number dropped subsequently. Analogous to this was the changes occurring in the education sector, reflected in large increases in the number of private unaided schools in recent years. But results presented in this chapter show that the proportion of people who depend on the public sector for healthcare has gone up since 1987. Though the outflow of students from the government schools and aided schools to expensive private unaided schools has been sizable of late, the largest increases in literacy rates during the nineties were recorded in districts with the highest proportion of Scheduled Castes and Scheduled Tribes. Therefore, we find little credence to the argument that the continuing improvements in human development that Kerala has experienced during the high-

growth period have come about because increasing proportions of people, buoyed by remittance income, purchased education and healthcare from the market.

What comes about from our analysis in this section is that the principal driver of improvements in education and health, so far as they come about by extending access to sections of the society for whom they were inaccessible hitherto, is expanding public provisioning. Trusting private service providers with private motives to provide education and health so that the achievements of the state in social development could be sustained and deepened would be a folly. The dangers inherent in doing so are brought sharply to the fore by something that we observed earlier in this section. If the government had taken the huge jump in hospital beds in the private sector between 1986-87 and 1995-96 as an indication that it could withdraw from healthcare and if it had stopped expanding public facilities in healthcare, the effects would have been disastrous for vast sections of society, with the drop in the number of hospital beds in the private sector that kicked in after 1995-96.

## (iii) The Dutch Disease Argument

In this section, we examine the explanations put forward by K.N. Harilal and K.J. Joseph to account for the revival in the economic growth of Kerala since the late 1980. Harilal and Joseph (2003) used a Dutch disease model to account for the stagnation of the economy of Kerala since the mid-1970s and which lasted till 1986-87 and to draw tentative explanations for the revival in growth that occurred thereafter. Their argument is as follows:

The period from 1973-74 to 1987-88, when the remittances to the state recorded large increases, has been one of phenomenal increase in the wages rates. The real wages almost doubled for all the categories of workers, even as this period was marked by a long drawn out crisis in domestic production. The source of growth in wages was not the pressure of any expansion in domestic production, but the 'resource movement effect' which resulted from the migration of labourers. The impact of migration on the domestic supply of labour was felt the most in the construction sector, as skilled

construction workers constituted a substantial share of the migrant labourers from Kerala. The consequent scarcity of construction labour was further accentuated by the remittances induced construction boom. As a result construction wages started moving up systematically. The tendency of wages to increase soon spread to all the interrelated labour markets. The rise in wages adversely affected the competitiveness of the tradable sector more than the non-tradable, which by definition, are insulated from the threat of external competition. Trends in the wage relative (wage difference between the states as a proportion of wage in Tamil Nadu) between Kerala and Tamil Nadu showed that the period since 1974 witnessed a widening of the gap in wage rates in Kerala vis-à-vis Tamil Nadu, with the wage rates in the former state ruling far higher above the wage rates in the latter. The 'spending effect' caused by the remittances boom resulted in the prices of non-tradables rising vis-à-vis those of the tradables. Exchange rate movements during 1976-77 to 1985-86 had adversely affected India's export performance. Even though the nominal effective exchange rate was depreciating, the real effective exchange rate of the rupee tended to firm up over the period, due to the higher inflation rate within the country. Since the inflation rate in Kerala was generally higher than the national average during the period, the adverse impact of the real appreciation of the rupee was more severe on the exports of Kerala. Thus the boom in the external sector, by raising the prices of factors of production, had drained the competitiveness of the tradable commodity producing sectors, even as the sectors producing non-tradables were not affected by the crisis that the regional economy witnessed since mid-1970s.

The authors argue that what appears to be happening since 1987-88 is the beginning of a reversal of the process of Dutch disease which was set in motion in the mid -1970s. The decline in the rate of growth in remittances resulting from the return migration during the second half of 1980s might have weakened the resource movement effect. They cite the tendency for the wage disadvantage that the Kerala economy encountered vis-à-vis its immediate competitors to slowly disappear as evidence for this. Moreover, the adverse impact of the spending effect and associated real appreciation would have been weakened by the national policy of continuous nominal and real depreciation of the rupee.

With regard to the explanation for the growth revival, the Dutch disease argument rests primarily on the hypothesis that the differences in wages in Kerala and its neighbouring states have tended to narrow down since the late 1980s and especially in the 1990s[27]. The authors seek to provide evidence by presenting a graphical analysis that suggests that the differences in wages in Kerala and Tamil Nadu have tended to narrow down in the 1990s (The agricultural wage relative has been used as a proxy for the differences in wages). To verify the validity of this claim, we take a look at the wage rates prevalent in the agriculture sector in the four southern states. The wage rates as revealed by two Quinquennial (thick-sample) surveys of the NSS - the 50th Round (1993-94) and the 61st Round (2004-05) are reproduced in Table 3.15. The results clearly show that in terms of absolute magnitude, the differences in wage rates have widened by 2004-05 compared to 1993-94.

Table 3.15 - Average daily money wages for agricultural workers in the four Southern states

| AGRICULTURE | Average daily money wages | |
|---|---|---|
| Rural Male Workers | **1994** | **2005** |
| Kerala | 45.67 | 119.57 |
| Andhra Pradesh | 19.54 | 45.47 |
| Karnataka | 20.57 | 44.59 |
| Tamil Nadu | 25.66 | 64.03 |
| Rural Female Workers | | |
| Kerala | 31.24 | 72.71 |
| Andhra Pradesh | 14.00 | 29.29 |
| Karnataka | 14.15 | 30.53 |
| Tamil Nadu | 14.80 | 34.89 |

Source: Silpa (2008)

The case of the manufacturing sector is no different (Table 3.16).

But it is quite possible that the wage differences might have been narrower during a substantial part of the intervening period between 1993-94 and 2004-05. To check whether this might have happened, we look at the average daily wage rates for skilled

[27] As for the contention about price levels and real appreciation, our analysis in Section (i) had shown that the rise in price levels in Kerala were not substantially higher than the all-India average even during the phase of slow growth.

and unskilled workers in the agricultural sector provided by the *Economic Review* published by the Kerala State Planning Board and the index numbers of the wages of certain categories of workers in the agricultural sector, provided by the *Annual Abstract of Statistics* published by the Government of Tamil Nadu. The compounded annual growth rates and the averages of annual growth of wages rates over the sub-periods 1993-94 to 1999-2000 and 1999-2000 to 2004-05 are shown in Tables 3.17 and 3.18.

The results clearly establish the fact that the wage rates in Kerala have been substantially higher than that in Tamil Nadu all through the period. Starting from a low base, the growth rates of wages during the first period have been higher in Tamil Nadu. But the slow down in the growth of wage rates that is evidence during the second period is also more pronounced in Tamil Nadu compared to Kerala.

Table 3.16 - Average daily money wages for workers in the manufacturing sector in the four Southern states

| MANUFACTURING SECTOR | Average daily money wages | |
|---|---|---|
| Rural Male Workers | **1994** | **2005** |
| Kerala | 50.45 | 138.75 |
| Andhra Pradesh | 31.11 | 74.55 |
| Karnataka | - | - |
| Tamil Nadu | 29.84 | 70.73 |
| Rural Female Workers | | |
| Kerala | 18.21 | 59.79 |
| Andhra Pradesh | 16.67 | 32.23 |
| Karnataka | - | - |
| Tamil Nadu | 17.67 | 38.29 |
| Urban Male Workers | | |
| Kerala | 49.22 | 185.27 |
| Andhra Pradesh | 39.55 | 121.00 |
| Karnataka | 47.48 | 139.08 |
| Tamil Nadu | 34.00 | 133.92 |
| Urban Female Workers | | |
| Kerala | 21.41 | 68.10 |
| Andhra Pradesh | 15.26 | 48.47 |
| Karnataka | 17.87 | 69.21 |
| Tamil Nadu | 17.45 | 46.95 |

Source: Silpa (2008)

Table 3.17 - Growth in wage rates for agricultural workers in Kerala

| | **Growth of Average daily wage rates, Kerala(%)** | |
|---|---|---|
| Skilled Workers in Agricultural Sector | 1994-2000 | 2000-2005 |
| Carpenter | 13.71 | 3.80 |
| Mason | 13.62 | 3.34 |
| Unskilled Workers in Agricultural Sector | | |
| Male | 13.97 | 6.85 |
| Female | 14.22 | 7.99 |

Source: Government of Kerala, *Economic Review* (various issues).

Table 3.18 - Growth in wage rates for agricultural workers in Tamil Nadu

| | **Growth of Average daily wage rates, Tamil Nadu(%)** | |
|---|---|---|
| | **1994-2000** | **2000-2005** |
| Ploughmen | 18.22 | 2.11 |
| | | |
| Sowers & Pluckers | | |
| Men | 15.95 | 2.51 |
| Women | 14.72 | -0.26 |
| Transplanters & Weeders | | |
| Men | 16.03 | 3.51 |
| Women | 15.06 | 0.17 |
| Reapers & Harvesters | | |
| Men | 15.55 | 1.47 |
| Women | 13.87 | -1.03 |
| Other Agricultural Labourers | | |
| Men | 15.71 | 1.54 |
| Women | 14.47 | 0.44 |

Source: Government of Tamil Nadu, *Annual Statistical Abstract of Tamil Nadu* (various issues).

In short, there is no sign of any weakening of the Dutch disease syndrome in Kerala, if it existed at all in the state. If the most important factor that determines the growth trajectory of the tradable goods sector in the regional economy is the relative wage rates in the state vis-à-vis its immediate competitors, as the authors suggest, Kerala is still at a "disadvantageous" position even as the tradables have shown an improvement in growth rates compared to the stagnation phase.

The very claim that the high wage rates are primarily a result of the depletion in the labour force would be untenable given the substantial labour surplus that still exists in the economy. If labour markets are segmented, and if the surplus from other sectors cannot be shifted to the construction sector easily, there is no reason why, the higher wage rates prevalent in the construction sector should spread to other sectors but for the active intervention of labour unions or the state. If the surplus can indeed be shifted, on the other hand, there is no reason why (again, but for intervention by unions or the state) the wage rates in the construction sector should go on increasing for long periods of time. It is highly unlikely that the apparent scarcity of workers in the construction sector could have persisted for considerably long periods of time.[28]

It is not our objective to verify the validity of the Dutch disease argument in explaining the stagnation phase of the Kerala economy. But we found that the imprint of the Dutch disease in terms of a weakening of the symptoms associated with it is less present in the era of neoliberal economic policies when the private sector, which is more affected by relative costs and wages, is expected to play a much more important role, rather than in the earlier regime of dirigisme where the state had a more important role in investment decisions. In this context, it would not be out of place to say that the persuasiveness of

[28] "It is possible that the migration of skilled from the industrial sector or the services sector may have created temporary sector-specific or region-specific shortages. More important, perhaps, it may have led to some deterioration in the quality of such labour skills available for use at home in as much as the best sought to migrate and were replaced by the second-best. The shortages, combined with the quality deterioration, may thus have led to an increase in the wage rates for certain categories of skilled workers, though not as much as is widely believed. It should also be recognized that even the observed increases in wages in certain skill-categories are not entirely attributable to migration." (Nayyar 1989)

the Dutch disease model as an explanation for the growth trajectory of the state is substantially weakened.

In short, even as an explanation for the growth in wage rates in Kerala, the validity of the Dutch Disease argument is suspect, whereas as an explanation for growth, the framework is totally inadequate.

