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The Abstract

There are four broad aims in this thesis. Firstly, I explore how the developmental state achieves its developmental objectives through collaborative effort with the workers. Secondly, within this context, I examine the significance of the practice of social engineering and nation building, and how social engineering and national building form an integral part of Singapore's economic growth process.

These analyses give rise to a new perspective in examining the growth process in Singapore – i.e. the 'developmental worker' model. The third aim of the thesis is therefore to establish the theoretical content of the developmental worker model. The fourth aim of the thesis is to employ both qualitative and quantitative data to substantiate the developmental worker model in Singapore.

The contributions of the developmental worker model are two-fold. Firstly, to my best knowledge, it is the first attempt of its kind to incorporate a workers' perspective into the analysis of the growth experience in Singapore. By creating a complementary concept (i.e. the developmental worker model) for the developmental state model, the thesis makes the developmental state model analytically more 'complete'.

Secondly, through the developmental worker model, the thesis also represents the first attempt to examine the empirical content of the workers' interpretive understanding process and the collective beliefs of Singaporean workers. The combined effects of these two empirical elements lead to the ultimate social actions on the part of the workers, i.e. a collaborative effort between the state and workers to achieve the 'economic miracle' in Singapore.

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Chapter I: Introduction

In early 1968, the Prime Minister of Singapore, Lee Kuan Yew was suddenly informed of the withdrawal of all British military bases in Singapore – several years ahead of the original plan (Josey, 1968). In fear of the drastic impact of the withdrawal on the Singapore economy, amounting to 12.7 per cent of the gross domestic product, Lee flew to London to ask the British Prime Minister, Harold Wilson, to push back the withdrawal date. This mission was partially successful in that Prime Minister Wilson agreed to push back the withdrawal date to the end of 1971, instead of the beginning (Han *et al*, 1998). What did not make the headline was one small incident that took place at Lee's hotel in Hyde Park. This incident, as Han *et al* (1998) put it, reflected some of the most fundamental elements of the approach of Singapore's socio-economic policy in the following decades:

“... Marcus Sieff [of Marks & Spencer's] asked to see Lee in his hotel ... Sieff wanted Lee, who was known to be a good friend of Gamal Abdel Nasser, to persuade the Egyptian leader to make peace with Israel. Lee listened to him and said that he would try. Sieff, who might have felt obliged to do something in return, said to Lee, 'Look, if you need to create jobs, why don't you make fishhooks? It takes a lot of labour and skill. ..., and it's high value-added.' Nasser did not make peace with Israel, but a Norwegian company, Mustaad & Co., did set up shop in Singapore to make fishhooks, and employed a few hundred workers. It might seem somewhat comical now, 29 years later, that a well meaning businessman in London saw the making of fishhooks as a lifeline for the struggling Singapore economy. But it was no laughing matter then. At stake was nothing less than the survival of a fledging reluctant nation with no natural resources which had, three years before, been booted out of Malaysia. Fishhooks, motorcar tyres, cameras – what did it matter then, as long as it provided jobs?”

(Han et al, 1998: 107-8)

The above incident serves to highlight that economic growth and industrialisation may have its economic overtone (e.g. high levels of investment, free trade and so on), but what ultimately drives the industrialising processes are factors which are essentially social and political in nature, and hence the emphasis on ‘survival’ and on people’s livelihood – *jobs*. This current study will argue that the ‘economic miracle’ in Singapore is essentially a *people/worker* phenomenon which has been created by the particular nature of worker participation in Singapore and the interaction between the workers and the developmental state approach adopted by the Singapore government. The absence of any consideration of worker participation and worker-state interaction in existing research means that most research has provided, at best, a partial explanation of the growth experience of Singapore in the last thirty-five years.

Furthermore, the current study will argue that for Singapore, previous studies have placed too much attention on the ‘wrong’ end of the Singaporean growth experience. As a result, many research efforts, for example neo-classical economics, have examined the ‘aftermath’ (e.g. state-induced foreign investment, the skill content of the workforce and so on) of underlying factors that drive the Singaporean growth, but not the *drive* itself.

The 1990s saw many intellectual attempts to explain the East Asian ‘economic miracle’. For example, the neo-classical analysis regarded the East Asian economic miracle as a vindication of the explanatory power of the market mechanism. As we will see in Chapter Three, in spite of the market mechanism having played an important role in the ‘economic miracle’, there are some major questions in the inconsistencies in the neo-classical economic analysis. On balance of the available empirical evidence, the contribution of the neo-classical analysis is useful in examining the role of market and relevant economic factors, but it does not provide an encompassing and satisfactory explanation of the growth experience of Singapore or a ‘growth’ model for every economic system, which neo-classical economists have been searching for in the last four decades.

However, the 1990s was also an exciting period in terms of theorising economic growth processes. The ‘gaps’ in neo-classical analysis provided a major opportunity for other analytical models to make important progress in examining other important aspects of the growth process. Prominent front-runners are a series of neo-statist models which seek to explain the role of the state in the growth and industrialisation process, directly and explicitly. Many of these neo-statist models position the state as having an overarching impact on the social and economic systems that fundamentally impinge upon economic growth, though economic factors play a part (as tools and/or constraints). However, there are weaknesses and important omissions in the neo-statist models too. These weaknesses and omissions have rendered most of the neo-statist models not entirely satisfactory when it comes to providing an answer to the question ‘What has been driving the growth process in Singapore?’ Some of these omissions include the nature of worker participation and how individual workers fit into the up-skilling process designed by the developmental state, to name but two. The current study will tackle these issues from a new perspective – the ‘developmental worker’ model. Theoretically, the current research effort starts from the ‘gaps’ left by the neo-classical approach and build directly on the developmental state model and some of the important implications of the previous neo-statist models.

Although neo-classical economics did not break new ground in examining the East Asian ‘miracle’, it has extended its analytical framework to accept some intervening role of the state in the process of growth. This analytical ‘extension’ is particularly obvious in the 1993 World Bank Report. Whilst emphasising that the East Asian success was achieved through “getting the basics” right – e.g. high levels of private domestic investment and rapidly growing human capital (World Bank, 1993: 5), the report comments that these fundamental policies do not “tell the entire story”:

“... In most of these economies, in one form or another, the government intervened – systematically and through multiple channels – to foster development, and in some cases the development of specific industries. Policy intervention took many forms: targeting and subsidising credit to selected industries, keeping deposit rates low and maintaining ceilings on borrowing rates

to increase profits and retained earnings, ... making investment in applied research, establishing firm- and industry-specific export targets, developing export marketing institutions and sharing information widely between public and private sectors. ... At least some of these interventions violate the dictum of establishing for the private sector a level playing field, a neutral incentives regime. Yet these strategies of selected promotion were closely associated with high rates of private investment and, ... high rates of productivity growth."

(World Bank, 1993: 5-6)

Furthermore, the report cautions that many other developing economies, which have tried to follow similar paths, have often met with failure because they lack the "prerequisites for success". These prerequisites, according to the World Bank report, are the institutional mechanisms which ensure state interventions are "performance-based" and the ability of the state to balance up the "cost of interventions" (World Bank, 1993: 6-7). Clearly, the neo-classical analysis is signalling the importance of qualitative issues relating to the role of the state. It implies that the state's role has been significant in the economic growth process though the effectiveness of the state depends on other factors. These factors may include the quality of political leadership, the co-ordinating capacity of the state and its effects upon the resulting institutional systems.

However, despite the World Bank's acceptance of the role of the state, the report did not pursue these qualitative issues as it would be "difficult to establish statistical links between growth and a specific intervention and even more difficult to establish causality" (World Bank, 1993: 6). This is clearly a missed opportunity. The current study will address these qualitative issues and, in particular, the issue concerning the nature of state intervention and its effects upon worker participation throughout the growth process in the last thirty-five years. By developing a developmental worker model, the current analysis will show how the developmental state creates a 'stakeholder' society in which the developmental state drives the development strategy at each stage of economic development and how workers internalised their decisions to form an effective partnership with the state in order to deliver economic growth. It is important to

emphasise at this stage that the effective partnership cannot be regarded as 'given' by default. There are complex contextual factors which help establish the vital partnership between the workers and the state.

The neo-statist models position themselves firmly on those issues affecting the "prerequisites of success". More importantly, most neo-statist models (e.g. the world-systems theory, the developmental state and the 'governed market' theory) have the state at the centre of their analytical framework, in one form or another, and nearly all of them are capable of explaining economic growth processes with due considerations given to social, political and economic factors. Unfortunately, despite this useful starting point, neo-statist models suffer from a pre-occupation with the extent and nature of state capacity, the resulting institutional arrangements (structure and policy remit), the different forms of state intervening behaviour and the typology of statist intervention. This disproportionate emphasis on the state as the prime focus of analysis is perhaps an inevitable consequence of the continuing intellectual rigour with which different neo-statists have sought to refine and further their analysis. However, in spending so much effort on substantiating the statist models, the role of worker participation in economic development has been overlooked. Consequently, this emphasis unnecessarily gives the impression that state intervention *per se* and its resulting institutional mechanisms are themselves sufficient explanations for the East Asian economic miracle. In fact, workers, the other important contributing factor within the growth process, is often assumed to be a 'given'. Little systematic analysis has been carried out by the various neo-statist models (and for that matter, by the neo-classical analysis), about *how* and *why* workers participated in the way that they have done so. However, it will be argued here that without the particular form of worker participation seen in Singapore, rapid economic growth would not have happened.

As will be discussed in subsequent chapters, the lack of substantial analysis of the role of the workers and the nature of worker participation means that we are unable to understand why state growth policy has been effective, or not. In the case of Singapore, we will not be able to understand why workers have been willing to participate in the

ever-demanding process of worker up-skilling throughout the last thirty years of uninterrupted economic growth while most of the up-skilling agenda has been set by the state and not by the workers. The implication of my own criticism of this omission is that, should the same set of institutional arrangements be established in another country, it is unlikely that the same outcome will be obtained. In other words, it is not the intervention of the state and the state's institutional systems that will necessarily lead to economic growth. There are no automatic reasons why this should be the case. The results ultimately depends on the interaction between the state and the participants – the workers – and together, how their interaction converts investible resources into growth outcomes. Within this framework, we can now understand why and how the state drives the skill agenda and how individuals in society may want, and for that matter may not want, to be a part of it. For this reason, the current analysis argues that economic growth, despite the necessary economic elements involved, is essentially a *people/worker* phenomenon. This argument also explains the World Bank's finding that many other developing economies which have tried to follow similar paths to those adopted by the East Asian countries have met with failure because they lack the "prerequisites for success".

Singapore represents one of the most interesting cases of such East Asian countries. It is one of the most open economies because of the extent to which the country depends on external trade and inward investment. The country lacks natural resources and the only resource available is its people. It has to function within the global market system; being too small and too insignificant to influence international events. Yet, Singapore is one of the most state-led societies in the non-communist world. Against this interesting backdrop, the main research questions are therefore:

- How did the developmental state achieve its developmental objectives through collaborative efforts with the workers?

- Given the dominant position of the state in Singapore, how significant is the practice of social engineering? How did social engineering form an integral part of Singapore's economic growth process?
- How did social, political and economic circumstances influence the nature of worker participation and therefore give rise to the possibility of a developmental worker model?
- If worker participation is so essential to the success of Singapore's economic miracle, in what ways does the developmental worker model help explain Singapore's growth experience?