## (iv) Conclusion

We began the analysis in this chapter by examining whether remittance inflows have led to a rise in prices. We found that there is little evidence to infer that the inflow of remittances has led to a rise in prices in the high-migration districts of Kerala that is out of line with the rise in price levels in other districts. Nor was it the case that the price levels in Kerala had risen more than the price levels in India as a whole. The leakage of remittance income into imports of food grains and consumer durables from other states and into land purchases, along with a high amount of labour surplus that existed in the economy, had prevented prices from rising disproportionately.

The impact of remittances on the domestic economy in terms of augmenting production capacity was not substantial, as the bulk of the remittance income was either spent on construction of houses, land purchases, purchase of consumer durables from other states, or parked in banks. Early micro-level studies and recent surveys provide evidence for this pattern of fund utilisation among migrants' households. The low Credit-Deposit Ratio prevailing in Kerala shows that the savings out of remittance income are not being used for investment purposes on a substantial scale.

During the period when the economy was facing stagnation, remittances did not lead to much growth in the state, though it had probably resulted in higher tertiary sector growth in the high-migration districts. The demand for industrial products arising higher remittance income mostly leaked out to other states. In the high-growth phase, on the other hand, while remittance inflows in rupee terms became much larger, with emigrants' households moving up on the income ladder, the propensity to consume fell. Moreover, the MPC of emigrants' households is lower than the MPC of other households since emigrants' households belong on an average to a higher income

bracket. At the margin, therefore, increments in the income of households without emigrants are more likely to be spent (either on consumption or investment in productive sectors) rather than being parked in banks or spent on land purchases, etc. than is the case with increments in the income of emigrants' households. A large part of the consumption of emigrants' households was of a conspicuous nature and highly import-intensive, which meant that the impact of the consumption expenditure of emigrants' households on the commodity-producing sectors of the state economy was lower than that of households without emigrants.

The multiplier effects on domestic output of the increased consumption due to increments in the income of emigrants' households was, therefore, lower compared to that arising from increments in the income of other households.

We found the claim that economic reforms were the proximate reason for the turnaround, and that the intensification of reforms had helped accelerate growth as having little basis, as the effects of reforms were not felt in the sectors which were supposed to benefit the most out of the reforms, even while sectors that had not benefitted from reforms registered high growth rates. The effect of the depreciation of the rupee in increasing remittance inflows in rupee terms was found to have occurred as one-off increases, the effect of which waned over time owing to the increase in price levels in the subsequent years; it was unlikely that such increases contributed substantially to increasing economic growth in the state, especially in the light of the observation of the lower MPC of emigrants' households, and the higher import-intensity of the consumption pattern of such households (which would mean that the impact of increments in the income of emigrants' households on the commodity-producing sectors of the state would be lower compared to increments in the income of other households.)

District-wise analysis provided further evidence to our analysis, as districts which received the most remittances were rarely the ones which grew the fastest. Even in the case of services (which are "spatially embedded"), we found that the growth in high-remittance districts is not likely to be higher than other districts.

The argument that continued improvements in human development that the state had experienced in the high-growth phase was on account of people, buoyed by remittance income, purchasing education and healthcare from the market was found to be incorrect. A higher proportion of people were found to be using public facilities for healthcare, while the biggest improvements in literacy had occurred in districts with large populations of the most deprived sections of society (and which received comparatively little remittance inflows).

The Dutch Disease argument was found to be inadequate to explain the revival in growth of the Kerala economy, as the main symptom of the "disease", namely the high wage rates that existed in Kerala (and which were much higher than the neighbouring states), which had supposedly rendered the tradable goods sector in the state uncompetitive, was found to have persisted in the high-growth phase as well, with wage rates actually recording big increases.

To sum up, the remittance-led growth argument and the Dutch Disease argument are inadequate as explanations for the growth turnaround of the Kerala economy. Our point is not to deny that remittances have contributed to growth, but to show that their impact on economic growth was not as significant as the remittance-led argument suggests. Since the multiplier effect of consumption demand arising from increments in the income of emigrants' households is lower than that arising from increments in the income of other households, and since the former itself has fallen in the high-growth period compared to the slow-growth period, the primary stimulus for the sustained growth of the Kerala economy since the late 1980s must have come from elsewhere. It is the search for the source of this stimulus that we turn our attention to in the next chapter.

**Note on the estimates of remittance inflows used in Section (i)**

International labour migration from India, since Independence, has been associated with two sorts of financial flows, both of which have acquired significant dimensions since the mid-1970s. First, there are the inflows of remittances that represent unrequited transfers from migrants to support their families, whether for consumption or for investment. Second, there are inflows of repatriable deposits, an overwhelming proportion of which probably originate from migrants in the industrialized world (Nayyar 1989).

In balance of payments statistics, remittances can be identified as the credits on account of the private transfer payments. There are no published data on private transfers by country of origin. However, the Reserve Bank of India compiles and publishes statistics that provide a region-wise classification of current account transactions. The credit entries on account of the private transfer payments are, therefore, classified by regions defined in terms of the sterling area, the dollar area, the OECD area and the rest of the non-sterling area.

The Persian Gulf states in the Middle East fall under the sterling area, while many oil-exporting countries of West Asia and North Africa come under "Rest of the non-sterling area". On the basis of plausible assumptions about the share of the Persian Gulf states in net private transfer payments (NPT) from the sterling area and about the share of West Asia and North Africa in such payments from the rest of the non-sterling area, Nayyar (1994) had generated time series data on remittances to India from the Middle East from 1972-73 to 1990-91. Kannan and Hari (2002) have used the same assumptions and updated the series up to 1999-2000, by assuming the same share for 1991-2000 as in the previous period suggested by Nayyar.

To estimate remittances to the Kerala economy, Kannan and Hari computed and added up the following: (i) the share of Kerala in the Net Private Transfers (NPT) in the current account of the Balance of Payments of India, (ii) the Non-Resident Indian (NRI) deposits in banks located in Kerala, and (iii) the money equivalent of remittances in kind.

To estimate the share of Kerala in the NPT to India, Kannan and Hari uses the data from various sources on the stock of Indian migrants in the Middle East at some time points between 1975 and 1991. Data for the years that are missing, and for the period since 1991 (except the period 1998-2000, for which the figures have been projected by assuming the same compound growth as Kerala taking into account the reported fall in stock of Keralites in gulf countries) are filled in using interpolation and extrapolation. The actual stock of Keralites in 1980-98 in Gulf countries from the unpublished data of the 1998 study by Zachariah, et.al (2001b) was used to find the share of persons from Kerala in the stock of Indians in Gulf countries. This share was applied to the remittances from Middle East Countries.

To find out Kerala's share in NPT to India from countries other than Middle East, a share of 5 percent was applied for the period 1972-73 to 1990-91. For the subsequent period (i.e. 1991-92 to 1999-2000) Kerala's share is taken at 8.5 percent. This is obtained from the Kerala Migration Study conducted by Zachariah, et al. wherein the source of remittances was obtained from the sample households. For the period 1972-79 the stock of Keralites has been estimated by interpolation with the condition that the figures for 1980 should match the actual figures

To the NPT to Kerala, Kannan and Hari add the NRI deposits in banks located in the state and "remittances in kind" to estimate the total remittances.

Data relating to NRI deposits in banks located in Kerala are published in the annual *Economic Review* published by the State Planning Board, Government of Kerala. These deposits are of three types: FCNR(B) which are repatriable deposits in foreign currency, NR(E)RA are repatriable deposits in Indian rupees and NR(NR)RD are in non-repatriable deposits in Indian rupees. The 1998 Kerala Migration Study (Zachariah, et. al (2001) estimated the share of remittances in kind and this works out to 6.18 percent of total remittances. This share has been applied for the nineties, while for the period before 1990-91, this share has been doubled to reflect the greater temptation to bring valuable electronic and other consumer durable goods.

It has to be noted, however, that the figures for the amounts outstanding in the non-resident external rupee accounts that Kannan and Hari have used include accrued

interest. The figures for the amounts outstanding in the foreign-currency non-resident accounts do not include accrued interest. But even the estimated rupee value of the net inflows into external accounts, which is different from the increase in the stock of deposits between the end of one year and the next, is not appropriate because of a problem associated with the valuation of inflows and outflows. For any repatriable deposit received in year *t*, for a period of say three years, both the inflow in the year t and the outflow in year *t*+3 are valued at the exchange rate prevalent when such deposits are received in year *t*+3. Thus, the estimates of the rupee value of net inflows into foreign currency non-resident accounts that the authors have quoted over-state the magnitude of the net inflows in terms of foreign currency value.

# Chapter 4 – An Alternative Hypothesis on the Turnaround in Growth

In the previous chapter, we found that existing explanations in the literature are inadequate to account for the growth turnaround of the Kerala economy. If neither of the supposed stimuli which triggered the turnaround - a quantum jump in consumption expenditure induced by remittance inflows or the narrowing down of the wage/price differences between Kerala and its neighbouring states which effectively restored the former's "competitiveness" in the production of tradable goods - actually materialized, what exactly triggered the shift to a higher trajectory of growth that the state economy experienced since the late 1980s? We devote this chapter to try and find an alternative explanation that could answer this question.

## (i) The Reasons for the Turnaround

We noted earlier that the terminal years of the 1980s saw a big expansion in the number of small scale industrial units. 23356 units constituting 36.7% of the total number of units were registered during 1987-90, an all time record. The biggest contributor to growth in the manufacturing sector in the 1990s was food and food processing, which grew at 12.86 per cent during 1991-92 to 1997-98 and amounted to 22.2 per cent of the share of total net value added in manufacturing in 1997-98 (Subrahmanian and Azeez 2000). Given these facts and the structure of Kerala's manufacturing sector, which is dominated by manufactured wage goods, we infer that the sustained growth in the manufacturing sector that we observe from 1987-88 to 1995-96 (except for 1990-91) was indicative of a substantial expansion in mass demand. We find that such an expansion in mass demand did occur, as agriculture began to show signs of recovery in 1987-88 after the damages suffered due to the unfavourable weather conditions during the previous five years (Government of Kerala, *Economic Review* (1988)), and grew at an impressive rate in 1988-89 (Table 4.1).

Though the agricultural sector had registered a high rate of growth in 1984-85 as well, it had come about after a prolonged period of stagnation. The agricultural growth rate was negative for six out of the eight years preceding 1984-85. 1982-83 and 1983-84 were

particularly bad years for agriculture, as the state was afflicted by severe drought during 1982 and 1983 (Government of Kerala, *Economic Review* (1983 and 1984)). Erratic weather persisted till 1987, which saw yet another drought that resulted in a sharp drop in agricultural production.

Table 4.1 - Growth rates in Manufacturing and Agriculture, 1981-82 to 2006-07

| Year | Annual Growth Rates of: | |
|---|---|---|
| | Manufacturing (%) | Agriculture (%) |
| 1981-82 | 7.57 | 0.85 |
| 1982-83 | 8.76 | -1.41 |
| 1983-84 | -5.82 | -7.82 |
| 1984-85 | -2.82 | 11.30 |
| 1985-86 | 2.75 | 4.51 |
| 1986-87 | -10.49 | -5.06 |
| 1987-88 | 14.41 | 4.32 |
| 1988-89 | 12.83 | 14.86 |
| 1989-90 | 20.27 | -1.38 |
| 1990-91 | -1.72 | 13.83 |
| 1991-92 | 3.22 | 3.23 |
| 1992-93 | 8.41 | 0.43 |
| 1993-94 | 3.62 | 4.24 |
| 1994-95 | 20.77 | 10.25 |
| 1995-96 | 8.55 | 0.72 |
| 1996-97 | -3.73 | 2.42 |
| 1997-98 | -3.39 | -4.75 |
| 1998-99 | 6.52 | 1.81 |
| 1999-00 | 5.49 | 1.70 |
| 2000-01 | 0.77 | 3.95 |
| 2001-02 | -6.64 | 1.02 |
| 2002-03 | 4.24 | 1.93 |
| 2003-04 | 4.79 | -2.73 |
| 2004-05 | 3.45 | 9.03 |
| 2005-06 | 5.60 | 6.62 |
| 2006-07 | 5.82 | 6.13 |

A clear break in this pattern was observed from 1987-88 onwards, when the weather conditions improved, and most of the crops showed improved production (Government of Kerala, *Economic Review* (1988)).