Within this thesis, the analysis will adopt a sociological approach to tackle the above questions within the following framework:

Chapter One: Introduction

This chapter describes the background of research issues and problems.

Chapter Two: The Research Methodology

I have deliberately positioned the 'Methodology' chapter immediately after the Introduction for two reasons. Firstly, I need to highlight the important background issues that form the motivation for this study, and how they influence my research approach. Secondly, contrary to normal practice, I would like to emphasise that the substantive theoretical discussions will not be contained in this chapter. Instead, these discussions will be systematically embedded between Chapter Three and Chapter Six. Chapter Six will also serve to bring together all the relevant considerations to formalise the theoretical basis of

the developmental worker model. Chapters Seven and Eight will provide the empirical content to substantiate the developmental worker model.

Chapter Three: Economic Development and the East Asian Miracle – the Dichotomy of the Market vs the State

This chapter will demonstrate that despite the dominance of the neo-classical economic theory in explaining economic growth, its explanatory power in the case of East Asian growth has been disappointing. Not only has the neo-classical analysis failed to provide unambiguous empirical evidence to support its own growth model in East Asian, its inability to theorise the role of the state makes it inappropriate and impossible to analyse the experience of Singapore's growth experience. In contrast, while there are gaps in the neo-statist theories, they nevertheless provide a good starting place and a much more effective analytical tool to explain the Singapore growth experience than neo-classical theories. In addition, the characteristics of worker-dependent and state-led growth process in Singapore render the developmental state an ideal tool to develop further insight into the role of the worker in the Singapore growth experience.

Chapter Four: Singapore as a Developmental State: Workforce Development and the Emergence of the 'Developmental Worker'

This chapter will highlight the crucial role of workers at the different stages of economic growth in Singapore. The discussion will show how important it is to match the developmental needs of Singapore with the skills of the workers. It will discuss the crucial relationship between the pattern of economic development and the development of the skills structure for workers, i.e. the education and training system. This chapter will therefore show that the Singaporean workers had to up-skill and re-skill themselves constantly in response to the changing requirements of the developmental state strategy. From this analysis, the relevant discussion will point to the characteristics of a

fundamental component of the developmental state-led growth strategy: namely the developmental worker. Without the developmental workers, I will argue that the developmental state model is an insufficient model in explaining growth in Singapore; it only tells half of the story.

Chapter Five: Singapore as a Developmental State: Nation Building and Social Engineering

This chapter will focus on two contrasting but necessary aspects of the developmental state structure in Singapore. On the one hand, the ‘nation-building’ and growth strategy of the developmental state have imposed a range of ‘performance-oriented’ policies which make continuous demand on the participation and skill content of the workers (as discussed in the previous chapter). On the other hand, in order to support ‘performance-oriented’ policies, the developmental state also practises a wide variety of social engineering projects in order to commit the workers to a long-term nation-building process and to create a ‘stake-holding’ environment that defines the relationship between the developmental state and the developmental workers. Some of these social engineering practices can be seen as ‘benefits’ to reward continuous worker participation, e.g. good housing, high living standards, good healthcare provision and a clean, crime-free environment. It will be shown that the relationship between the developmental state and the developmental worker is continuously negotiated on a two-way basis, balancing between committing continuous worker participation on the one hand and providing tangible stake-holding for workers on the other. I will therefore argue that it is this state-worker partnership that forms the basis of the Singaporean economic miracle.

Chapter Six: The Developmental Worker Model

This chapter will formalise the theoretical basis of the developmental worker model. Most of the important elements in the developmental worker model are

not new. They are informed by early theoretical work on the sociology of work. What is new is the use of the developmental worker model to inform the growth experience that other theories have failed to provide. The developmental worker model will demonstrate that concepts such as Weber's interpretive understanding and Durkheim's collective beliefs are at the core of the developmental worker model. They are fundamentally important in explaining the nature of worker participation in Singapore and in defining the characteristics of the developmental worker model.

The developmental worker model therefore forms the necessary continuation from the existing developmental state model (Castell, 1992). Together, the two models provide a more satisfactory explanation to the recent economic growth experience of Singapore. Within this framework, a developmental worker is any worker who, by virtue of his/her participation, helps deliver the economic vision of the developmental state whilst their continuing participation is maintained in exchange for current, but more importantly, future personal economic benefits. This status is not defined by any expressed agreement on the part of the worker with state strategy and policy. Instead, it is reflected by the actual act of participation which is normally embedded in the wider pattern of state-worker partnership in the economic growth process.

Chapter Seven: The Developmental Worker – Issues and Themes

Chapter Seven forms the first of the two empirical chapters to test and substantiate the developmental worker model. This chapter explores the first fundamental element of the developmental worker model – the interpretive understanding process of the developmental worker – and how this process shapes the developmental state and developmental worker relationship. Qualitative interview data form the basis of insights into the interpretive understanding process. However, the analysis does not focus on the interpretive process in psychological terms. Rather, the analysis focuses on the impact of

social, economic and political events on the interpretive process. This research methodology enables us to identify the particular meanings 'assigned' by the individual to specific events in their lives, and to consider the impact these have on the developmental state and developmental worker relationship.

Chapter Eight: The Developmental Worker – Values and Beliefs

This chapter employs a factor analysis to explore the underlying values and beliefs constructs of the collective beliefs among the developmental workers. The Workers' Values and Beliefs Survey contains 33 specific questions on values and beliefs with data from 802 workers. The factor analysis reduces the large data structure to reveal the developmental workers' collective belief dimensions. In addition, the study uses a multiple regression analysis to explore the extent to which these belief dimensions are generally shared by the workers in Singapore. The analysis will help to ascertain whether certain structural variables such as age, gender, race, education or wealth are likely to influence the extent of sharing collective beliefs among Singaporean workers.

Chapter Nine: The Conclusions

This chapter is devoted to discussing two key implications of the developmental worker model – namely, workforce development policy implications and theoretical implications for the sociology of work, especially in the areas of worker participation.

Chapter II: Research Methodology

Given the objectives explained in Chapter One, the broad analytical framework covers the following areas:

- 1) To explore an alternative explanation of the Singapore recent growth experience through a worker perspective¹;
- 2) To examine the role of the workers in workforce development within a developmental state through a worker perspective;
- 3) To examine the usefulness of a developmental worker model in enhancing our understanding of objectives (1) and (2).

In order to elaborate the way in which I aim to achieve the above objectives, I will explain some of the important factors that I had to take into consideration during the course of research and the rationale behind my approach.

Important Factors Influencing the Current Research

These objectives actually evolve from a series of research exercises that I have been involved in over the last ten years in connection with workforce development policy in Singapore. The initial research interest centred on the relationship between the nature of a developmental state and its workforce development programmes. This early research had a particular focus on policy content, framework and outcomes vis-à-vis rapid economic growth in Singapore. However, the emphasis had been confined to desktop research and on secondary published data.

¹ In this study, 'workers' refer to every working person, irrespective of occupation, level and status.

This was a fruitful period in which I became familiar with some of the important features of the relevant systems in Singapore. I also established many contacts with the relevant authorities and institutions. They have been very helpful in enhancing and ascertaining the knowledge that I needed on an on-going basis. On average, I have been able to visit Singapore three times a year because of my own local teaching activities. These frequent visits have facilitated my ability to update my current knowledge on the workforce development and associated matters. This early research interest led to my involvement in one of the ESRC projects under the Pacific Asia Programme (grant No. L32425 3015) in 1997-8, studying the relationship between education, training and economic growth. My involvement in the ESRC project did not differ from my earlier research, I continued with my usual focus of the developmental state approach to education and training in Singapore. However, during the writing stage of this project, I began to feel dissatisfied with my own input and the research knowledge that I had developed up to that point. The main problem concerned the fact that all my evaluation of the workforce system and its contribution towards economic growth had been entirely based on a 'state' or 'policy' perspective. Although I did not deny the usefulness of that particular perspective and the knowledge that I was able to establish, I felt that something was missing.

The missing element is a workers' perspective. The problem of this 'missing' perspective may be reflected by some regular queries that I came across in the last few years. Some examples of these queries may include:

- People who are interested in the Singapore experience tend to place, I would argue, too much emphasis on the 'system content' as if that was the only relevant factor in the Singaporean experience for policy purposes. In other words, I feel that for workforce policy learning, it is important to consider how the policy matches the circumstances, expectations and aspirations of the users, i.e. the workers. If there is a match, policy effectiveness would be substantially enhanced. If not, cross policy learning is likely to be ineffective, fuelling the frequent complaints such as "It may have worked in Singapore, but it will never

work here!”. The complaints are missing the crucial point that what the Singaporean experience offers is not *what* they did, but *why* they did it. Policy content alone – in spite of its internal logic – is unlikely to have the same interaction and impact with different groups of workers.

- People who dismiss the Singaporean achievements easily would suggest that what we see is just a dictator regime, and by implication, those ‘poor workers’ in Singapore simply do not know what they are doing. I believe that my ten years’ interaction with Singaporean workers seems to suggest to me that there are important reasons for the Singaporean workers to cooperate with the (developmental) state for the pursuit of their personal objectives – just as we and other workers would do in our own countries. The relevant questions are – what are these personal objectives? What shapes the relationship between the state and the workers so that a partnership may be possible, or not? All of these questions have fundamental policy implications for effective workforce development.

Consequently, since 1998 my research focus has taken on an additional focus. That is, I have considered the workers’ perspective as an important element in understanding the reasons behind the Singaporean rapid growth experience. As a result, in order to fulfil the current research objectives, I adopted the following strategies:

- Continue to update my knowledge with policy development through contacts with the authorities, relevant institutions and individuals (some of them are listed Appendix C²);
- Conducting a series of semi-structured worker interviews between 1998-2000
- Conducting a large scale workers’ values and beliefs survey (WVBS) in 2001

² It is not possible to document all the names as some of them have moved on to other jobs through the years.

Current Developments

The knowledge update exercise is by and large a continuation of what I had been doing in the period before. These discussions were continuous, but the focus was shifting more towards the workers in the last three years. However, two new activities have been added to my research in the last three years which prove to be very useful as far as the new focus is concerned.

The first one is my regular searches at the National Reference Library. Unlike other worker studies, speeches by political leaders in the Singapore context provide a very important source of insight into the *thinking* of the developmental state. All the important speeches and press reporting can be located in the National Archives (Stamford Road Site). This is a great resource. Many of the speeches and announcements carried powerful, emotional and metaphoric content which might have influenced the thought process of the workers (Heng and Govindasamy-Ong, 1996). Much of the archived material is in the micro-fiche format; the process is therefore slow. Recently, however, this exercise has been made easier when the web site of the Ministry of Information and the Arts (MITA) < <http://www.mita.gov.sg/bkssph.htm> > started to carry major speeches. For example, a recent edition (Vol. 25 No. 3) May-June 2001 < <http://www.mita.gov.sg/may-jun.pdf> > contains some excellent examples of speeches targeted at workers about *how* the state and workers should work together, e.g.:

“Building an e-Inclusive Society” by Goh Chok Tong, Prime Minister;
“Confidence Will Return” by Lee Kuan Yew, Senior Minister;
“Active Citizenship Through Community Involvement” by Lee Hsien Loong, Deputy Prime Minister.

The ease of access with the Internet opened up my second new area of research. I access a number of Internet resources on a daily basis. The first one is a news portal provided

by Yahoo <<http://sg.news.yahoo.com/sg/index.html>>. This is a 'live' update containing many major press sources, both within and outside Singapore.