Table 4.2 - Index of Prices Received and Prices Paid by Farmers, 1980-2006 (Base: 1952-53 = 100)

| Year | Prices Received | Prices Paid | Parity Index |
|---|---|---|---|
| 1980 | 481 | 578 | 93 |
| 1981 | 516 | 594 | 87 |
| 1982 | 539 | 641 | 87 |
| 1983 | 688 | 707 | 97 |
| 1984 | 883 | 850 | 104 |
| 1985 | 783 | 896 | 87 |
| 1986 | 921 | 984 | 93 |
| 1987 | 1063 | 1066 | 100 |
| 1988 | 1044 | 1143 | 91 |
| 1989 | 1017 | 1200 | 85 |
| 1990 | 1072 | 1277 | 84 |
| 1991 | 1315 | 1435 | 92 |
| 1992 | 1486 | 1646 | 90 |
| 1993 | 1496 | 1834 | 82 |
| 1994 | 1582 | 2057 | 77 |
| 1995 | 1802 | 2331 | 77 |
| 1996 | 2079 | 2666 | 78 |
| 1997 | 2486 | 3007 | 83 |
| 1998 | 2447 | 3212 | 76 |
| 1999 | 2907 | 3532 | 82 |
| 2000 | 2492 | 3836 | 66 |
| 2001 | 1927 | 4048 | 48 |
| 2002 | 1999 | 4122 | 49 |
| 2003 | 2454 | 4295 | 57 |
| 2004 | 2651 | 4459 | 59 |
| 2005 | 2440 | 4640 | 53 |
| 2006 | 2474 | 4947 | 50 |

Source: Government of Kerala, *Economic Review* (various issues).

1987 was also a year when agricultural prices ruled high, with the parity index that represents the percentage ratio of prices received to prices paid by the farmers touching 100 for only the second and last time since 1980 (see Table 4.2). Just as the effects of this happy conjuncture of increased production and high crop prices in general waned (as the drop in the parity index, which is an unweighted index, in the subsequent years shows), another factor took centre stage that transformed the fortunes of the state economy.

This was the increased prices and production of rubber, which resulted in the value of rubber output as a proportion of total value added in agriculture exceeding 20 per cent for the first time in 1988-89 (Table 4.3).

Table 4.3 - Growth rates in the command of incomes originating in agriculture and rubber over manufactured goods, and the growth rates of the size of the value of rubber output as a proportion of agricultural income.

| Year | Annual Growth Rates of: | | |
|---|---|---|---|
| | Command of agricultural income over manufactured goods (%) | Command of income from rubber over manufactured goods (%) | Value of rubber output as a % of NSDP originating in agriculture |
| 1981-82 | 9.19 | 25.81 | 18.22 |
| 1982-83 | 24.62 | 14.74 | 16.77 |
| 1983-84 | 45.02 | 44.68 | 16.73 |
| 1984-85 | 17.50 | 9.22 | 15.55 |
| 1985-86 | 0.17 | 18.70 | 18.43 |
| 1986-87 | 34.59 | 22.49 | 16.78 |
| 1987-88 | 21.89 | 26.40 | 17.40 |
| 1988-89 | 13.19 | 13.16 | 17.39 |
| 1989-90 | 21.07 | 55.42 | 22.32 |
| 1990-91 | 24.80 | 22.09 | 21.84 |
| 1991-92 | 76.60 | 32.19 | 16.35 |
| 1992-93 | 8.54 | 34.63 | 20.28 |
| 1993-94 | 16.19 | 16.78 | 20.38 |
| 1994-95 | 35.32 | 68.56 | 25.39 |
| 1995-96 | 41.20 | 74.48 | 31.37 |

(Cont'd on next page)

| Year | Annual Growth Rates of: | | |
|---|---|---|---|
| | Command of agricultural income over manufactured goods (%) | Command of income from rubber over manufactured goods (%) | Value of rubber output as a % of NSDP originating in agriculture |
| 1996-97 | 25.19 | 13.01 | 28.32 |
| 1997-98 | 7.07 | -16.59 | 22.06 |
| 1998-99 | 10.81 | -8.33 | 18.25 |
| 1999-00 | 14.02 | 10.29 | 17.65 |
| 2000-01 | -11.18 | 2.22 | 20.32 |
| 2001-02 | 6.07 | 7.12 | 20.52 |
| 2002-03 | 16.02 | 27.82 | 22.61 |
| 2003-04 | 13.52 | 50.08 | 29.89 |
| 2004-05 | 15.37 | 23.32 | 31.95 |
| 2005-06 | 16.28 | 36.30 | 37.44 |
| 2006-07 | 16.84 | 53.73 | 49.27 |

Source for data on value of rubber output: Government of Kerala, *Economic Review* (various issues).

This share continued to increase through the first half of the nineties till it touched a peak of 31.37 per cent in 1995-96, but declined subsequently following the crash in rubber prices that ensued following trade liberalisation. With prices staging a recovery from 2001-02 onwards as a consequence of higher oil prices which made the production of synthetic rubber costlier (UNCTAD 2009), the share of rubber went up again and by 2004-05, it had exceeded the peak it had achieved in 1995-96. In 2006-07, the size of the value of rubber output as a proportion of value added in agriculture was a whopping 49.27 per cent.

The rise to prominence of this most dynamic of all major crops in Kerala, the growth in output of which had been outstripping that of all other crops (and by a large margin in most cases) for quite a long time[1], had far-reaching consequences. We argue that the most important upshot of the dynamism showed by the rubber sector in terms of increased production in a context of rising prices and the resultant increased share in

[1] Over the period 1970-71 to 1995-96, rubber output grew at an annual exponential rate of 6.27 per cent. The only other major crop that came even close was coffee, which recorded an annual growth of 5.21 per cent. The next highest growth rate was for cardamom (2.17 per cent) (George 1999; Lekshmi and George 2003).

total value added in agriculture has been that the principal stimulus for the growth of output in manufacturing, particularly manufactured wage goods, at least from the beginning of the 1990s was provided by the demand generated by rising incomes originating in the rubber sector.

To test the validity of this proposition, we estimate the following equation.

$Gm = a + bR + e$

Where $Gm$ is the annual rate of growth in NSDP (at constant prices) generated in the manufacturing sector from 1991-92 to 2006-07, and $R$ is the annual rate of growth in the command of income originating in the rubber sector over manufacturing goods for the same period, which was calculated by deflating the value of rubber output using the implicit deflators in the manufacturing sector.

The estimated equation is given below:

$Gm = -0.08 + 0.16R$

$R^2 = 0.46$

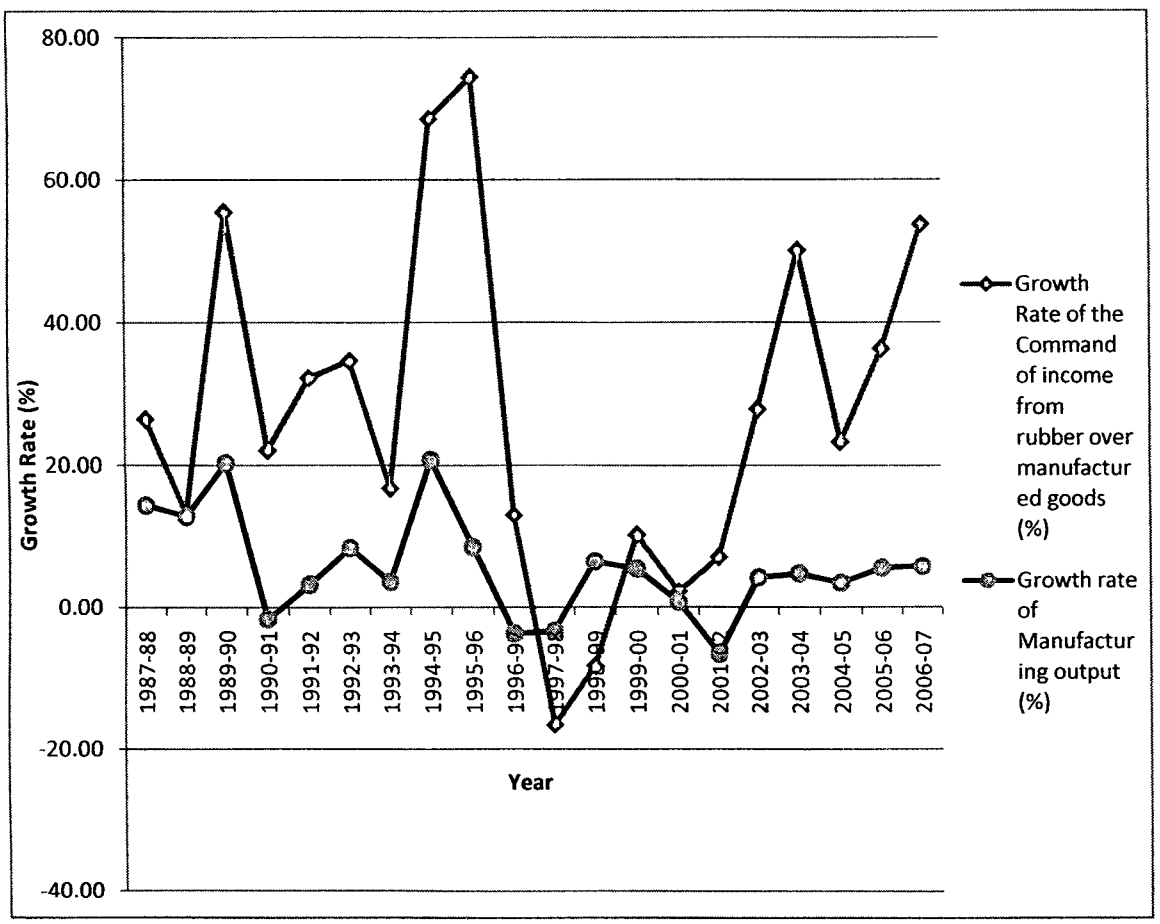
The estimated coefficient for $R$ is positive and was found to be statistically significant at 1 per cent level, which strengthens our argument.

The close correspondence between the growth rates of the command of income arising in the rubber sector over manufacturing goods and growth rates in manufacturing that is evident from our estimated equation can be seen in Figure 1.

The high rate of increases in rubber production and in prices which combined to effect the rising command of rubber income over manufactured goods resulted in an increase in the purchasing power of substantial sections of society who have a high marginal propensity to consume, a fact that is evident from the preponderance of the smallholding sector in natural rubber cultivation in Kerala. The share of smallholdings with an average size of less than 2 hectares in total area under rubber increased from 53 per cent in 1955-56 to more than 83 per cent in 2001, whereas the average holding size has declined to less than 0.5 hectare (Viswanathan et al. 2003, quoted in Remesh 2004).

The multiplier effects that arise from the rising income due to the increase in the prices and output of rubber, therefore, operated to stimulate the demand for manufactured wage goods, the output of which expanded in response to the rise in demand.

Figure 4.1 - Growth rates in manufacturing output and in the command of income from rubber over manufactured goods.