The second source is the sintercom web site <<http://www.sintercom.org/>>. Sintercom has been a lively forum for a diversity of views and opinions contributed by people in and outside Singapore until its recent shutdown in August 2001. The shutdown was initially sparked off by the requirement of sintercom to register with the Singapore Broadcasting Authority (SBA) as a 'political' web site. The possible 'liability' levelled against the 'owner' of the site later turned out to be too severe for the site to continue. Despite some major canvassing among its regular readers, the site owner decided to close down the site. The site was run by postgraduates and enthusiasts, and it carried a great archive of forum discussions on all matters concerning Singapore. Currently, only the discussion group with daily articles sent to members is still running.

The third source is the soc.culture.singapore newsgroup. The quality of this source varies tremendously. Most of the messages are not significant, although the body of messages as a whole reflects the contemporary concerns of the citizens.

Both sintercom and soc.culture.singapore carry different opinions, including views opposing the ruling People's Action Party (PAP) government. This is a good source for accessing alternative viewpoints in the Singaporean society. For other sources of opposing PAP views, I also regularly check the following sites:

The Singapore Think Centre	< http://www.thinkcentre.org/ >
Singaporean for Democracy	< http://www.sfdonline.org/index.html >
Workers' Party, Singapore	< http://www.wp.org.sg/ >
Singapore National Solidarity Party	< http://www.nsp-singapore.org/ >
The Singapore Democratic Party	< http://www.singaporedemocrats.org/ >

The following resources are also checked regularly:

Far Eastern Economic Review (Hong Kong)	< http://www.feer.com/ >
The Straits Times (Singapore)	< http://straitstimes.asia1.com.sg/home >
NTUC news (Singapore)	< http://web1.asia1.com.sg/ntuc/news/ >

Press Release Database (Singapore)	< http://www.gov.sg/sprinter/ >
South China Morning Post (Hong Kong)	< http://www.scmp.com/index.asp >
AsiaNow (US)	< http://cnn.com/ASIANOW/ >
Asia Week (Hong Kong)	< http://www.asiaweek.com/asiaweek/ >
International Herald Tribune	< http://www.iht.com/ >
The Star (Malaysia)	< http://thestar.com.my/ >
The Economist (UK)	< http://www.economist.com/ >
Statistics Singapore	< http://www.singstat.gov.sg/ >

Semi-structured Interviews

In order to examine the usefulness and significance of the developmental worker model, the study needs to examine two major components of the developmental worker model (Diagram 6-2, Chapter Six) which form the basis of social action, namely the interpretive understanding process and the nature of collective beliefs. This following discussion will explain the use of a qualitative approach to examine workers' interpretive understanding process about the world around them. The later section will look at the rationale behind the adoption of quantitative approach toward the analysis of collective beliefs.

The primary intention of using the semi-structured interviews was to enable the interviewees to interpret the meaning of their life events and decisions. Therefore, the format of the semi-structured interviews took on a 'life events' perspective, i.e. all interviews started off by recalling key events during childhood. The interviewees were free to cite any event. From that point on the life events would be dictated by the memories of the interviewees. The logic was that if the events left a strong memory on the interviewee, it was likely to be significant. While I did not have a set interview schedule, I always started from the initial questions on key events and used prompts to gain further insights. Thus prompting would be used to ascertain connections between events and reasons behind personal decisions. Generally speaking, most interviewees would talk about growing up memories, the neighbours, the family, school, jobs and societal events. Comments on the state tended to surface when the interviewee tried to

explain some of the more complex background of certain events. The relative importance given to different topics varies from case to case.

A total of fourteen interviews were carried out between 1998 and 2000. All of the interviews were between one and two hours long. The average length was around one hour and forty-five minutes. All but two interviews were tape-recorded and transcribed.

As the study is about the workers in Singapore, the sample was selected so as to ensure that the profile reflects the characteristics of the Singaporean workforce. The Criteria for the interview sample therefore included a spread of age, gender, race and occupational responsibility. Table 2-1 shows the background of all fourteen interviewees. As anonymity is required, all fourteen individuals will only be referred to by their respective interview numbers.

Table 2-1: The Descriptions of the Fourteen Interviewees

Interviewee	Age	Gender	Race	Occupation/Responsibility
1	34	Male	Chinese	Sales employee
2	33	Female	Chinese	Office manager
3	43	Male	Chinese	Self-employed entrepreneur
4	36	Male	Indian	HR manager – public sector
5	26	Female	Malay	Teacher – public sector
6	18	Female	Chinese	Office assistant
7	31	Male	Indian	Marketing employee
8	38	Male	Chinese	Assembly line supervisor
9	44	Male	Chinese	Director of GLC – public sector
10	21	Female	Malay	Office assistant
11	44	Male	Chinese	Public Chartered Accountant
12	63	Male	Chinese	Director. MNC
13	30	Male	Malay	Junior manager
14	45	Female	Indian	Self-employed entrepreneur

Table 2-1 only indicates 'main job'. One-third of the interviewees had more than one job. The interviews were held at either the interviewee's office or at CLMS's Singapore office.

The interview materials were later used to identify the main themes that are expected to have significant impact on individual workers. I then invited three of the interviewees back to discuss some of these themes more generally in order to ascertain the significance of these themes, possible gaps and sub-themes. This meeting lasted three hours.

These themes are important in two respects. Firstly, they form the basic analytical materials for Chapter Seven on the process of interpretive understanding of the worker. The themes therefore are significant in informing the analysis of how workers perceive events around them and how they form their decisions and relationships with the developmental state.

Secondly, these themes are useful in suggesting value and belief questions for the Workers' Values and Beliefs Survey (WVBS).

Workers' Values and Beliefs Survey (WVBS)

Many studies on values and culture make use of existing literature to guide the design of questions. However, studies on workers' values in Singapore are almost non-existent (see Chapter Eight). As a result, I adopted a two-step approach to generate a values and beliefs instrument. In the first stage, I used the interview themes to draft as many questions as possible, and these questions were expected to reflect some underlying 'unobserved' value and belief 'constructs'. In other words, I expected that some of these questions, in combination (i.e. the constructs), might reveal some broad and meaningful dimensions of beliefs with which I could enhance my interpretation of the decisions and behaviour of the Singaporean workers.

The rationale was that if it was possible to identify some meaningful belief dimensions in this manner, I might be able to identify some of the belief dimensions containing elements involving the developmental state. This would be very important to the study because if the analysis could establish all these connections, it might provide enough basis to support the use of a developmental worker model in the attempt to understand some fundamental aspects of the Singaporean growth experience.

In step two, I used a discussion group (with a mixture of interviewees and one non-interviewee) to examine the long list of (around 40) questions. The objective of this discussion was to identify any duplication of questions or additional questions appropriate under the themes. In the event, the list was reduced to 33 questions. The actual questionnaire then went through two pilot tests before being put into use (see Appendix B for the actual questionnaire).

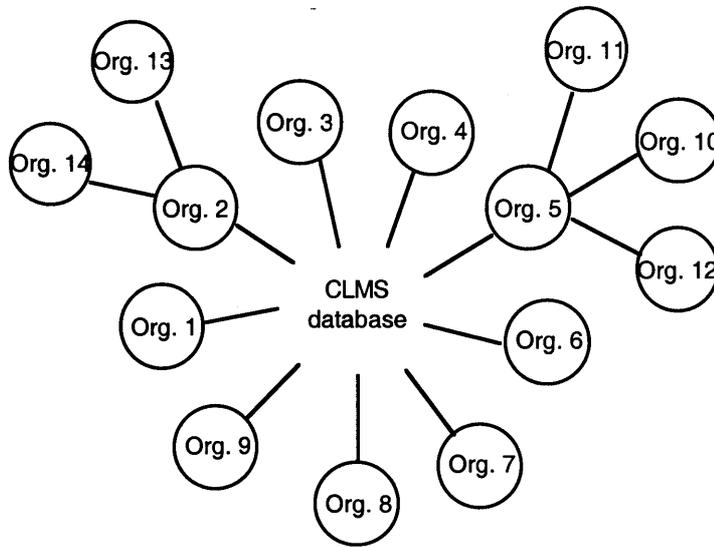
In addition to the values and beliefs questions, the questionnaire also contains personal information such as race, gender, age, education level, occupational status and industrial sector and so on. These variables might be required at the analysis stage to control for their effects on workers' beliefs, if any.

Sampling Design and Logistic Issues

The survey took place after the interviews were completed. As the study is about the values and beliefs of workers in Singapore, the sample needs to reflect the profile of the population. The normal way to draw a sample for this purpose would be to start from a statistical sampling frame, perhaps using the population census or voting ward data. If the study were to follow this or similar procedures, the survey would turn out to be a massive and time consuming task, requiring a small team of researchers to carry out the distribution and collection of questionnaires. Clearly, this would not be feasible or efficient for the current study.

Instead, I adopted an unconventional approach in which I used my personal contacts with organisations – many of whom were previous students of CLMS and currently managers of those organisations) – to generate *many samples* of workers. The choice of these contacts was influenced by the ‘fit’ of the organisations within the target sampling frame. In other words, I had to achieve roughly (in percentage terms) so many workers from the manufacturing sector, so many Indians, so many older workers, so many professionals, so many public sector workers and so on. Diagram 2-1 shows that the survey was a ‘ripple’ type of operation in which I had to personally establish the participation of a number of organisations at the first stage. Obviously, the fact that these managers knew me on a personal basis helped. I explained the purpose of the study and in what ways that they could help (e.g. sampling frame, timing and numbers etc.). I also enquired about the possibility of whether they could ‘ripple’ the survey outwards if they had ‘sister/divisional units’ or if they knew fellow managers in other organisations who could help. At this point, I would ascertain the ‘fit’ of these further units. If they fitted my criteria, I would ask for additional questionnaires to be passed on to those units in the ‘outer layers’. To facilitate the outer layers to understand the project, a (half-page) ‘coordinator’ note would be attached to the batch of questionnaire. The success of the operation would depend on the clarity of the instructions of the inner ripple coordinators and the attached coordinator note. My personal contacts only reached the inner ripple of organisations in Diagram 2-1.

Diagram 2-1: The 'Ripple' Operation of the Survey



The law of probability suggests that the more organisations are involved; the better is the chance that the eventual sample may reflect the profile of the population at large. In the event, this was more or less what happened (see Chapter Eight; Table 8-1). I deliberately traded more organisations for higher volumes of returns (per organisation). Quite a lot of the organisations returned 7, 8 or 10 questionnaires each. The odd one or two had 50 or 60. I had estimated that for a study of this kind, I would require at least 400 – 500 returned questionnaires. The returns reached 550 before I left Singapore. The remaining questionnaires were sent to the UK by air within the two weeks after I left Singapore. All together the three-week operation collected 802 questionnaires.

The final number of organisations involved in the survey was 57 (see Appendix D for the profile of these organisations), plus miscellaneous – *hawkers* (street sellers), casual construction workers, university students on placement, self-employed and SMEs owner/managers.

Some Ethical Considerations of the Study

There were a number of ethical considerations that I had to overcome in undertaking this study. These concerned the issues of access, consent, anonymity and the power relations between the researcher and the participants in the study. In the first instance, four of the interviewees and most of the initial facilitators of the survey came from CLMS's student database. In order to minimise any possible effect of my own position as senior member of staff of CLMS, I deliberately selected past students who had graduated in the early 1990s and had had little or no communication with me since graduating. In all cases, these past acquaintances turned out to be very helpful. The fact that they were all human resource managers means that they were keen to facilitate in a study that they also found, as one facilitator said, "fascinating" and pertinent. Only one person I contacted decided not to participate as he felt that he was not in a position to distribute questionnaires which might be seen as sensitive.