While the upturn in growth rates began with the recovery in agricultural growth in 1987-88 coupled with favourable crop prices, the structural change associated with the increasing importance of rubber that occurred shortly thereafter allowed output to move up in an uninterrupted fashion in a higher growth path rather than getting bogged down yet again in stagnation. In other words, while the immediate trigger for the revival in growth was the improved production of crops owing to better weather conditions along with higher crop prices in general, the continuation of the higher growth rates in the commodity producing sectors of the economy and the consequent

transformation of the spike in growth rates that was visible from 1987-88 onwards into a sustained turnaround was brought about by the increase in the income from rubber production (in terms of manufactured goods commanded) which also manifested itself inter alia as a rise in the share of rubber in total value added in agriculture from 1989-90 onwards.

Table 4.4 - Growth in the yield of rubber production in Kerala

| Year | Yield/ha | Growth in yield (%) |
|---|---|---|
| 1980-81 | 780 | - |
| 1981-82 | 770 | -1.28 |
| 1982-83 | 828 | 7.53 |
| 1983-84 | 864 | 4.35 |
| 1984-85 | 890 | 3.01 |
| 1985-86 | 924 | 3.82 |
| 1986-87 | 924 | 0.00 |
| 1987-88 | 942 | 1.95 |
| 1988-89 | 967 | 2.65 |
| 1989-90 | 1025 | 6.00 |
| 1990-91 | 1079 | 5.27 |
| 1991-92 | 1139 | 5.56 |
| 1992-93 | 1203 | 5.62 |
| 1993-94 | 1304 | 8.40 |
| 1994-95 | 1389 | 6.52 |
| 1995-96 | 1443 | 3.89 |

Source: Government of Kerala, *Economic Review* (various issues).

As we pointed out in the previous chapter, a big chunk of the demand for services (the sector which saw the fastest growth in the high-growth phase) would have come from the direct and indirect beneficiaries of the growth in domestic income, particularly the beneficiaries of the rising income that resulted from the growth of the commodity producing sectors in the economy. This should be obvious in the light of our discussion so far, as the primary and secondary sectors together accounted for 70 per cent and 60 per cent of the total employment in the state in 1993-94 and 2004-05 respectively (Table 2.6 in Chapter 2).

Further, there is reason for us to argue that the surplus out of rising rural incomes, particularly rubber income, might be a significant source of funds for investment as well. Micro-level studies show that the banking sector has not contributed much to the growth of rural small-scale enterprises in the state. For example, the survey data on the sources of initial funds for starting the small-scale enterprises in two blocks, Kollengode and Malampuzha, in Palakkad district show that only about 13. 5 per cent of the funds came from the commercial banks. Rest of the funds is from either external source or internal source or both. The nature of these sources is not known (Eapen 2001, quoted in Pushpangadan 2003). Reading these facts and our results together, we infer that rising rural incomes, led by income arising in the rubber sector, might have contributed significantly as a major source of investment funds at least for rural small-scale enterprises, a sector which recorded high rates of growth in the nineties.

While the rubber sector had been growing quite fast for quite a long time even before the turnaround occurred, owing to, among others, sustained institutional support and policies that ensured remunerative prices[2], the acceleration in the production of rubber came in the late 1980s which saw a quantum leap in the yield of the crop, and resulted in the beefing up of the relative size of the rubber sector vis-à-vis the whole agricultural sector. As Table 4.4 demonstrates, a jump in the yield of rubber is observed from 1989-90 onwards. The compounded annual growth rate of the yield was 2.72 per cent over the period 1980-81 to 1988-89, while it more than doubled to 5.88 per cent in the subsequent period from 1988-89 to 1995-96. By 1995-96, the absolute level of yield had nearly doubled compared to its level in 1980-81.

This sharp increase in yield that occurred in the late 1980s and the consequent acceleration in production was a result of certain developments that took place in the early years of the decade. The high yielding variety (HYV) planting material RRII 105, developed in the 1970s, was released by the Rubber Board in 1980 officially for unrestricted planting, and the dominant small holding sector enthusiastically took to adopting the new variety following incentives for the adoption of the clone as part of the integrated rubber plantation development scheme since 1980. Vast tracts of land planted

[2] See Section (ii) in this chapter for a more elaborate discussion on these and related issues.

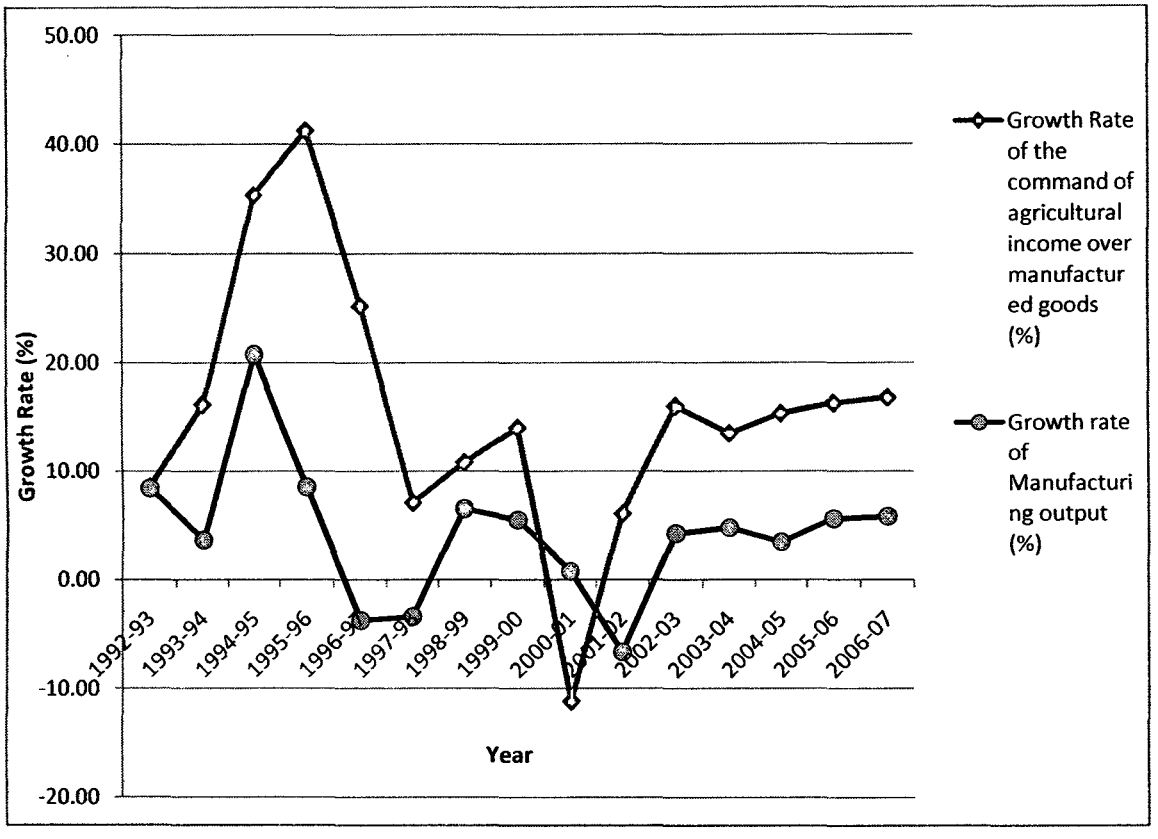
with the new clone came into production by the late 1980s (given the minimum gestation period of six years for commercial production of rubber), which resulted in a vertical shift in the yield profile of the crop.

The honeymoon period during which rising agricultural incomes led by the rubber sector drove up the growth of the economy, especially its commodity producing sectors, came to halt with the fall in the prices of agricultural crops, particularly the fall in the prices of plantation crops, in the second half of the 1990s. The command of agricultural income over manufactured goods ($AY_M$) had achieved peak rates of growth in 1995-96 (41.2 per cent). A sharp drop in the growth rate to 25.19 per cent in the next year had immediate repercussions in the manufacturing sector, which shrank by 3.73 per cent. The trend continued in the next year as well. There was a mild recovery in the growth of $AY_M$ in the next two years (though rubber prices continued to slide till 2000-01), which contributed to a recovery in manufacturing. The crisis became acute from 1997-98 onwards, when agricultural production shrank for the first time since 1986-87. All the major plantation crops of Kerala saw declining prices. The prices for tea fell from Rs. 61.57 per kg in 1997-98 to Rs. 45.78 per kg in 2003-04. Coffee prices declined from Rs. 95.37 per kg in 1997-98 to Rs. 49 per kg in 2001-02, while the price of pepper fell from Rs. 174.4 per kg to Rs. 67.45 over the same period (Mohanakumar and Chandy 2005). Rubber prices declined sharply from Rs. 49.01 per kg in 1996-97 to Rs. 32.28 in 2001-02. The precipitous fall in crop prices, reflected in the steep fall in the growth of $AY_M$ in 2000-01 and 2001-02 led to a sharp drop in manufacturing growth as well. With crop prices, particularly that of rubber starting to go up from 2002-03 onwards, we observe some sustained growth in the manufacturing sector as well.

The correspondence between the high volatility in $AY_M$ (a result of the volatility in crop prices) and in manufacturing growth that was experienced since the 1990s was quite pronounced, and particularly so from the second half of the decade onwards (Figure 2). The decline in crop prices in the second half of the nineties was in turn, a direct consequence of the explicit adoption of the neoliberal policy programme by the Indian government in the 1990s, particularly the initiation of trade liberalisation in farm products with India's accession to the World Trade Organisation (WTO) and the

concomitant implementation of the Agreement on Agriculture (AoA) under the WTO regime from 1995 onwards (Remesh 2004), and had detrimental effects on Kerala's economic growth.

Figure 4.2 - Growth rates in manufacturing output and in the command of agricultural income over manufactured goods.




A close look at the year-on-year growth rates of NSDP corroborates our account. It is no coincidence that except for 1991-92, the lowest growth rates in NSDP since the onset of the growth turnaround in 1987-88 were recorded in the years 1996-97 (4 per cent), 1997-98 (2.16 per cent) and 2001-02 (3.1 per cent). The cushioning impact of the growth in the service sector prevented the economy from being pushed down to stagnation, though. This, we argue, is to an extent accounted for by growth in sectors that are relatively less affected by the factors that we have discussed so far (i.e., remittances and rural incomes). These include trade, hotels and restaurants (which were able to fall back on the stimulus coming from the growth of tourism), communication (which was driven by

a technological revolution) and public administration (the growth of which is determined by government outlays). The contribution of remittances to the growth of banking & insurance and construction might have been significant, and in this sense, the role of remittances must be acknowledged, though the attribution of the growth turnaround as a whole to remittances is unwarranted, as we have argued.

## (ii) The Shift in Crop Patterns and the Growth Story of Rubber

The rise in prominence of natural rubber in the agricultural sector in Kerala is a success story that is widely hailed in the literature on agricultural production in the state. The pivotal position attained by the rubber sector over time stems from its share of area under cultivation which is next only to coconut, share in agricultural income (which touched 49.27 per cent in 2006-07), its share in agricultural employment (9.70 per cent), and its performance compared to other crops over time. In this section, we briefly take stock of the factors that were instrumental in the unparalleled expansion in area and yield that resulted in rubber attaining this predominant position.