The other important issues to overcome were the sensitivity of interview materials which might be seen as problematic, especially in areas such as comments on state conduct. With the consent of the participants, all but two interviews were tape-recorded. In the case of the remaining two interviews, one participant declined to be taped but notes were taken by hand during the interview, while in the case of the second, background noise meant that it was not possible to tape the interview, so again notes were taken. Where notes were taken, they were shown to the participants at the end of the interviews. They would also be asked which, if any, parts of the interviews they might want to remove. Where tapes were used, I would offer the participants a duplicate so that they could raise objection to the use of any part of the interviews. This facility was welcomed by all participants but they declined the need to listen to the tape again as they felt comfortable with the content of the discussion and the comments that they made in the interviews. All interviewees were assured of their anonymity in all parts of the research and potential publications.

Limitations of the Study

In the course of the study, two important limitations became apparent to me. The first concerns the massive undertaking of the survey of workers which had to reflect the general characteristics of the working population. This meant that the survey had to be very thorough in its implementation. Although I managed to overcome the high cost consideration through my 'ripple' approach to collecting the necessary samples, some aspects of the sample could not be tightly controlled. For example, my only access to workers in the manufacturing sector was from the electronics industry. Thus, electronics assembly workers featured strongly in the manufacturing section. Likewise, workers in the banking industry featured highly in the service sector. Ideally, a wider spread would have been preferred but the resources available to me formed a considerable constraint.

The other limitation to the study concerns the relatively low number of interviewees involved due to the physical barriers of conducting research from abroad. Prior to the interviews used in this study, I had conducted numerous interviews with government officials due the original focus of my study. However, the information these interviews provided became less relevant to the current worker focus of the study. Therefore, over the last two years, I conducted four sessions of interviews in succession while carrying out normal teaching duties for CLMS while in Singapore. In addition to the 14 interviews, there were two earlier pilot interviews to test out various ideas. Ideally, I would have liked to carry out a few more interviews than those completed. However, one more visit to Singapore would have put my writing and completion schedule beyond the official deadline. Hence, the idea was abandoned. However, in light of the fact that the eventual analysis and writing did not have room to incorporate all the interview materials and quotes collected, I feel that the quality of the in-depth interviews has not been compromised by the relatively low number of interviews.

The Significance of the Different Age Groups

Age may be a very important variable in the developmental worker model. In general, one may expect that the older workers who have experienced the early history of Singapore as a colony with poverty and a newly established nation might be more willing to share the vision and rationale with the developmental state government. Then there are other age groups who might have experienced the process of early industrialisation – a period which was typified by hard work low-pay manufacturing work, and groups who grew up in the last twenty years. These groups would see Singapore in relative affluence but without personal experience of the conditions of pre-industrialisation. It is therefore crucial for the survey to have the age information. Owing to cultural norms, I suspected that this simple piece of information might cause problems with many of the female respondents. This was later confirmed in the (two) pilot tests. As a result, I employed a categorical variable for age, though some information is inevitably lost when categorical variables are used. In addition, in case this question failed to capture the very important information on the age of the respondent, I added a separate question somewhere away from the age question as a second ‘safety’ device. The second question used was the question on the ‘year entering the first full-time job’. Should there be a missing value in the first age question, I could always use the latter question to estimate the age information.

Having decided to adopt a categorical variable, care has to be taken in choosing the appropriate categories as these are expected to reflect the different socio-economic conditions the respondents might have experienced in the last forty years. Table 2-2 shows that the four age groups reflect the following different socio-economic conditions:

Table 2-2: The Socio-economic Conditions Associated with Each Age Group

60 or over	The respondents would have witnessed the colonial period, the Japanese invasion and Independence. There were very few of these respondents in the survey sample as a lot of them would have retired. A total of 12 out of 802 respondents were recorded.
35-59	The respondents would have witnessed the post-war period, Independence, and all the stages of industrialisation and 'nation building'.
26-34	This is an 'in-between' group. Some of the respondents, who were born just after 1965, would have similar experiences to the 35-59 group. However, those who were born in the early 1970s (up to 1975), would have experienced Singapore in similar ways to the '25 or Under' group.
25 or under	The respondents were born in the industrial 'take-off' period (after 1975) and prosperity period (after 1985). At the time of the survey, they would have had just a few years of industrial experience ³ .

It remains a hypothesis that whether age has any effect on the sharing of workers' beliefs because of different socio-economic conditions. If the developmental workers model turns out to be a useful concept in explaining the growth experience of developmental state Singapore, one would expect little age or indeed other personal characteristic effect. This is because the developmental worker model implies relative uniformity through 'collective beliefs' as argued in Chapter Six.

If the developmental worker model turns out to be weak or non-existent, one might therefore expect the developmental worker likely to come from older age groups (35 and over). The youngest (25 and under) might find it difficult to internalise the developmental state ethos and policy because of the irrelevancies of the prescription from the state vis-à-vis experiences in affluence and rising individual aspirations. The

³ In some of the organisations where the survey questionnaires were distributed, some workers were students on (6 months – 1 year) placement from the local polytechnics. Nineteen cases were recorded (out of a total respondents of 802).

26-34 age group is a 'transition' stage in the sense that this group would have mixed feelings and understanding about the developmental worker relationship with the developmental state. Furthermore, depending on which end of the age spectrum the individual is located, the individual may lend more sympathy to either the older age group or the younger one. Other than a brief discussion on the likely effect of age, the analysis will leave a more comprehensive discussion on other variables to Chapter Eight.

Chapter III: Economic Development and the East Asian Miracle – the Dichotomy of the Market vs the State

“ ... We were not ideologues. We did not believe in theories as such. ... Our test was: Does it work? Does it bring benefits to the people? ... The prevailing theory then was that multinationals were exploiters of cheap labour and raw materials We had no raw materials for them to exploit. All we had was labour. Nobody else wanted to exploit the labour. ... They [the MNCs] are welcome to it. And we found that whether or not they exploited us, we were learning a job from them, which we would have never learnt and being paid for it. In fact, we were part of the process that disproved the theory ... that this was exploitation. We were in no position to be fussy about high-minded principles. We had to make a living and this was a way to make a living.”

(Lee Kuan Yew, Speech at the World Congress of the International Chamber of Commerce, 5 Oct., 1978, quoted from Han et al, 1998: 109)

The recent rapid industrialisation of East Asian countries has proved to be one of the most spectacular events in economic development history after World War II. Not only did the East Asian ‘miracle’ force a major rethinking of the relationship between globalisation and developing countries, it also opened up opportunities for various intellectual ideas to challenge the dominance of neo-classical economics in explaining the process of growth.

This chapter will examine the two groups of contrasting intellectual disciplines – neo-classical economics and the neo-statist models. In the latter group, particular attention will focus on the developmental state model and its relevance in explaining the process of industrialisation and the role of labour vis-à-vis the developmental state industrial policy.

This chapter does not intend to suggest any particular theoretical model is better at promoting economic growth – that is not the objective of this thesis. Rather, I will demonstrate that the developmental state model may be more insightful and reflective

than other models in explaining the actual experiences within the growth process in a country like Singapore where the workers and the state are known to have formed an effective partnership in achieving economic growth. The main objective of this thesis is to show that this relationship between the developmental state and the developmental worker is the fundamental basis for the spectacular growth experience that Singapore has gone through in the last thirty-five years¹. Viewed from this perspective, the market system is merely a tool, and this explains the reason why ‘policy borrowing’ is such a hazardous exercise as it is completely devoid of a careful examination of the driving elements that make a ‘tool’ work.

The discussion in this chapter will also show that the experience of the workers is seldom, if ever, examined by the neo-classical model. This failure is mostly due to its underpinning analytical philosophy which is predominantly natural science oriented. This can be argued as unsuitable for the analytical needs of social science research. Within the neo-classical framework, the contribution of the workers is often treated as a quantity of input in the growth process, and it is therefore hardly surprising that the analysis is incapable of examining how workers interact with state industrial policy in the growth process – you can only infer from what is happening at the output end, at best. In any case, as we will see, industrial policy is not entirely admissible within the neo-classical framework because the concept of industrial policy goes against the fundamental principle of *unfettered* free market. Therefore, in order to use the neo-classical framework to analyse the Singapore growth experience (and East Asian growth experience in general), the neo-classical researcher will have to either deny the relevance of industrial policy all together, or to challenge the under-pinning principles of neo-classical economics. Clearly, the former option has been chosen even though a wealth of evidence has been accumulated in the last twenty years on the effect of industrial policy and non-economic components in the growth process.

¹ At this point, I am leaving the definition of the developmental worker to the next and later chapters. Chapter Six in particular will define what constitutes a developmental worker model.

One of the most problematic aspects of the neo-classical approach to explaining economic growth is its insistence on finding a simple, succinct and universally predictive model – much as in natural science – that would govern all growth processes, irrespective of political, sectoral, social and cultural differences. As a result, whilst decades of search (and research) came up with some useful ‘indicators of growth’, the neo-classical model is unable to explain the East Asian growth process in a satisfactory manner.

As will be demonstrated, the neo-statist models open up a number of interesting and persuasive possibilities in exploring and explaining the issues relevant to the growth process. These are often not possible within the neo-classical framework. The neo-statist framework, and in particular the developmental state approach, will enable the current analysis to explore the relationships between worker participation, worker effectiveness and a range of issues such as industrial policy, state-led workforce development, industrial relations, various forms of social engineering and guided market – all of which impact on how the ‘market mechanism tool’ is to be effected.

State, Market Mechanism and Economic Growth

Up until the 1950s, the conventional approach to analysing economic growth has been dominated by neoclassical economics. This predominance of neo-classical economics has been greatly enhanced by the way that Western industrialisation took place (especially seen in the form of market exchange and self-seeking entrepreneurialism) and the subsequent expansions in world trade and rising worldwide consumerism and industrial production. These events have led most economists to believe that the ‘invisible hand of free market’ works so well that the state’s substantial role should confine itself to bridging ‘market failures’² (Friedman and Friedman, 1980).

² Market failure refers to a situation where the market is not responding to economic incentives to bring forth a solution. In welfare economics, market failure is more specifically defined by the ‘Pareto-

However, three events brought about some major questions to the dominance of neo-classical economics in growth analysis:

- The problems of the ‘low growth’ or ‘under-developed’ countries in the post-war years;
- The East Asian ‘miracle’;
- The lack of empirical evidence emerging in the 1990s to support the basic framework of neo-classical economics in the analysis of growth.

The Emergence of Development/Growth Economics

In both economic and social science literature, ‘underdeveloped economies’ were typically characterised by low (private sector) savings, dependence on primary production (often burdened with urban-rural inequalities), limited infrastructure, low skills and high unemployment. In these ‘underdeveloped economies’, it appeared that there was a persistently low level of response to incentives which has resulted in a low level of economic activities. In other words, for some reason, economic activities were hard to get going.