The land reforms in Kerala succeeded in ending feudal landlordism in the state by abolishing statutory landlordism, by conferring ownership rights on tenants and by legally banning tenancy. Due to various reasons, the major measures under land reform, though initiated in 1957, began to be implemented only in the 1970s (Oommen 1994). This period that saw the ushering in of an inchoate capitalist mode of production and the attendant increased market orientation of agriculture in the state coincided with an important policy change that the Union government decided on. This was the removal of the restrictions on inter-state movement of foodgrains[3], which had the effect of lowering the price of paddy. A sharp decline in area under rice followed, which was the

[3] Before the mid-1970s, the restrictions on inter-state movements of rice and other food grains that were in place as part of the policy to combat the problem of food deficit in the country had resulted in a rise in rice prices, owing to the fact of Kerala being a food deficit state. This policy had contributed to the increase in the area under rice until 1974-75, when the restrictions on inter-state movement were lifted in the wake of increased production of rice and other cereals in the country. Kerala became part of the all-India market for rice and hence the very high prices which prevailed in 'protected' market situation before could no longer be sustained. As a result, prices declined sharply and almost continuously. (Radhakrishnan et al. 1994)

inevitable reaction to the unremunerative prices that ensued in the new situation, when production was becoming more market oriented (Radhakrishnan et al. 1994). The area under foodgrains, of which 96 per cent was accounted by area under rice (in 1981-82) (Sivanandan 1994), declined from 9.26 lakh hectares in 1975-76to 3.25 lakh hectares in 2003-03. With the fall in the price of rice, tapioca, the cheaper cereal substitute became less attractive to consumers, leading to a reduction in its demand. As a result, the area under tapioca declined on a secular basis.

The consequence of the major food crops turning unremunerative was the substitution of such crops with commercial crops that fetched better prices. The most discernible trend in the cropping pattern of the state since the 1970s has been a marked shift towards relatively less labour intensive perennial crops, very often at the expense of annual crops[4] (Table 4.5) (George 1999).

Given this backdrop, we analyse the spectacular growth of the rubber sector in the context of factors which have acted both from the supply and demand sides (Mohanakumar and Chandy 2005).

The supply-side variables could broadly be classified under the price and non-price categories. The most important among the price factors were those related to the protectionist trade policies, pursued in tandem with the development policy framework since independence. The main objective of protecting the domestic market for natural rubber was the ensuring of adequate supply of rubber to the requirements of the rubber goods manufacturing sector at a reasonable price. The prevention of a sharp decline in prices and thereby provision of an income guarantee to smallholders and estates was also an important goal. These were sought to be realised by protecting the crop from the vagaries of the market through the use of policy components such as the notification of minimum and maximum prices, buffer stocks, exports, control on imports of natural rubber through tariff and non-tariff barriers over time, and interventions by the State

[4] The decline in the relative share of area under paddy in the total cropped area from 29.83 per cent in 1970-71 to 16.51 per cent in 1994-95 is the most important change, though conversion of paddy lands for natural rubber cultivation is insignificant due to specific agro-climatic factors (George 1999).

Trading Corporation, a public sector undertaking, which imported rubber and regulated supplies when prices rose and carried out price support operations in the domestic market in times of a fall in demand and prices (Burger et al. 1995). It needs to be noted that the nature of price support and policy components became an arena for the playing out of the contradictions between the interests of the relatively well-organised rubber planters of Kerala and rubber products manufacturers, mostly located outside the state (George 1999).

The important non-price factors included active institutional support and extension services, and the availability of and accessibility to scientific and standardised technical know how of inputs. The necessary institutional framework was created with the establishment of the Rubber Board (in 1947), which adopted strategies such as increasing productivity in the traditional belt, extensive cultivation in non-traditional areas, financial incentives for replanting, new planting, improved cultural practices, quality upgradation of raw rubber and group marketing. The most important breakthrough in the sphere of productivity improvement was achieved in the 1970s with the indigenous development and propagation of the high yielding variety RRII 105 with the appropriate package of practices, which resulted in a quantum leap in yield growth (George 1999; Lekshmi and George 2003).

Moreover, rubber is one of the crops in India which has witnessed the most intensive penetration of capitalism[5], reflected inter alia in the high use of wage labour even with the predominance of the smallholding sector, the widespread use of sophisticated cultural practices and farmers who readily take to the use of innovations that are bred by the institutional support mechanism led by the Rubber Board. The most important explicit results of all these in the context of active institutional support has been a progressive reduction in the marketing margins of intermediaries, one of the highest reported shares of farm gate prices in the country[6] (Sreekumar et al. 1990, quoted in George 1999), and the achievement of land productivity amounting to 1,612 kilograms of

[5] Remark made by S. Mohanakumar in a talk addressing the discussion group 'Bandar' in Jawaharlal Nehru University, New Delhi, in 2007.

[6] The farm gate price of sheet rubber expressed as a percentage of terminal market price is 92 per cent (George 1999).

rubber per hectare in Kerala, which is the highest among the major natural rubber producing countries and regions of the world (Mohanakumar and Chandy 2005).

On the demand-side, (i) the domestic market for natural rubber-based industrial products have been kept insulated from external competition by curbing imports through a complex battery of tariff and non-tariff measures for rubber as well as rubber-based products; (ii) the licensed capacity of tyre manufacturing units was expanded, particularly, since the Third Five-Year Plan. Such a policy framework resulted in the domestic price of natural rubber ruling always above the international price till 1991 (Mohanakumar and Chandy 2005).

Table 4.5 shows the growth rates of major indicators with regard to the seven most important crops in Kerala, for the period 1968-69 to 1995-96, which makes the growth story of rubber clearer. Rubber recorded the highest growth in area under production, and the second highest growth rate in yield over the period of analysis. The growth rates of yield were found to be the highest in the case of the plantation crops and the lowest in the case of tapioca. The growth rate of price was the lowest in the case of paddy.

Although cardamom recorded a higher growth in yield than rubber and as well as high growth in prices, the area under the former fell over the period of analysis. The reason was the much higher volatility in its price. The instability index[7] of price in the case of cardamom was found to be the highest - 33.74, compared to only 17.87 for rubber (Lekshmi and George 2003).

[7] The instability index is a tool employed to measure the instability of a variable. The coefficient of variation, which is commonly used to measure instability, over-estimates the level of instability in time-series data characterised by long-term trends. Hence the Cuddy-Della Valle index was used to correct the coefficient of variation as follows:
$CV = (CV^*)\ (1-R^2)^{0.5}$, where $CV^*$ is the simple estimate of the coefficient of variation (in per cent), and $R^2$ is the coefficient of determination from a time-trend regression adjusted by the number of degrees of freedom (Lekshmi and George 2003).

Table 4.5 - Growth Rates of Major Indicators of Selected Crops in Kerala (%), 1968-69 to 1995-96

| | Price | Yield | Area | Production |
|---|---|---|---|---|
| Paddy | 5.72 | 1.31 | -2.45 | -1.14 |
| Coconut | 8.55 | 0.1 | 0.98 | 1.08 |
| Tapioca | 9.63 | 0.88 | -3.92 | -3.04 |
| Tea | 8.19 | 2.05 | -0.42 | 1.68 |
| Rubber | 7.89 | 2.82 | 3.62 | 6.37 |
| Cardamom | 7.19 | 5.23 | -0.15 | 2.52 |
| Coffee | 6.53 | 2.7 | 2.56 | 5.21 |

Source: Lekshmi and George (2003); George (1999).
N.B.: The figures for coffee are for the period 1970-71 to 1995-96.

The high rates of growth in prices and in yield along with price stability (a result of the policy framework described above that was in place until the onset of trade liberalisation) in the context of active institutional support made rubber the favoured crop for the farmers, and explains the impressive growth in area under rubber cultivation (which would certainly have been even higher but for agro-climatic limitations), which together with the fast pace of yield growth, gave rubber its pre-eminent position in the agriculture sector of the state.

### (iii) Wages and Economic Growth

The period of high growth that ensued in Kerala since the late 1980s has seen large increases in the real wages of workers. We saw in Chapter 3 that the money wages in agriculture and in the manufacturing sector of the economy in Kerala had increased between 1994 and 2004, and that the wage rates prevailing in Kerala were substantially higher than those in the other states in south India. The availability of continuous estimates of the wage rates of paddy field workers and of the Consumer Price Index numbers for Agricultural Labourers permits us to estimate the real wages of agricultural labourers. We present the estimates in Table 4.6.

Over the twenty year period from 1986-87 to 1996-97, the real wages of male agricultural workers went up 66.55 per cent and that of female workers by nearly 100 per cent. Each of the five year and ten year sub-periods between these two years saw real wages for

both male and female workers going up, with the sole exception of the period from 1986-87 to 1991-92, when even as money wages went up by 45.91 per cent, the rise in prices meant that the real wages for male workers declined by a small margin.

Table 4.6 - Growth in Wages of Unskilled Agricultural Workers (Paddy Field Workers)

| Period | Growth Rate of: | | | |
|---|---|---|---|---|
| | Money Wages (%) | | Real Wages (%) | |
| | Male | Female | Male | Female |
| 1986-87 to 1996-97 | 225.04 | 269.25 | 14.45 | 30.02 |
| 1996-97 to 2006-07 | 94.20 | 104.82 | 45.52 | 53.48 |
| 1986-87 to 1991-91 | 45.91 | 59.37 | -6.32 | 2.31 |
| 1991-92 to 1996-97 | 122.76 | 131.70 | 22.18 | 27.08 |
| 1996-97 to 2001-02 | 38.00 | 46.65 | 22.09 | 29.74 |
| 2001-02 to 2006-07 | 40.72 | 39.67 | 19.19 | 18.30 |
| 1986-87 to 2006-07 | 1508.36 | 1467.13 | 66.55 | 99.56 |

Source: For Money wages: Government of Kerala, *Economic Review* (various issues); For Consumer Price Index for Agricultural Labourers: RBI Bulletin, various issues.

The sustained growth in real wages seems to be one of the ways in which the economic growth process in Kerala has been mediated. This proposition goes contrary to the dominant tendency in the literature to view the higher wages prevailing in Kerala as a "problem" that undercuts the competitiveness of the commodity-producing sectors of the economy (Kannan 1998; Harilal and Joseph 2003).

The effect of rising real wages in Kerala has been studied previously in the context of the role of such wage increases in reducing poverty (Kannan 1995). It has been pointed out that the land reforms that gave an owned space for housing for agricultural labourers, which reduced their dependence on landlords greatly and raised significantly their capacity to stand on their feet (Ramakumar 2003), the unionisation of workers cutting across regions, occupations, gender and rural/urban distinctions, and the generalised process of political mobilisation of the working class and the parties associated with it which came to power at the state level from time to time since the mid- 1950s (Kannan

1995) have greatly enhanced the bargaining power of the workers. The increase in real wages was found to have contributed to a process of reducing poverty by a 'forcing down' process rather than a 'trickling down' process (Kannan 1995).

We saw that rising rubber prices and output have resulted in the purchasing power of sizable sections of society with a higher marginal propensity to consume going up. One of the ways in which this process has been accentuated has been the rise in real wages, as rising wages for workers imply a further redistribution of increments in income to sections of the population with a higher marginal propensity to consume than even in the case of farmers. Thus the output-stimulating multiplier effects of the demand arising from rising rural incomes become proportionately stronger with the improvement in real wages. Therefore, rising real wages not only results in more sections of the society to share in the benefits of growth, but also in the overall growth rate itself to be higher than it would have been in the absence of the rise in real wages.

But it is important to note that our proposition of higher wages leading to higher rates of economic growth would hold only if employment does not shrink as a result of the high wages by causing production to become unviable, say, in the case of food crops. Therefore it becomes imperative that we take a look at the trends in unemployment over our period of analysis from 1986-87. The unemployment figures for Kerala and India are presented in Table 4.7.

The figures show that unemployment rate in the rural areas in Kerala has gone down over the period from 1987-88 to 2004-05. In fact, the unemployment rate in urban areas has registered a small increase over the same period. The period between 1987-88 and 1993-94, which saw fast expansion in agricultural incomes and a high economic growth saw a sharp drop in unemployment rates for both rural areas and urban areas. As crop prices crashed in the second half of the 1990s, unemployment started to increase, and as the agrarian distress became acute, unemployment rates rose sharply. Between 1999-2000 and 2004-05, unemployment rates in the rural areas rose by nearly 5 per cent, while those in the urban areas shot up by 7.4 per cent.