Neo-classical economists wondered why industrialisation, like that in the West, did not take place in ‘underdeveloped economies’ (Kenny and Williams, 2001). This prompted a ‘new’ branch of economics – development economics (later known as ‘growth economics’ under the World Bank) – to tackle those problems. Development economists’ early diagnosis was that the failure of the economic system to respond to

optimality’ principle. This principle shows that market failure exists if it can be shown that it is possible to improve the market outcome (or changing resource allocation) by ‘making someone better off and no other worse off’ (Ng, 1983).

incentives/demand was by and large due to 'structural' problems. For example, a country was not 'open' enough to encourage free trade (Miller and Upadhyay, 2000) or the government was not stable enough to provide a positive environment to encourage investment (also technically known as 'capital accumulation') (Meier, 1999). In many respects, this diagnosis resembled a case of market failure where government intervention might be justified. Development economists began to advocate that the state should undertake direct responsibility for coordinating 'investible' resources and channel these resources towards productive investment. This approach of balancing state involvement in managing investible resources and attempting to allow a market economy to take shape was later known as 'structuralism' (Myrdal, 1957). In some cases, if it meant that industrialisation would need protection (from international competition) in order to create the conditions of economic 'take off', the policy of import-substitution (which systematically discriminates against import trade) might even be tolerated for a period of time so that structural adjustment could take place (Wade, 1990).

As progress appeared to be made in accepting a greater role for the state in coordinating resources in underdeveloped countries, structuralism appeared to have reclaimed some of the lost credibility of the neo-classical economists (Bienefeld, 1982). However, this was also a difficult period for the neo-classical school because by accepting a greater role for the state in coordinating resources in underdeveloped countries, the neo-classical economists were also accepting that the state could, after all, alter resource allocation and could bring overall benefits to all (Wade, 1990).

This apparent contradiction, however, did not change the neo-classical position on the role of the state. On the contrary, neo-classical economists pointed out that as import-substitution policy became widespread in the 1960s, international trade suffered. Krueger (1974) pointed out that although protected domestic industries were generating employment, they would become more inefficient through habitual reliance on government protection and subsidies. Krueger described this consequence as the 'inherent problem of government failure'. Furthermore, some of the (then) developing

countries, e.g. Taiwan and Hong Kong, were making rapid economic growth in the 1970s through export-oriented strategy through the private sector. Therefore, for the neo-classical economists, the case for the role of the state was at best, weak. The most fundamental economic policy should allow market mechanism to function properly. Some neo-classical economists even argued that there was no need to have a separate branch of development economics to analyse economic growth, as market failure (and therefore the role of the state) was a special case (Lal, 1983).

Clearly, three fundamental principles underpin the neo-classical views on economic growth – the importance of investment (or capital accumulation), an efficient resource allocation mechanism (via the ‘free market’) and unfettered free trade. The role of the state is therefore to maintain an institutional arrangement so that the above three principles may flourish. Once these are in place, economic growth will come forth. Everything else will be either irrelevant, or at best, of secondary importance in the growth process. This is where the theoretical divergence is most vivid between the neo-classical approach on the one hand and the neo-statist approach on the other.

Despite such strong insistence on the neo-classical fundamentals, the truth remains that the neo-classical school admitted a greater role of the state than it had previously thought possible.

The Challenge of the East Asian Success

The post-war ‘under-developed’ countries phenomenon was simultaneously accompanied by a contrasting experience in some Asian developing countries. Between the 1960s and the 1980s, the East Asia secured some very impressive growth performances. Table 3-1 shows that for three decades, the four ‘Asian Tigers’ (Taiwan, Hong Kong, Singapore and South Korea) produced sustained national income growth (per head) two to three times that of the industrialised West. On the face of the East Asian success, the neo-classical growth theorists must have felt vindicated. After all, all

four 'Asian Tigers' – one could also add Japan – are market economies, have high level of private sector savings and capital accumulation, the workers are relatively well educated and they all derive their successes through export-oriented growth.

Table 3-1: Rate of Growth of GDP per Capita (1960-1990)

Years	1960-65	1965-70	1970-81	1981-90
Hong Kong	8.1	6.0	7.4	5.2
South Korea	3.8	7.8	7.2	8.8
Singapore	2.6	10.8	6.9	5.6
Taiwan	6.3	7.2	7.3	6.8

Source: Pack, H., 1994, "Endogenous growth theory: intellectual appeal and empirical short-comings", *Journal of Economic Perspectives*, Vol. 8, No. 1, Winter: 55 – 72.

This impressive record has led some neo-classical economists to proclaim that the results in East Asian have provided concrete proof of the superiority of free market and 'export promotion' oriented strategy over import-substitution and any state-led alternatives (Balassa, 1981; Lal and Rajapatirana, 1987; Krueger 1980). Lal and Rajapatirana suggest that:

" ... It seems to be as firm a stylised fact as any in the economics of developing countries: a sustained movement to an outward-oriented trade regime leads to faster growth of both exports and income."

(Lal and Rajapatirana, 1987: 208)

In the IMF World Economic Outlook Report in 1985, IMF stated:

" ... Another note-worthy element of policies in the developing countries has been an increasing emphasis on a wide range of structural adjustment measures intended to improve the allocation of resources and enhance economic growth prospect. For the most part, these measures have involved restructuring prices

and price setting procedures towards a more market oriented approach. ... These measures are already leading to more robust development in some countries, and should bring further benefits as their efforts become more widely felt."

(IMF, 1985: 66)

In fact, the evidence was not as unambiguous as it seemed. There were two sources of disagreement. The first concerned the increasing empirical evidence that did not support the neo-classical case. The second concerned the interpretation of the 'neutrality' of state involvement in the growth process. The latter came mainly from the World Bank.

On re-working on the countries chosen by Balassa – eight inward-oriented and 6 export-oriented countries – Colin Bradford (1987) found no differences between the averages of the 'price distortion scores' of the two groups of countries. This was contrary to the neo-classical expectation that inward-oriented countries would have a large price distortion because of state intervention. He also found no significant differences between the saving rates and growth in gross domestic product (GDP) of the two groups. Again, this was contrary to the neo-classical expectation that there should have been a link between growth and saving levels.

Other studies by Kavoussi (1985), Harvrylshyn and Ali-khani (1982) and Singer and Gray (1988) found that there was no *automatic* relationship between export-orientation and growth as their empirical results showed that such a relationship was highly dependent on other conditions, e.g. the level of world demand or the current level of economic development. Pack (1986) found little difference in technical efficiency between export-oriented and inward-oriented countries. The neo-classical model had predicted that export-oriented countries with high growth rates would also have higher levels of technical efficiency³.

³ In a typical neo-classical production function model, i.e. $Q = f(K, L, A)$, technical efficiency (A) is a 'residual' measuring the proportion of output not accounted for by capital (K) and Labour (L). Some

Bhagwati (1988), a long time researcher in economic growth also concluded that whilst there was clear evidence that export trade had helped the Asian newly industrialised countries, there was no systematic difference between export-oriented and inward-oriented countries in terms of saving rates (hence the rate of capital accumulation), economies of scale, innovations and technical efficiency.

Despite these inconsistent empirical results, the neo-classical approach consolidated its view on development policy by the mid-1980s with what became known as the 'Washington Consensus' (Walde and Wood, 1999). This 'consensus' was mainly directed to the rising profile of the state within the growth process. Among the policy prescriptions linked with the consensus were devaluation, reduction of budget deficits, low inflation, liberation of prices and interest rates and privatising the public sector. The rationale behind these policy prescription was the belief that the state in most developing countries had been *too active* in taking a role.

The World Bank 1987 World Development Report therefore made a more detailed attempt to demonstrate the connection between export-oriented and protection-oriented countries by classifying 41 countries into different degrees of export-orientedness – e.g. 'strongly export-oriented', 'moderately export-oriented' and so on. These were then measured against 12 macroeconomic indicators, e.g. inflation rates, savings, capital output ratios, growth of manufacturing exports and so on. Whilst the analysis showed that there appeared to be support for the export-oriented ('strongly' and 'moderate' combined) economies doing much better than the opposite categories in the inward-oriented under the 12 macroeconomic indicators, there was also criticism that the 'strongly export-oriented' economies only included South Korea, Hong Kong and Singapore. The apparent connection between export growth and economic growth might well be due to some form of 'Asian-ness', which was embodied within these categories

economists infer technical efficiency as an embodiment of management efficiency, better teamwork or more efficient procedures etc.

of data (Wade, 1990). Indeed, if there had been ‘Asian-ness’ embodied in those four entries, what the World Bank was measuring would have been a connection between industrial policy, managed trade, industrial relation practices and a whole host of non-economic factors that were commonly practised in the East Asian countries. This would turn out to be a strong set of evidence against the case of the neo-classical school.

It is a useful point to pause here. So far, in the attempt to analyse the relationship between economic growth, market mechanism and what possible role there might be for the state, the neo-classical approach has said relatively little about *how* workers contribute to the process of growth. The highly mathematical treatment in all neo-classical empirical analyses tends to treat labour (not workers) as quantities of input, and then it measured the variations of labour input vis-à-vis those of output, allowing for the contribution of (physical) capital investment. Whatever variations that could not be explained by the two ‘factor’ inputs would be regarded as ‘technical efficiency’ or ‘technical progress’. ‘Technical efficiency’ is a very vague concept capable of changing its meaning from one case to the next. The reason is that ‘technical efficiency’ is a residual in the regression – whatever cannot be explained by capital and labour inputs, given the amount of output. Through technical efficiency, the neo-classical analysis has sometimes given labour a tentative qualitative treatment. In other words, given the amount of capital and labour inputs, output could be higher because labour has interacted with capital at a higher rate of organisational efficiency. However, at some other times, technical efficiency is attributed to ‘better technology’ so that the same units of labour and capital inputs lead to higher output. Hence, it is not entirely unjustified to suggest that the neo-classical approach to workers’ input is a very *nominal* analytical treatment. There is little detail as to *how* workers contribute.

In essence, the neo-classical framework has not been set up to analyse how workers dynamically interact with the world in which they found themselves, and therefore it is impossible to know how they participate effectively in the world of work and the process of economic growth. Even less, would be the neo-classical approach’s ability to say

anything about how workers interact with the state as the approach simply assumes that there is no role for the state except in cases where market failure has occurred.

With the publication of the 'The East Asian Miracle' (World Bank, 1993) and many contemporary publications on the non-economic explanations on East Asian growth (see later discussion in this chapter), the World Bank found itself in a difficult position to continue to ignore the role of the state. It became clear that any meaningful analysis on the East Asian growth would have to address two issues: a) the role of worker participation and b) the role of the state (other than the traditional theoretical foci of neo-classical economics).

Despite these pressures, the neo-classical approach and the World Bank continued to stress the importance of investment in primary and secondary education. The core of the neo-classical explanation was that the various Asian governments had adopted 'market friendly' policies⁴. These 'market friendly' policies meant that the state would only intervene where the social rate of return is higher than that of the private one (market failure). The 'Miracle' report therefore pointed to the current intervention being confined to the failure for the market to provide finances for adult education as well as the usual difficulties for individuals to obtain information concerning education and training decisions.

On the benefits to be gained through in-company training, the 'Miracle' report cites some evidence to support the possibility of training raising productivity in developing countries. However, when it comes to state intervention in training, the Report is not entirely supportive with one exception – the use of training to promote the information and technology sector:

"Singapore has achieved world leadership in information-related services through a concerted program that involved education institutions specialising in business

⁴ There was strong evidence that most Asian 'tiger economies' have extensive systematic intervention mechanisms. See Chapter 4 on the case of Singapore as a developmental state.

and engineering software training), training subsidies to schools and office workers, computerisation of the civil service, and establishment of TradeNet, an international information network. ... This success illustrates the importance of a government's ability to foresee a major trend and coordinate complementary private investment."