Table 4.7 - Unemployment Rates in Rural Areas and Urban Areas (Unemployed as a Percentage of Labour Force) (Usual Principal Status) for Kerala and India, %

| Year | | Rural | | | Urban | | |
|---|---|---|---|---|---|---|---|
| | | Male | Female | Persons | Male | Female | Persons |
| 1987-88 | Kerala | 12.5 | 25.0 | 16.6 | 14.2 | 34.0 | 19.6 |
| | India | 2.8 | 3.5 | 3.1 | 6.1 | 8.5 | 7.2 |
| 1993-94 | Kerala | 7.2 | 15.8 | 9.4 | 7.6 | 24.4 | 12.0 |
| | India | 2.0 | 1.4 | 1.8 | 4.5 | 8.2 | 5.2 |
| 1999-00 | Kerala | 7.6 | 19.7 | 10.9 | 6.9 | 26.4 | 12.5 |
| | India | 2.1 | 1.5 | 1.9 | 4.8 | 7.1 | 5.2 |
| 2004-05 | Kerala | 8.3 | 30.9 | 15.8 | 9.0 | 42.9 | 19.9 |
| | India | 2.1 | 3.1 | 2.5 | 4.4 | 9.1 | 5.3 |

Source: For 1987-88 and 1993-94: Kannan (2005); for 1999-00: National Sample Survey Organisation (2001); for 2004-05: National Sample Survey Organisation (2006b).

From the second half of the nineties onwards, the growth rates in money wages in Kerala started decelerating. The sub-periods 1996-97 to 2001-02 and 2001-02 to 2006-07 were the periods when the growth rates in money wages were the slowest among all the five-year sub-periods since 1986-87. A lower rate of inflation measured by the consumer price index for agricultural labourers meant that real wages continued to expand in this period, though. But the sharp rise in unemployment, especially since 1999-2000, has meant that the growth in total wage bill has slowed down substantially. Micro-level studies and field surveys also show that the situation had turned much worse for agricultural workers than the figures for real wages suggest. While farmers were hit hard by the crash in the prices for their produce, there were absolutely no takers for the produce of agricultural labourers (labour power) (Mohanakumar 2008). The crisis was made worse by the fact that the districts that were the most adversely affected by the price crash, viz. Wayanad, Idukki and Palakkad have a high proportion of agricultural labourers in the total workforce.

The situation in the rubber sector was no different. The smallholding sector is historically characterised by a lower degree of trade unionism compared to other crops and the estate sector of rubber itself. But wages have been kept high owing to the larger

context of the relatively high bargaining power of the working class in the state and to the intervention of local trade unions and political parties at times of demanding of wage revisions in order to pressurize the farmers to arrive at a wage settlement. But as the market price of rubber crashed since November 1996, with the price of the crop falling from its all-time peak of Rs. 70 per kg to Rs. 25.25 in 2000, the prospects and welfare of workers (tappers) in the smallholding sector were adversely affected. To minimize cost of production, wage cuts and deferments in wages or other monetary benefits were being resorted to continue tapping and to keep the workers employed. In many cases, tappers were found to have agreed to defer the wage payments till the sale of the produce, and also sympathetically considered the growers' viewpoints while demanding compensations and other benefits, as the decline in prices meant that the petty farmers were not favourably placed vis-à-vis tappers either. In some cases, it was noted that the growing understanding between employer and employee in the period of crisis had resulted in the advent of product-sharing arrangements in place of the piece rate wage system (Remesh 2004). The activities of the trade unions were found to be at an all time low level following the price crash.

Moreover, it has been reported that unionisation rates in Kerala as a whole have gone down during the nineties. The proportion of members of trade unions among employed persons in rural areas who were aware of the existence of any union or association in their activity went down from 70.6 per cent in 1993-94 to 50.9 per cent in 1999-2000. The corresponding figures for urban areas were 82.4 per cent and 66.7 per cent for 1993-94 and 1999-2000, respectively (Jha 2005).

All of these serve as testimonies to the characteristic features of the neoliberal era – the drive towards labour flexibility is spelling smaller workforces, fewer rules in the workplace, weaker unions and wages being tied to the business cycle (Munck 2003).

The slowdown in the growth of the aggregate wage bill resulted in the growth in workers' demand for manufactured goods decelerating, which partly explains why, in spite of rubber prices picking up from 2002-03 onwards to reach very high levels (the average price of RSS-4 grade natural rubber for the year 2006-07 was Rs. 92.04 per kg

compared to Rs. 32.28 per kg in 2001-02), the growth rates in the manufacturing sector did not match the rates recorded during the first half of the nineties.

To sum up the discussion in this section, we found that the rise in real wages was a means through which the higher growth that the Kerala economy experienced since the late 1980s has been mediated. This operated through the redistribution of increments in income towards the workers, who constitute the section of the society with the highest marginal propensity to consume. The multiplier effects of the rising rural incomes in raising output would be proportionately larger with a larger share of such incomes going towards the workers. But the crash in the prices of the major cash crops of which Kerala is a major producer has, apart from lowering the rates of economic growth, resulted in adverse consequences for the welfare of the workers in the state, reflected in lower levels of trade unionism, weakened bargaining power, higher rates of unemployment and lower rates of growth in money wages.

### (iv) Conclusion

In the context of the inadequacy of the existing accounts of the growth turnaround of the Kerala economy, we have made an attempt to provide an alternative explanation. We put forward the hypothesis that the immediate trigger for the growth turnaround was the recovery of the primary sector in 1987-88 owing mainly to better weather conditions compared to the five years that preceded it (which had seen erratic weather that severely damaged crop production), coupled with high crop prices in general. This spurt in growth led to a rise in rural incomes that stimulated the demand for manufactured wage goods, the output of which rose as a consequence. Just as the effects of a transitory phase of high crop prices in general began to wane, the increasing share of natural rubber (which had been the most dynamic crop in terms of growth rates in area and production for a long time) in the total value added in agriculture, driven by a jump in productivity that took place by the end-1980s, reinforced the higher growth trend. The principal stimulus for the growth of output in manufacturing, particularly manufactured wage goods, at least from the beginning of the 1990s was provided by the demand generated by rising incomes originating in the rubber sector. A close correspondence was found to exist between the growth rates in the command of income originating in the rubber

sector over manufactured goods and the growth rates of manufacturing sector since the early 1990s.

The high rate of increases in rubber production and in prices which combined to effect the rising command of rubber income over manufactured goods resulted in an increase in the purchasing power of substantial sections of society who have a high marginal propensity to consume, a fact that is evident from the preponderance of the smallholding sector in natural rubber cultivation in Kerala. The multiplier effects that arise from the rising income due to the increase in the prices and output of rubber, therefore, operated to stimulate the demand for manufactured wage goods, the output of which expanded in response to the rise in demand. Further, a big chunk of the demand for services also might have come from the beneficiaries of the expansion in the commodity producing sectors of the economy, considering the high proportion of the work force employed in the primary and secondary sectors of the economy. Rising rural incomes, led by income arising in the rubber sector, might also have contributed significantly as a major source of investment funds at least for rural small-scale industries, a sector which recorded high rates of growth in the nineties.

In the context of the crucial role of rising rural incomes in providing the basis for the higher growth trajectory of the state, the crash in the prices of the major commercial crops of Kerala, especially the plantation crops including rubber, during the second half of the 1990s as a result of the trade liberalization measures put in place in the country had deleterious consequences on the growth of the economy.

Analyzing the growth of rubber cultivation in Kerala, we noted that the backdrop to the shift in the cropping pattern in Kerala in favour of commercial crops was provided by the processes due to which the cultivation of food grains became unremunerative since the 1970s. The high rates of growth in prices and in yields along with price stability (a result of the policy framework that was in place until the onset of trade liberalisation) and active institutional support made the cultivation of rubber relatively more viable compared to that of other crops, and explains the impressive growth in area under rubber cultivation, which led rubber to attain its pre-eminent position in the agriculture sector of the state.

Having noted that the period of high growth that ensued in Kerala since the late 1980s has seen large increases in the real wages of workers, we argued that the rise in real wages was a means through which the higher growth that the Kerala economy experienced since the late 1980s has been mediated. This operated through the redistribution of increments in income towards the workers, who constitute the section of the society with the highest marginal propensity to consume. The multiplier effects of the rising rural incomes in raising output would be proportionately larger with a larger share of such incomes going towards the workers. But the crash in the prices of the major cash crops of which Kerala is a major producer has resulted in adverse consequences for the welfare of the workers in the state, reflected in lower levels of trade unionism, weakened bargaining power, higher unemployment rates and a lower rate of growth in money wages, and consequently caused the pace of economic growth to decelerate.

# Chapter 5 – Conclusion

This study had set out to find the reasons for the revival in the economic growth of Kerala that has been observed since 1987-88. In our analysis of the growth performance of the state economy, we noted that the growth of the Kerala economy since the late 1980s has been on a higher trajectory compared to the previous years in the period since 1970-71. An upturn on the growth trend of NSDP was observed from 1987-88 onwards. The period since 1987-88 saw higher growth rates for all the major sectors of the economy.

A revival in the commodity-producing sectors of the economy was discernible since the late 1980s, though the growth has been beset with wide fluctuations. The primary sector (and agriculture, its major constituent), which saw an upturn from 1987-88 onwards, saw the growth rates slow down during the second half of the nineties, though this slowdown was less severe than the ones before. The years since 2004-05 have seen stronger growth in agriculture. The trends in the manufacturing sector, the most important component of the industrial sector were found to be similar to those of agriculture, with an upturn marked from 1987-88 onwards, and a slowdown since the second half of the 1990s and persisting till 2002-03, when growth rates saw a moderate revival. The trends in the industrial sector corresponded more or less with the trends in manufacturing, except from 2004-05 onwards, when a sharp decline in the growth of the electricity, gas and water supply sub-sector pulled the overall growth rate of the sector downwards. The services (both in terms of conventional and "modern" typologies) have recorded the highest growth among all sectors, with an upturn in the growth of the sector especially visible from 1992-93 onwards.

In our critical survey of the explanations that have been advanced in the literature to account for the growth turnaround, we analysed the remittance-led growth argument, its "virtuous cycle" variant, and the Dutch Disease argument.

The crux of the remittance-led growth argument has been that the growth turnaround has been due to increasing remittance inflows which induced a rise in consumption demand, which drove up the growth rates, particularly the growth rates in the non-

tradable sectors. Since the rise in consumption expenditure that results from increasing remittance income can work itself out either by increasing real incomes or by increasing only money incomes, we began the analysis of the remittance-led growth argument by examining whether remittance inflows have led to a rise in prices. We found that there was little evidence to infer that the inflow of remittances had led to a rise in prices in the high-migration districts of Kerala that was out of line with the rise in price levels in other districts. The price levels in Kerala had not risen more than the price levels in India as a whole either. The leakage of remittance income into imports of food grains, material inputs and consumer durables from other states and into land purchases, along with a high amount of labour surplus that existed (and still exists) in the economy, had prevented prices from rising disproportionately.

Since remittance inflows could have contributed to economic growth by raising investment and/or consumption expenditures, we analysed the impact of remittances on investment and consumption in the state. It was found that the addition to the production capacity of the economy as a result of increased remittance inflows was not substantial, as the bulk of the remittance income was either spent on construction of houses, land purchases, purchase of consumer durables from other states, or parked in banks. Micro-level studies and surveys provide evidence for this pattern of fund utilisation among migrants' households. The low Credit-Deposit Ratio prevailing in Kerala was indicative of the fact that the savings out of remittance income are not being used for investment purposes on a substantial scale.