(World Bank, 1993: 202)

The World Bank's position was further reflected in Middleton *et al*'s work. As well as citing a wide range of benefits of general education for growth, Middleton *et al* (1993) argued that it was more difficult to identify the contribution of skills training to economic growth of the very diverse forms of delivery. Middleton *et al* also argued for the possibility of state intervention where 'market imperfection' is found. However, where the market can function normally, the most efficient provider is the market, and therefore the role of the state should be minimised.

The continued inability of the neo-classical approach to deal with worker participation in the process of growth attracted further criticisms. Ashton *et al* (1999) point out that general education may be good for initial economic development. However, the neo-classical framework is not suitable to tackle skill development, workers' participation and the role of the state unless there are effective mechanisms to explain issues such as skill deepening or any other strategic issues.

As a result, the neo-classical model removes any possibility for the state to be able to influence the pattern of workforce investment to the changing demand for skills. In the face of substantial evidence of state mechanism coordinating this aspect of the growth/change process (see Chapters Four and Five), this seems like a major omission from the 'Miracle' report. As a result, this omission has been described as 'selective perception of realities' of the role of the state in the realm of workforce development (Ashton *et al*, 1999: 14).

The most serious drawbacks with the neo-classical approach are its preoccupation with the application of 'natural science' to the study of 'social sciences' and its view of the neutrality of the state. When these two are combined together, it is not surprising that the neo-classical approach has been criticised for having a 'selective perception of reality'. It is precisely this last criticism that led to the latest round of debates within the neo-classical school itself. The next section will look at this recent contention before examining the neo-statist alternatives.

The Weakness of Neo-classical Empirical Evidence

As well as being a strength, the heavy reliance on empirical validation of a theory via statistical artefact also creates a weakness for neo-classical economics. In a recent paper surveying a wide range of research results on growth economics within the neo-classical tradition in the 1990s, Kenny and Williams (2001) make some of most damning criticisms on the lack of appropriate justification to impose the neo-classical model on the analysis of economic growth⁵.

Essentially, Kenny and Williams are concerned by neo-classical economists' generally un-questioned subscription to what they call 'epistemological universalism'. This emphasis, in Kenny and Williams' view, may be misplaced (at least for the study of development economics). The neo-classical approach towards development economics has been to provide theories which are capable of generating a 'scientific model', and this model will in turn explain the largest possible class of growth phenomena. However, Kenny and Williams argue that the economic world is far too 'heterogeneous' to rely on the discovery of one single model that will explain all growth phenomena.

⁵ Charles Kenny is World Bank staff. He and others (some are also World Bank researchers) had begun to voice their concern over their approach to the process of growth since the mid-1990s. See the various references in this section of discussion.

"... We argue that there is a crucial and important mismatch between the actual economic world, and the 'picture' or 'model' of the economic world which underpins the current search for causally significant variables. Specifically, we suggest that the current thinking about economic growth has often failed to grasp the complex causal nature of the social world, assuming that the components and processes of the economy are the same across countries."

(Kenny and Williams, 2001: 2)

Kenny and Williams' concern came from a systematic analysis of all the major neo-classical research papers on the explanation of economic growth in the last ten years. They concluded that the empirical evidence that had been put forward was often weak and ambiguous. Together, the body of research could not provide sufficient evidence to support the neo-classical hypotheses.

Kenny and Williams first examined the evidence of investment on growth⁶. Investment has been the single most important variable until the 1990s (which saw the rise of the popularity of another variant of the neo-classical model – the 'endogenous growth' model). The original neo-classical approach was given by the Harrod-Domar model which specifies a simple linear relationship between investment and growth rates (Cypher *et al*, 1997). The World Bank's own Revised Minimum Standard Model (RMSM) was also based on the Harrod-Domar model, and was used to predict the necessary level of investment required in order to achieve a certain level of growth. The predictions from this formula helped the World Bank and other Western governments determine what would be the appropriate level of economic (foreign) aid to the developing countries.

⁶ The discussion on the empirical problems of the neo-classical model from here on is predominantly drawn from Kenny and Williams (2001) as this paper represents the most up-to-date and the most extensive critique of its kind.

Easterly (1998) found that of 138 countries, only 5 had a statistically significant (short-term, one year) relationship between investment and growth⁷. Easterly further projected if the Harrod-Domar model had been correct, Zambia (which had a reasonable investment rate and large inward aid flow) would have a GDP per capita of US\$20,000 by 1994. Instead, the actual level was US\$600. Indeed, there were other inconsistent cases which equally did not reflect the Harrod-Domar prediction.

When the focus moves away from the simple investment-growth relationship, Kenny and Williams found other problems. The most serious one concerns a common problem of all social sciences – ‘multicollinearity’ in regression. This problem is due to the fact that socio-economic data are often correlated. For example, we could use data on investment and income to explain variations in growth rates across different countries. The level of income in most countries tends to correlate with the level of investment – higher income groups tend to invest more, and vice versa. It is well-known that if we enter explanatory variables which are highly correlated simultaneously in the same regression, the ‘apparent’ (theoretically expected) relationship between a particular explanatory variable and the dependent variable may disappear. The consequence of this problem is unpredictability in the regression results.

Levine and Renelt (1992) used a number of variables commonly used in neo-classical growth analysis (e.g. investment, trade openness and so on) and ran them in thousands of growth regressions with different ‘conditioning’ sets of other variables. The objective was to see if some of those commonly used variables would (significantly) explain growth rates in all of the regressions. If there were such variables, they would be regarded as robust. However, of all the commonly used variables, only investment survived as a ‘robust’ variable in explaining growth. This result may suggest that (other than the investment variable) all other variables may have an impact on growth but be dependent on a range of conditions (social, political and otherwise), or alternatively, all these variables were correlated with one very important causal variable that was hidden

⁷ William Easterly is Lead Economist of the World Bank.

somewhere else. Levine and Renelt's study has two issues: a) it contradicts with Easterly's study in 1998 where the latter did not find the investment variable that useful; b) Levine and Renelt's study highlights the possibilities of the effect of different social and political conditions leading to different growth outcomes.

Indeed, Kenny and Williams examined many more papers on the seemingly contradictory evidence. I summarise some of the prominent ones in Table 3-2.

Table 3-2: A Summary of other Neo-classical Studies on Economic Growth Cited by Kenny and Williams⁸:

Variables	Results	Authors
Education	Using different statistical tests but coming up with significant negative effect on growth in some of the tests.	Pritchett (1996)
Research and development expenditure	It appears to have no relationship with growth in poorer countries at all; in OECD countries, results appear to show that it is growth which influences R & D, and not the other way round.	Birdsall and Rhee, 1993)
Open trade and factors such as tariff barriers	Little evidence to support trade and trade-related measures having an influence on growth.	Edwards (1993), Maurer (1994), Rodriguez and Rodrik (1999), Walde and Wood, 1999)
Fiscal and monetary policies	Evidence on the relationship between tax policy, public expenditure, public sector borrowing and growth is 'inconclusive'.	Tanzi and Zee (1996)
Inflation	No long-term relationship between inflation and growth.	Bruno and Easterly (1995)
Political regime type	Little explanatory difference between regime types such as 'democratic' and 'authoritarian' on growth differences.	Przeworski and Limongi (1993), Brunetti (1996)
Trade, education, investment and literacy rates	Neo-classical model predicts that all these variables would have positive effects on growth. All these variables have gone up in OECD countries, but growth rates have been 'downwards'.	Jones (1995)
Policies and institutional structures	Growth rates in a global sample show high volatility. Yet policies and institutional structures only change steadily over a long time horizon within the sample.	Easterly, Kramer, Pritchett, and Summers (1993)

⁸ Many of the papers cited by Kenny and Williams (plus many more on growth economics) can be found at http://www.worldbank.org/research/growth/outside_research.htm. Some of these papers are free (e.g. World Bank Papers).

So why are these results so different from what the neo-classical model has predicted? Some economists might argue that the data were less than perfect, or the econometric tool was not sophisticated enough and so on. However, Kenny and William argue that the real problem may be a lot more simple than those previously suggested.

" ... the [predicted] relationships might appear weak because we run large-scale cross country regressions, we are assuming a global common system of causal relationships between variables and output that might not exist at any level that can be caught using a cross country regression".

(Kenny and William, 2001: 11)

Indeed, some neo-classical economists have suggested that these regression runs should be carried out through split samples, i.e. by country, period and industrial sector. However, splitting samples would mean that a study on the UK growth rate in the booming 1960s would say little about the growth of Malaysia in the 1980s. If this is true, it will destroy the neo-classical ethos of discovering the one single model (or law) that would explain economic growth.

Kenny and Williams make three further observations about the empirical dilemma that economists face which would serve as a useful point to look at other competing theories in explaining growth in East Asia. Firstly, nearly all the recent economic analysis on growth has been 'ahistorical' (Easterly, 1997). Thus, it is difficult to analyse the possibility of any 'learning effects'. This is an important and interesting point. Although Easterly actually refers to some kind of 'virtuous' or 'vicious' cycles (about the effect of 'trade shocks' and 'threshold investment effect'), it is possible to use the same concept to look at the possibility of a learning effect among stake-holders – e.g. the state, workers and institutions - in the process of economic growth. This learning effect (or interaction) can be translated into a source of competitiveness and growth, as is argued to be the case of South Korea (Amsden, 1989).

Secondly, in the relentless search for that single, neat econometric model that would explain the growth process everywhere, most economic analysis simply did not allow for the possibility that there might be many important factors and they could all feedback to each other to form what Myrdal called 'circular causation' (Myrdal, 1957: 16). Indeed, Myrdal's view is that economic growth is a complex system. It involves a wide range of agents. As a result, most economic analysis would have failed to account for causal factors such as people's beliefs, people's expectations about others and the future⁹. All these may mean, as Kenny and Williams argue:

"... Economics has yet to get to grips with the idea that individual economic agents are active, thinking persons, not simply through-puts in the working out of timeless and spaceless economic laws and relations. ... This may mean that current models only capture a supposed theoretical relationship that we have little reason to think will actually be manifested in the real economic world. The above argument might suggest that mathematical modelling techniques have invaded territory to which they are ill-suited, imposing unrealistic criteria of rigor and precision."

(Kenny and Williams, 2001: 14)

The preceding discussions show that the basic problems with the neo-classical approach to the process of growth concern the underlying assumptions about the socio-economic world in which thinking agents and institutions, such as the state, are interacting constituent parts. Secondly, given those assumptions, the use of mathematical modelling to seek one single explanatory model to all growth experiences now seems highly inappropriate. It is therefore not entirely surprising that there exists a vast amount of empirical evidence that is both contradictory and ambiguous. In the next section, the discussion therefore focuses on the alternative approaches which allow for a much higher level of state participation in the process of growth. These approaches will later

⁹ In Weber's terminology, this is the process of 'interpretive understanding'. This concept will be used to construct the developmental worker model in Chapter Six.

form the motivation for the development of a 'new' analytical model for the analysis of workers' experience in Singapore.

The Alternative Approaches to Economic Development

As demonstrated in the previous section, neo-classical growth economics has been too bogged down by its neutral view of the role of the state and the need to locate that simple all-useful predictive growth model suitable for all countries in the global system. In order to understand alternative approaches and possibilities, we will examine other theories which do not preclude the role of the state and may also pay more attention to the another element within the growth process, namely the role of the worker. The latter group of theories include perspectives mainly from political science and sociology.

Dependent Development/'World-systems' Thesis

Some of the early political theorists viewed the emerging globalisation with great suspicion. In particular, researchers in the 1960s were concerned with the limited possibility of development in the poor countries. Some feared that any development in those countries (also known as the 'peripheral' countries), if it happens at all, would be dictated by the requirements of the industrialised/developed world (also known as the 'core' countries). In fact, most believed that little genuine development would take place in the developing world (Frank, 1969; Emmanuel, 1972).

However, this pessimistic view was countered by alternative diagnosis of Brazilian sociologists, Cardoso and Faletto (1979), who raised the possibility of 'dependent development'. They show that Latin American nations had been able to find strategies for development within the confines of the capitalist world system. It was more subtle and sophisticated than much of the literature on dependency that appeared previously, which portrayed Latin America as a helpless victim of Europe and North America.

Specifically, Cardoso and Faletto refer to circumstances in which some third world countries might be able to achieve sufficient autonomy to take advantage of the benefits or dynamics of global capitalism. In turn, they could use the resources so obtained for their own developmental purposes. However, because of the unequal economic power between developing countries and international capital, Cardoso and Faletto also believe that development within this framework would have 'limits' which would be influenced by the economic and political conditions in the 'core' economies.

So what are the conditions under which development can take place within 'dependence development'? Peter Evans (1979), in his research with multinationals in Brazil, appeared to find the answer. He suggests that within the constraints of a dependent/core-peripheral relationship, the dependent country would need to bring together a coalition amongst the stakeholders so that any economic benefits obtained through the dependent relationship will be 'reinvested' back into the system. This is equivalent to suggesting that the state should take a leadership role to bring about some form of 'national teamwork' to take advantage of international capital. Over time, the process of re-investment aims at reducing the 'unequal' economic power between international capital and the peripheral country. Indeed, over time, the peripheral country may accumulate enough resources to exercise its own decisions over what indigenous development is to be pursued.

In this sequence of events, the state and workers cooperate in national teamwork which co-exists with international capital in a symbiotic manner. It is a deliberate 'strategy' to win over sufficient autonomy for future development within a capitalist framework. Ironically, many of the crucial elements within the dependent strategy would coincide with the neo-classical prescription, e.g. capital accumulation, high investment in education and high saving rates (for future indigenous investment). The only difference between the two is the absence of the state as a 'strategic' coordinator among the national stake-holders in the case of the neo-classical model.

Cardoso's dependent development theory is further supported by similar research carried out at the Fernand Braudel Centre in New York where Immanuel Wallerstein developed his world-systems theory. Wallerstein also saw the global system as having an unequal core-peripheral relationship. Like Cardoso and Faletto, Wallerstein could also see the possibility for progress within this dependency such that some peripheral countries could become 'semi-peripheral'. These semi-peripheral countries managed to progress within the system because they were able to 'extract' surplus from the system by behaving like a core economy to other poorer economies (Wallerstein, 1978 and 1979).

The implications of Wallerstein's 'world-systems theory' are particularly interesting. Accordingly, a country's position within the core-peripheral continuum depends on the relative value-added content of its national product (and services). Those with relatively higher value-added content in their national product will, through trading, extract surpluses from the ones with lower value-added content. The world-systems theory refers this to the 'commodity chain' (Fernand Braudel Center, 1991). A further implication of this analytical framework would suggest that in order to move up the 'value or commodity chain', the state might have to pursue two important steps in repeated cycles: a) the state would have to create and coordinate a competition strategy so that it could extract as much surplus out of the 'world-systems' as possible; b) the state has to ensure that the surplus (in the form of investible resources) will have to be channelled back into the domestic system in order to transform the domestic value content of production.

By repeating these steps within a long-term industrial policy, the state would be able to move the country from a peripheral position to a semi-peripheral one, and perhaps beyond. Therefore, the world-systems theory asserts that:

"Such a [high/low value] mix has tended to correlate with ... [the] degree of state intervention in the economy designed to protect and improve the relative world market position of the enterprises and populations located within that state."

(Fernand Braudel Center, 1991)

Thus, the world-systems theory would place the state in a central position of the economic development process so that dependent development could take place. However, there are a number of criticisms levelled against the world-systems theory. Firstly, nearly all of the research on the world-system theory comes from just one source - the Fernand Braudel Center (Binghamton University, State University of New York)¹⁰. Wallerstein himself admits that he has been frequently criticised by others that his world-systems theory is insufficiently operational, 'unscientific' and ideological (Wallerstein, 1997a).

Secondly, and most fundamentally, the theory has said very little, if anything, about the actual strategy of the state and those of organisations and individuals who are involved in this long-term 'up-skilling' process along the value/product chain. The world-system theory clearly points at the importance of the state, employers, social institutions and the workers working together. However, the world-systems theory says very little about *how*. Constant up-skilling is clearly the basic requirement of such competition strategy. Again, the world-system theory says nothing about the conditions under which this might happen.

In comparison with other competing theories, there has been relatively little empirical evidence to support the world-systems theory although the concept of the world-systems can be very appealing to some. Currently, much of the research at the Fernand Braudel Centre is concentrated on the historical analysis of trade patterns (Arrighi *et al*, 1997) and the existence of 'cycles and trends' as the world-systems 'evolves' (Wallerstein, 1997b). The latter research strand now has close collaboration with economists who study the 'long-wave' theory. Despite some of the above criticisms, the world-systems theory has one important contribution. For the first time, research has explicitly positioned the state in the centre of focus of the development process and worker up-

¹⁰ Nearly all of the land-mark papers on world-system research are available for download from the Fernand Braudel Centre's web site at <http://fbc.binghamton.edu/>.

skill is a necessary part of that process, though the latter point was never given sufficient analytical attention within the world-system theory.

Combining States and Markets

The East Asian experience provided an opportunity for the neo-classical economists to emphasise the virtue of the market. Equally, it has also opened up opportunities for a number of approaches which did not see it useful to have a dichotomy of state versus market. Instead of being restricted within dichotomy of state versus market, all of the alternative approaches emphasise some form of synergetic and competitive collaboration among the state, capital and labour. These are known as the neo-statist models. Thus, what is distinctive to the East Asian success (compared with growth experiences in the past and perhaps in the West), is this competitive collaboration in relation to the domestic economy and the global economy.

In explaining the East Asian economic success, the entrance of the neo-statist approaches has therefore moved the debate from 'whether or how much the state should intervene' to 'what makes the states more effective than others in competing in the global market'.

It is also important to distinguish between what the economists refer to as state intervention and that is understood by 'neo-statists'. In most neo-statist models, state intervention would cover issues such as setting national priorities, the use of strategic economic policies (e.g. on investment or trade policy) and collaborative arrangement among the state, capital and labour¹¹.

In the following section, I will discuss a number of neo-statist models with the purpose of highlighting why the 'developmental state' model is arguably the most useful model

¹¹ However, unlike the Western corporatist approach, the partnership within the neo-statist models is invariably 'unequal' with the state taking a dominant leadership role. See Sung, 1998: 93.

to explain growth patterns in Singapore and also the relationship between the state and the workers. This state-worker relationship as argued in Chapters Six, Seven and Eight is the fundamental linchpin which made the 'economic miracle' possible in Singapore.

The term 'developmental state' was first coined by Chalmers Johnson in an effort to distinguish state economic intervention as normally understood in the West from what was practised in East Asia (1982). A developmental state, in Johnson's definition, would therefore contain the following characteristics:

- 1) The state sets priorities in economic growth and industrial policy. The emphasis is often on short-term sacrifice on consumption in exchange for long-term economic prosperity. This priority 'cascades' downward to influence all other policies. Some developmental states would use a vision statement to 'drive' the priority.
- 2) The state establishes a highly efficient, talented, disciplined and elite-oriented bureaucracy as an instrument to deliver all the strategic policies. Often, this bureaucracy is led by a spearhead unit to 'coordinate' all other state agencies in order to maximise the results¹².
- 3) The state institutionalises a wide-range of links between the bureaucracy and the private sector. These links are crucial for efficient communication and coordination purposes.
- 4) The state establishes 'insulating' environment/framework so that the bureaucracy can function relatively without hindrance from special interest groups (e.g. capital or labour) to achieve the strategic goals as laid down by the nation's priority plan.

¹² For example, Japan's MITI, South Korea's Economic Planning Board, Taiwan's Industrial Development Bureau and Singapore's Economic Development Board. See Green *et al* 1999.

- 5) The state is committed to private property rights and to enable the market to function.

Wade (1990) felt that whilst Johnson's model had gone some way to highlight the essence of a statist approach, namely the developmental state, it was rather descriptive for analytical purposes. Wade extended Johnson's model in a couple of crucial areas¹³. The first was the drive to accumulate very high levels of productive investment, which would be used for purposes such as transferring higher value-added ideas into production. Alternatively, this investment could be used in 'key industries' in order to augment whatever level of investment that might otherwise go into these key industries. Secondly, the state would enable industries to fully engage in international competition. In Wade's words:

" ... The corporatist and authoritarian political arrangements of East Asia have provided the basis for market guidance. Market guidance was effected by augmenting the supplies of investible resources, spreading or socialising the risks attached to long-term investment, and steering the allocation of investment by methods which combine government and entrepreneurial preferences"

(Wade, 1990: 27)

In short, Wade's extensions were to add a crucial dimension to the developmental state model, namely, instead of following the market, the state is seen regularly to lead the market. Thus, what fundamentally distinguishes state intervention in a 'free market' approach and that in a developmental state is the *motive* behind the intervention and investment pattern. In the 'free market' case, state intervention in the investment pattern

¹³ As a result of Wade's extension, Wade called the theory the 'governed market' theory. However, one could argue that in terms of the ethos, Wade's extensions only made the developmental state more operational (more comparative analytic), but differs little in terms of the underlying principle. Hence, I will stay with the term the 'developmental state' model for the rest of the analysis.

will only occur if there is market failure. In the developmental state, the investment pattern is largely influenced by the long-term strategic industrial policy of the state.

The Strategic Use of Industrial Policy

The characteristics of the developmental state, as identified by Johnson and extended by Wade, mean that when strategic industrial policy is deployed, it involves very different institutional set-ups from those in the West and also brings very different consequences. The main objective of industrial policy under the developmental state is to deliver the national priority as discussed before. For example, it has been widely reported that deliberate incentive systems such as tax and credit subsidies were provided to export-oriented industries by the state during the period of building up an export-oriented industrial base. In some cases, e.g. South Korea and Taiwan, the cost of borrowing was found to be cheaper in industries for export than those producing for domestic consumption (Amsden, 1989; Wade 1990; Woo 1991).

However, for the domestic industries, support came with a price. Both Amsden (1990) and Wade (1990) went on to document the linkages between state support and the necessary requirement of performance from those industries which received the state support. Output targets were often set in exchange for further cheap credit and import licences for raw materials.

In selecting which industry to support, the East Asian experience was also very different from the West. Often, in Western and socialist countries, state support might be provided for political or social reasons (such as unemployment). Some countries might support 'national champions', e.g. 'picking winners' in France (Weiss and Hobson, 1995). In all these cases, state support tended to tie up with existing industries. In the case of the developmental state, state support would look to industries – some might not exist - which had the most strategic advantage in the future, especially ones that would enable the country to move up the 'value-chain', as discussed under the 'world-system theory'.