Having found that the impact of remittances on prices and investment was not significant, we analysed the impact that remittances had on consumption in the state. This analysis assumed significance since the proponents of the remittance-led growth argument hold that remittance inflows led to higher growth by inducing higher levels of consumption. We began our examination of the argument by noting that during the pre-1987 period when the economy was facing stagnation, remittance income had not led to much growth in the state, though it had probably resulted in higher tertiary sector growth in the high-migration districts. The demand for industrial products arising from remittance income mostly leaked out to other states. In the high-growth phase, while

remittance inflows in rupee terms became much larger, with the climbing up of emigrants' households on the income ladder, the propensity to consume fell. The MPC of emigrants' households is likely to be lower than the MPC of other households since emigrants' households belong on an average to a higher income bracket. At the margin, therefore, increments in the income of households without emigrants are more likely to be spent rather than being parked in banks or spent on land purchases, etc. than is the case with increments in the income of emigrants' households. A sizable part of the consumption of emigrants' households was of a conspicuous nature and highly import-intensive since emigrants' households are more prone to spend increments in their income on the purchase of consumer durables, most of which are not produced within the state. This meant that the impact of the consumption expenditure of emigrants' households on the commodity-producing sectors of the state economy was lower than that of households without emigrants.

Therefore, the multiplier effects on domestic output of the increased consumption expenditure due to increments in the income of emigrants' households was lower compared to those arising from increments in the income of other households.

We found that the claim that economic reforms were the proximate reason for the turnaround, and that the intensification of reforms had helped accelerate growth (a view that is held by many proponents of the remittance-led growth argument) was based on weak evidence, because (i) the effects of reforms were not felt in the sectors which were supposed to benefit the most out of the reforms, even as sectors that had not benefitted from reforms registered high growth rates; and (ii) the effect of the depreciation of the rupee in increasing remittance inflows in rupee terms was found to have occurred as one-off increases; the effect of such increases waned over time owing to the increase in price levels in the subsequent years, and it was unlikely that such increases contributed substantially to increasing economic growth in the state, especially in the light of the observation of the lower MPC of emigrants' households, and the higher import-intensity of the consumption pattern of such households.

District-wise analysis provided further evidence that strengthened our argument, as districts which received the most remittances were rarely the ones which grew the

fastest. Even in the case of services (which are "spatially embedded"), we found that the growth in high-remittance districts is not likely to be higher than other districts.

We found that the claim made by the proponents of the "virtuous cycle" variant of the remittance-led growth argument that the continued improvements in human development that the state had experienced in the high-growth phase was on account of people, buoyed by remittance income, purchasing education and healthcare from the market, was incorrect. The proportion of people using public facilities for healthcare was found to have gone up, while the biggest improvements in literacy had occurred in districts with a large proportion of people belonging to the most deprived sections of society.

The Dutch Disease argument was found to be inadequate to explain the revival in growth of the Kerala economy. The main symptom of the "disease", viz. the high wage rates that existed in Kerala (and which were much higher compared to neighbouring states), which had, as the claim goes, caused the tradable goods sector in the state to become uncompetitive, was found to have persisted in the high-growth phase as well, with wage rates actually recording large increases.

Thus we found that the remittance-led growth argument (including its "virtuous cycle" variant) and the Dutch Disease argument were inadequate as explanations for the growth turnaround of the Kerala economy. Since the multiplier effect of consumption demand arising from increments in the income of emigrants' households is lower than that arising from increments in the income of other households, and since the MPC of emigrants' households has fallen in the high-growth period compared to the slow-growth period, we inferred that the stimulus for the sustained growth of the Kerala economy since the late 1980s must have come from elsewhere.

In our attempt to provide an alternative explanation to account for the growth turnaround of the Kerala economy in the context of the inadequacy of existing explanations, we put forward the hypothesis that the immediate trigger for the growth turnaround was the recovery of the primary sector in 1987-88 owing mainly to better weather conditions compared to the five years that preceded it (which had seen erratic

weather that caused severe damage to crops), coupled with high crop prices in general. This spurt in growth led to a rise in agricultural income that stimulated the demand for manufactured wage goods, the output of which rose as a consequence. Just as the effects of the transitory phase of high crop prices in general began to wane, the increasing share of natural rubber (which had been the most dynamic crop in terms of growth rates in area and production for a long time) in the total value added in agriculture, driven by a jump in productivity that took place by the end-1980s, reinforced the higher growth trend. We found that the most important stimulus for the growth of output in manufacturing, particularly manufactured wage goods, at least from the beginning of the 1990s was provided by the demand generated by expanding incomes originating in the rubber sector. This was most clearly manifested in the close correspondence that was found to exist between the growth rates in the command of income arising in the rubber sector over manufactured goods, and the growth rates of manufacturing sector since the early 1990s, which corroborated our hypothesis. These findings turn out to be significant as the number of small scale industrial units in the state had grown by 397 per cent between 1987-88 and 2000-01, while the growth rate at the all-India level was 145 per cent.

The way in which rising incomes originating in the rubber sector worked itself out to stimulate economic growth was as follows. The high rate of increases in rubber production and in prices which combined to effect the rising command of rubber income over manufactured goods resulted in an increase in the purchasing power of substantial sections of society who have a high marginal propensity to consume. The multiplier effects that arise from the rising income due to the increase in the prices and output of rubber, therefore, operated to stimulate the demand for manufactured wage goods, the output of which expanded in response to the rise in demand. Further, a big quantum of the demand for services also might have come from the beneficiaries of the expansion in the commodity producing sectors of the economy, since a high proportion of the work force is employed in the primary and secondary sectors of the economy. Rising rural incomes, led by income arising in the rubber sector, might also have contributed significantly as a major source of investment funds at least for rural small-scale industries, a sector which recorded high rates of growth in the nineties.

In the context of the crucial role of rising rural incomes in providing the basis for the higher growth trajectory of the state, we found that the crash in the prices of the major commercial crops of Kerala, and particularly those of the plantation crops including rubber, during the second half of the 1990s (which was a result of the trade liberalization measures put in place in the country) had detrimental consequences for the growth of the Kerala economy.

The growth rates recorded by the service sector in the state were higher than those registered by agriculture and industrial sectors because even as a big chunk of demand for services might have come from the rural sector, certain other factors contributed to driving up the growth of services. These include: (i) the demand arising from increasing remittance income, which has contributed to service sector growth in general and which has been particularly influential in stimulating the growth of sub-sectors like Banking and Insurance, Real Estate and Construction; (ii) the demand coming from expanding tourism (the growth of which was due to a successful state-led campaign), which contributed substantially to the growth of trade, hotels and restaurants; (iii) the growth in public administration owing to increasing government expenditure; and (iv) the growth in communication, driven by a technological revolution. The presence of these factors resulted in service sector growth being far less beset with wide fluctuations unlike the growth in the commodity-producing sectors of the economy, and as such, the contribution of the service sector to the growth of the Kerala economy was much higher than other sectors.

Analyzing the growth of rubber cultivation in Kerala, we saw that the backdrop to the shift in the cropping pattern in Kerala in favour of commercial crops was provided by the processes due to which the cultivation of food grains became unremunerative since the 1970s. The high rates of growth in prices and yields along with price stability (a result of the policy framework that was in place until the onset of trade liberalisation) in the context of active institutional support made rubber the favoured crop for farmers, and explains the impressive growth in area under rubber cultivation which gave rubber its pre-eminent position in the agriculture sector of the state.

The period since the revival in the growth of the Kerala economy in the late 1980s saw large increases in the real wages of workers. We argued that the rise in real wages was not only a means through which the benefits of the higher growth process were shared with a larger section of the society, but also a means through which the growth rate itself became larger than would have been the case otherwise. This operated through the redistribution of increments in income towards the workers, who constitute the section of the society with the highest marginal propensity to consume. The multiplier effects of rising rural incomes in raising output would be proportionately larger with a higher share of such incomes going towards the workers. But the crash in the prices of the major cash crops of which Kerala is a major producer and the attack on workers' rights that the era of neoliberal reforms has witnessed has resulted in lower levels of trade unionism, weakened bargaining power for the workers, higher unemployment rates and a lower rate of growth in money wages, with adverse consequences for the welfare of the workers in the state and a lower rate of economic growth itself than would have been the case if the rate of growth of wages had been higher.

Thus, the era of the ascendancy of finance capital which has seen the adoption of the neoliberal policy programme in India has, in the case of Kerala, constricted economic growth through the stymieing of the growth of income arising from agriculture by reducing crop prices, by increasing unemployment rates and through the reduction in the growth of wages. This is clearly indicative of the attack on the working population that neoliberalism engenders.

## Concluding Remarks

The story of the growth turnaround of the Kerala economy holds important lessons for economic policy-making. It shows that higher wages are not necessarily impediments to growth; on the other hand, they might raise growth further. Importantly, it demonstrates that a high growth in agricultural production is possible with adequate institutional support and appropriate policy measures which would ensure that crop prices are remunerative and stable, and that the resultant growth in rural incomes can provide the basis for the transformation of the fortunes of vast sections of society.

But the possibilities for ensuring high crop prices would be limited in the Indian context, where the vast majority of people are net buyers of food even as the economy remains peasant-dominated; higher prices of food crops would have grave implications for food security. Markets respond to effective demand, and not the needs of the people. The shift in cropping patterns in favour of export-oriented crops that has been occurring with the increasing integration of Indian agriculture with the world market thus poses serious repercussions (Patnaik 1999). This conflict of interests between the need to guarantee remunerative prices for food crops to prevent the shift to other crops and the need to ensure the availability of food at prices affordable to the vast majority of the population can be resolved in the long run only if the state pays higher prices to the farmers and subsidises food through a universal public distribution system. The direction of policies in this path in a peasant-dominated economy like India, however, would be far too ridden with contradictions for capitalism to stomach.

## *Appendix to Chapter 2*

**Figure A2.1 - Trend in NSDP originating in the Primary Sector in Kerala**

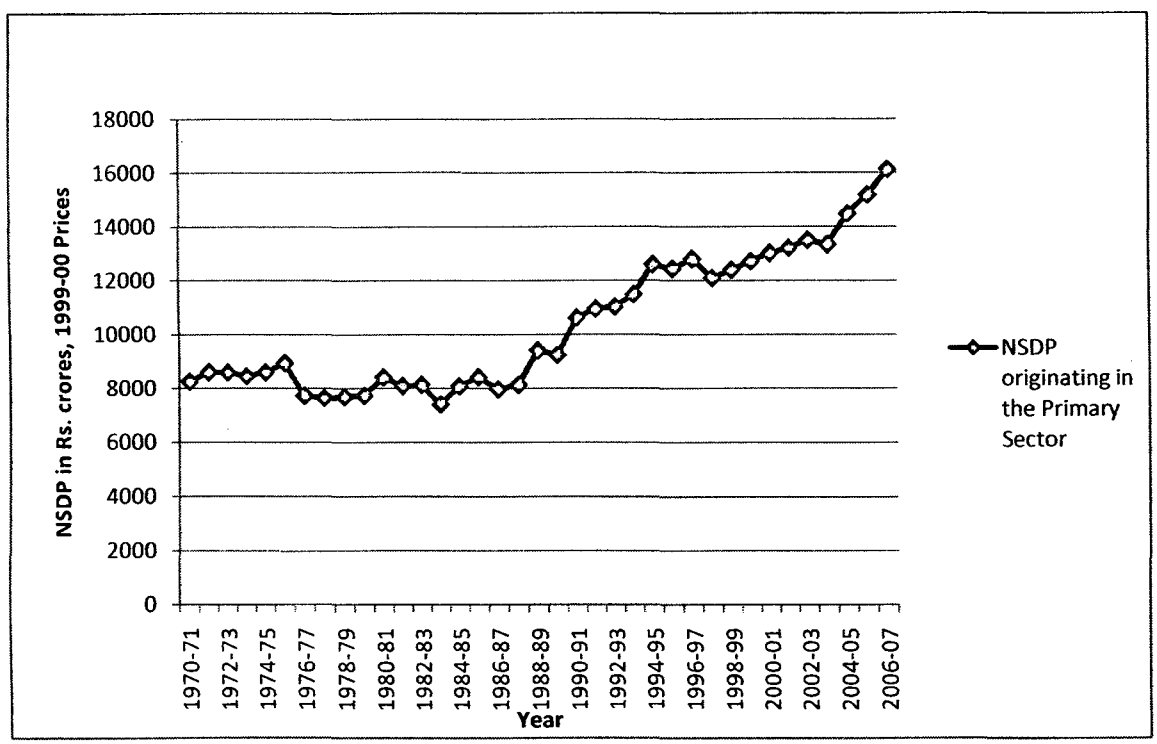


**Figure A2.2 - Trend in NSDP originating in the Secondary Sector in Kerala**

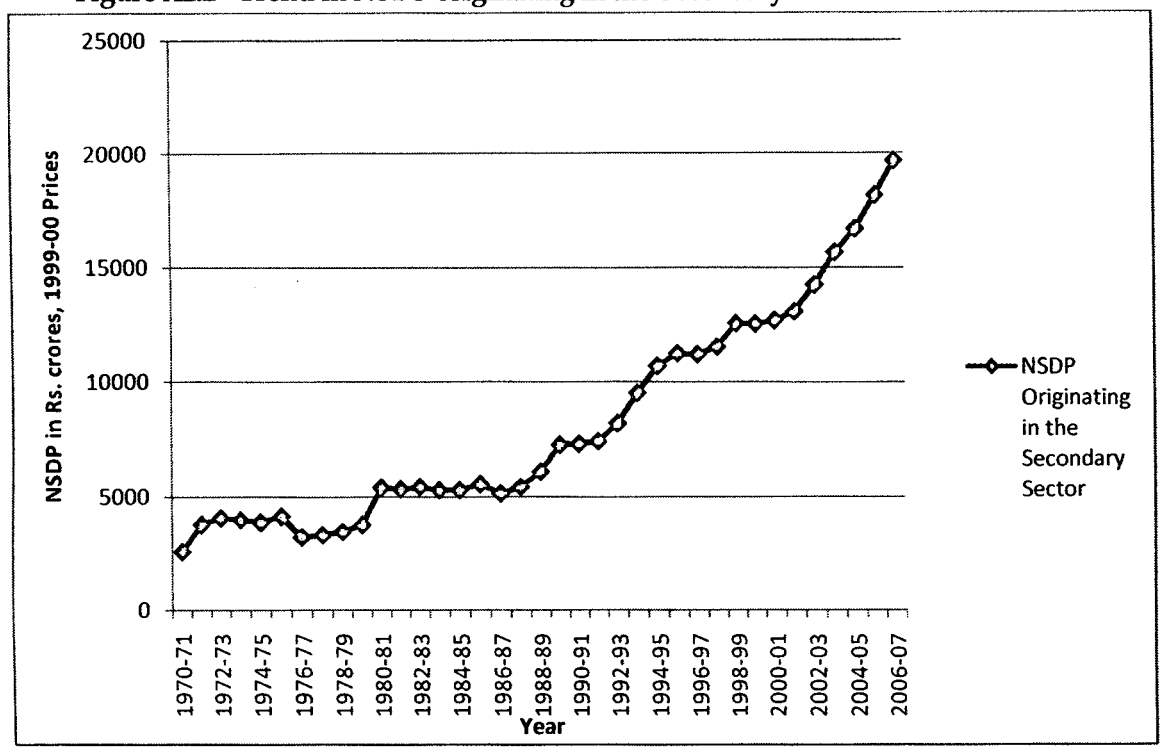



**Figure A2.3 – Trend in NSDP Originating in the Tertiary Sector**

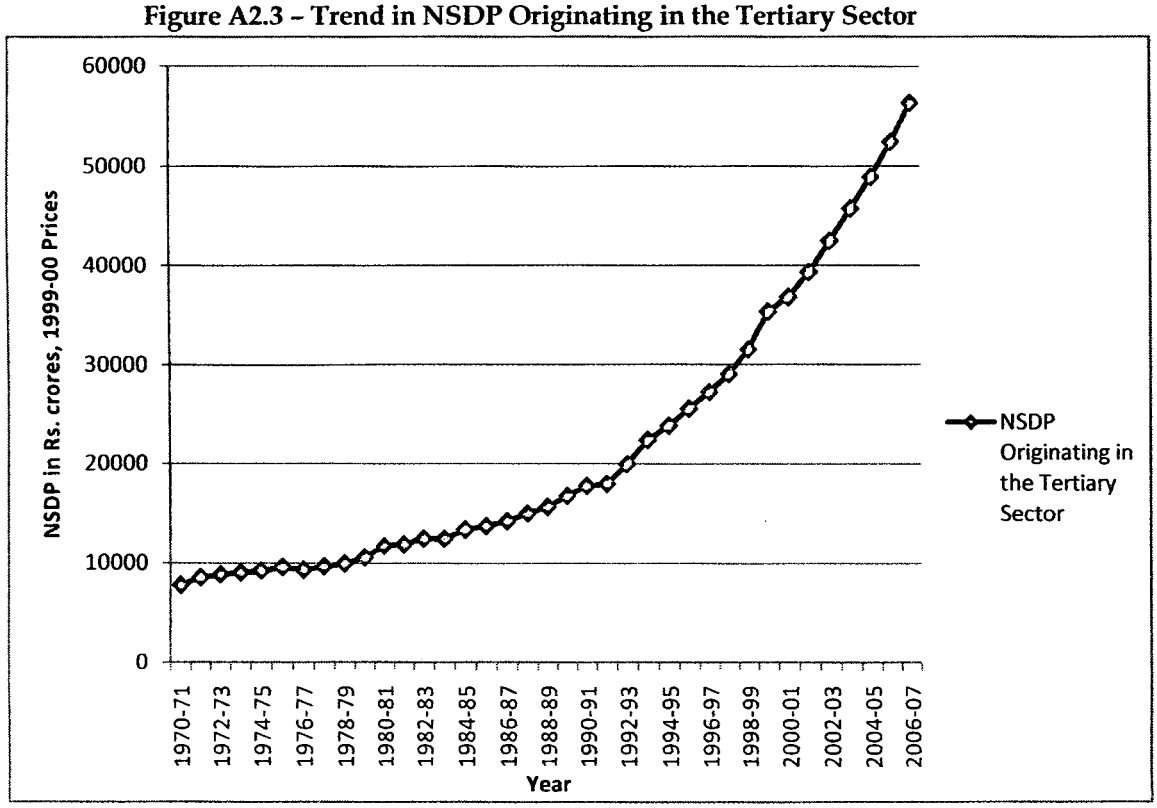


**Table A2.1 - Share of sub-sectors in the Tertiary Sector by Decades**

| Industry | Average share of sub-sectors in the Tertiary Sector (%) | | | |
|---|---|---|---|---|
| | 1971-81 | 1981-91 | 1991-2001 | 2001-07 |
| Transport, Storage and Communication | 15.25 | 12.03 | 12.61 | 16.90 |
| Railways | 1.43 | 0.44 | 0.50 | 0.71 |
| Transport by other means and Storage | 11.52 | 9.55 | 9.00 | 10.50 |
| Communication | 2.30 | 2.04 | 3.19 | 5.69 |
| Trade, Hotels and Restaurants | 34.10 | 37.42 | 39.70 | 37.29 |
| Banking and Insurance | 5.59 | 12.75 | 11.50 | 10.22 |
| Real Estate, Ownership of Dwellings and Business Services | 5.40 | 5.34 | 17.57 | 13.29 |
| Public Administration | 10.91 | 12.98 | 9.61 | 7.06 |
| Other Services | 28.75 | 19.48 | 16.54 | 15.25 |
| **Tertiary Sector** | 100.00 | 100.00 | 100.00 | 100.00 |

## *Appendix to Chapter 3*

Table A3.1 – Growth in Literacy Rates, District-wise, 1991-2001.

| District | Literacy Rates (%) | | Growth in Literacy, 1991-2001 (%) | Ranks for: | | |
|---|---|---|---|---|---|---|
| | 2001 | 1991 | | Literacy, 2001 | Literacy, 1991 | Literacy Growth, 1991-2001 |
| Thiruvananthapuram | 89.36 | 89.22 | 0.16 | 9 | 9 | 13 |
| Kollam | 91.49 | 90.47 | 1.13 | 8 | 7 | 9 |
| Pathanamthitta | 95.09 | 94.86 | 0.24 | 2 | 2 | 11 |
| Alappuzha | 93.66 | 93.87 | -0.22 | 3 | 3 | 14 |
| Kottayam | 95.90 | 95.72 | 0.19 | 1 | 1 | 12 |
| Idukki | 88.58 | 86.97 | 1.85 | 11 | 11 | 5 |
| Ernakulam | 93.42 | 92.30 | 1.21 | 4 | 4 | 8 |
| Thrissur | 92.56 | 90.18 | 2.64 | 6 | 8 | 4 |
| Palakkad | 84.31 | 81.27 | 3.74 | 14 | 14 | 1 |
| Malappuram | 88.61 | 87.94 | 0.76 | 10 | 10 | 10 |
| Kozhikode | 92.45 | 91.10 | 1.48 | 7 | 6 | 6 |
| Wayanad | 85.52 | 82.73 | 3.37 | 12 | 12 | 2 |
| Kannur | 92.80 | 91.48 | 1.44 | 5 | 5 | 7 |
| Kasaragod | 85.17 | 82.51 | 3.22 | 13 | 13 | 3 |

Table A3.2 - Growth in the number of schools in Kerala, 2003-08.

| District/State | Growth rate (%) over the period 2003-2008, for the number of: | | | |
|---|---|---|---|---|
| | Government Schools | Private Aided Schools | Private Unaided Schools | Schools, Total |
| Thiruvananthapuram | -0.04 | -0.05 | 11.61 | 0.81 |
| Kollam | 0.05 | 0.22 | 15.56 | 0.90 |
| Pathanamthitta | 0.00 | -0.19 | 7.33 | 0.27 |
| Alappuzha | 0.00 | 0.10 | 11.70 | 0.51 |
| Kottayam | 0.00 | 0.00 | 5.21 | 0.29 |
| Idukki | 0.45 | 0.00 | 7.63 | 0.51 |
| Ernakulam | -0.17 | -0.11 | 8.24 | 0.56 |
| Thrissur | -0.08 | 0.03 | 12.61 | 0.60 |
| Palakkad | 0.13 | -0.07 | 8.63 | 0.42 |
| Malappuram | 0.04 | 0.03 | 21.44 | 1.26 |
| Kozhikode | 0.19 | 0.02 | 7.99 | 0.31 |
| Wayanad | 0.00 | 0.00 | 1.61 | 0.07 |
| Kannur | 0.07 | 0.04 | 14.01 | 0.44 |
| Kasaragod | 0.07 | 0.00 | 18.29 | 0.97 |
| **Kerala** | **0.04** | **0.01** | **11.64** | **0.60** |

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