Consequently, there was an emphasis in the developmental state's industrial policy to phase out old and low value-added industries and to direct resources (including human resources) to new or emerging industries of growth. In effect, this experience in the developmental state was the opposite to what the neo-classical economists had predicted, i.e. instead of concentrating on the 'comparative advantage' of cheap labour, the developmental state industrial policy sought to create new comparative advantage that would locate the country somewhere up the 'value-chain'.

This is a crucial aspect of the developmental state which is vividly reflected in Lee Kuan Yew's speech at the World Congress of the International Chamber of Commerce in 1978:

"... We learned from the difficulties of other developing countries which had been ahead of us in economic development and industrialisation. As a result, today, textile and garment constitute about 5 per cent of our domestic exports, compared with 50 per cent of Hong Kong's exports. We consciously sought more skill-intensive and less export-sensitive industries like machine tools, electronic meters, miniature ball-bearings. Such industries need workers who are literate and skilled in working machines. ... We invested heavily in our younger generation [then] we had a trained and educated workforce ready; industries needing such a workforce came and set up operations in Singapore. And because they employed more sophisticated and automated machines, they could pay higher wages. ... The older factories, whose product had a high labour content – flourmills, sawmills, textiles, assembly of integrated circuits – stopped expansion in Singapore. Some have moved out ... The government actively encourages this for the transfer of labour-intensive industries frees valuable land and labour in Singapore for higher skill and capital-intensive factories."

(quoted from Han et al, 1998: 113)

Consequently, purposeful industrial policy shapes the pattern of industrial development as seen in the case of heavy industries (e.g. shipbuilding and car manufacturing) and semi-conductors manufacturing in Japan, South Korea, Singapore and Taiwan (Calder,

1993; Weiss and Hobson, 1995; Green, 1999). In all cases, the states exploited the booms in world-wide rising consumption in energy, consumer goods and electronics, and extracted the maximum surplus from the boom for future cycles of economic development with the view that each cycle will move up the value chain a little.

Another important aspect of the industrial policy in the developmental state is the long-term horizon of its industrial policy. Thurow (1992) once commented that the essential difference between the East Asian capitalism and that of the Western variant was the time horizon of investment: the former was production-driven and therefore more long-term in positioning and increasing market share while the latter was relatively short-term with profit maximisation as a goal, and there is an obvious connection between low value production at one point in time and high value production in the next.

The Nature and Sources of State Capacity

The extent to which a state may be able to devise and implement effective long-term strategic industrial policies depends on the nature and the sources of the state capacity. In order to look at this particular issue, we ought to examine Castell's definition of the developmental state. Like Wade, Castell (1992) built on the previous work carried out by Johnson. Wade added one important element to the original developmental state concept – i.e. the developmental state seeks to lead the market. However, Wade did not tackle the sources of state capacity. In other words, how did the state do it? For example, despite Wade's useful extension, we would not know how the state would manage “establishing ‘insulating’ environment/framework so that the bureaucracy can function relatively without hindrance from special interest groups (e.g. capital or labour)”. Castell's contribution was to tackle this missing link head-on.

Castell has the following definition for the developmental state:

"... A state is developmental when it establishes as its principle of legitimacy its ability to promote and sustain development, understanding by development the combination of steady high rates of economic growth and structural change in the productive system, both domestically and in its relationship with the international economy"

(Castell, 1992: 56)

Castell's definition is consistent with earlier definitions of the developmental state. However, there is one major difference. Castell believed that the developmental state concept would be meaningless unless we could define 'legitimacy' in a given historical context.

In Castell's analysis, the legitimacy principle gives the developmental state the capacity to operate. The legitimacy principle holds together the institutions, the structuring and organising the methods and principles for accessing and exercising power. Castell (1992: 56) pointed out the existence of a gap between Western understanding of 'legitimacy' and that being practised in East Asia. In the Western (democratic) definition, a state is 'legitimate' if it can establish consensus in relation to the civil society. This particular form of legitimacy presupposes the acceptance of the existing principle of representation of society. Since it is possible to gain the consensus without necessarily recognising civil society 'as it is' or following the existing principle of representation of society, legitimacy can be achieved through other routes.

The alternative routes involve the state substituting itself for society in the definition of societal goals. In the case of Singapore, the process of legitimisation is crucial in establishing state capacity which enables the state to define societal goals. As predicted by Castell, the legitimising process in Singapore derives its foundation entirely from the historical context which gave the People's Action Party (PAP) the necessary autonomy to implement the full structure of a developmental state. This will be discussed in greater

detail in Chapter Four. The developmental state structure has been so effective and successful that, in Castell's words (Castell, 1992: 66), "... the process of development they succeeded in implementing not only transformed the economy but completely changed the society." In this respect, the successful partnership between the developmental state and the workers means that the developmental state has helped create a new 'class' of workers all together – the developmental worker¹⁴. The emergence of the developmental worker in Singapore will form the central focus of the next chapter.

¹⁴ The theorising and formalisation of the developmental worker model will be in Chapter Six.

Chapter IV: Singapore as a Developmental State: Workforce Development and the Emergence of the 'Developmental Worker'

"I say without the slightest remorse that we would not be here, would not have made the economic progress if we had not intervened in every personal matter – who your neighbour is, how you live, the noise that you make, how you spit, or what language you use. ... It was fundamental social and cultural changes that brought us here."

(Interview with Lee Kuan Yew, The Economist, 22 November 1986)

In the last chapter, I argued that a successful developmental state needs a legitimising process to consolidate its autonomous position in order to implement an effective developmental state structure. An effective developmental state structure, whether by definition or design, will inevitably transform the economy and change the society fundamentally. The focus of this chapter will therefore be centred on three issues:

- The sources of the legitimisation process of the developmental state and its impact
- The role of the workers within the developmental state's skill formation strategy
- The emergence of the developmental workers and their characteristics

The results of this chapter will show that the support of the workers for the developmental state has been the main source of legitimacy. The chapter will also show that the role of the workers is one of constant up-skilling and re-skilling against the changing requirements of the developmental state strategy. The consequence of these two behaviours of the workers in Singapore has brought about the emergence of the developmental worker.

State Capacity of the Legitimation Process

This section will examine the theoretical basis that underpins the process of political legitimisation. I will also give examples as to how the principle of political legitimisation manifests itself in practice and the consequences of legitimisation. In the case of Singapore, the legitimising process is often embedded in every rational decision-making process so that most policy decisions can be justified by the simple ‘means-end’ calculation alone (Hill and Lian, 1995).

In Chapter Two, I argue that in the Western (democratic) definition, a state is ‘legitimate’ if it can establish consensus in relation to the civil society. This particular form of legitimacy presupposes the acceptance of the existing principle of representation of society. Crucially, this form of legitimacy requires the participation of those who are members of that civil society, e.g. in electing a government. In a developmental state, legitimacy comes in two parts. The first part is to establish a particular behaviour which is described by Weber as ‘the expectation of actor rationality’. In Weber’s analysis, legitimacy is instrumental to some evaluated ‘means and ends’. Hence, Weber explains:

“ ... [instrumental rational action] is determined by expectations as to the behaviour of objects in the environment and other human beings; the expectations are used as ‘conditions’ or ‘means’ for the attainment of the actor’s own rationally pursued and calculated ends.”

(Weber, 1978: 24)

Therefore, policy under the PAP government is often formulated on the principle of predicting how perceived benefits/utilities are responded to and calculated by those people who are likely to be affected by the policy. This action is formulated on the basis of the ‘actor’s own rationally pursued and ‘calculated ends’. The second part of the legitimising process in a developmental state is similar to that in the West, i.e. legitimacy is then obtained through the institution of a voting system to elect a representative government. However, before the second part unfolds, the scene is probably already won

as instrumental rational action has already settled the arguments, with the electorates already persuaded.

Owing to the 'means and ends' calculation, the legitimising process has also achieved a status of 'science' which is therefore difficult to challenge. Chan and Evers (1973) describe this succinctly:

"... As these [rational instrumental] policies are not based on an explicitly stated ideology nor even on purely political considerations, but on rational and scientific principles, any criticism of these policies can be branded as irrational. The prestige of science and technology is thus used to buttress not only the day to day policies but also the social and political system resulting from such policies."

(Chan and Evers, 1973: 317)

Another important aspect of the legitimising process in a developmental state is the reinforcing effect of instrumental rationality. As the People's Action Party achieved success, these successes were used to highlight that the instrumental rationality has been correct all along. This gives the developmental state a further source of legitimising power in the following round of legitimising work. Hence, Ho (2000) points out that the PAP, as a governing political party, derives its legitimacy from 'delivering the goods', having the 'best and brightest' men in government and continued electoral mandate. Ironically, it is normally reasonable to expect a government to derive its legitimacy from doing a good job in providing for the welfare of the citizens. If a government does well in one area, the citizens will be pleased when the state also functions well in another area. However, the good performance of the state could also be used as the justification for further extension of state intervention. Thus, the good performance of the state could present a 'double-edged' sword dilemma to the citizens in a developmental state. Chua (2000) argues that with every instance of state assistance, there exists a possible trade-off between the state capacity and the degree of independence/freedom of the citizenry, and in the extreme case, this may "transform citizenship into 'clients' of the state" (Chua, 2000: 69).

There are numerous examples of the PAP government extending its legitimising principle from one sphere to the next. Examples may include the establishment of the state-sponsored National Trade Union Congress, family planning, marriage guidance, ethnic-specific social development associations and a variety of citizenry bodies such as the Residential Committees, Town Councils, Group Representative Constituencies and Citizens' Consultative Committees and so on. All of them are under the control of the state in one way or another, and they were justified by instrumental rationality. Consequently, Chua (2000) further argues that over time, it is possible that the developmental state's ideology may become just 'common sense' or part of the ideology of the Singaporeans¹.

By applying the legitimising process systematically in dealing with every event, the developmental state can derive immense leverage over the citizenry in getting the citizenry to participate in the achievement of developmental goals. This is particularly powerful when the legitimising process is used in conjunction with major historical incidents. For example, Quah and Quah (1989) argue the foundation of PAP's legitimacy is derived from two important historic incidents. Firstly, the PAP's determined and effective strategy to tackle the urgent economic, social and political problem upon independence in 1965 (the 'survival ideology') convinced many citizens that the PAP was the right government for them². Secondly, the PAP government was also seen to be effective in dealing with the communist and communal violence³. These two events enabled the PAP government to gain almost complete autonomy in the early days of a newly independent country to deal with the problems pragmatically. While addressing the Royal Society of International Affairs in London in 1962 on the issue of nation-building and democracy, Lee Kuan Yew stressed that:

“ ... We had to intervene. Take some of the major decisions we have made ... the problem of resettling our population and trying to make a more cohesive

¹ A specific discussion on state ideology can be found in Chapter Eight.

² See Chapters Seven and Eight for specific details.

³ Also see Chapter Eight for details.

society. We never took a vote. Had we asked people in Kampong Kembangan whether they wanted to be resettled, the answer must be no. If they had to be resettled, then they wanted to stay together in the same place. Go to Lorong Tai Seng and ask the Hainanese there: Would you like to have a Malay as your neighbour? The answer is no. We decided that we are going to make a nation, we can't have race riot every now and then. ... People talk about consultation, top-down and bottom-up. These are theories, yardsticks worked out by Western political scientists who have never been presented the raw, unpleasant, unmanageable facts of making something out of nothing. If we took a poll, we would have never had National Service. I simply decided, 'Introduce it.' It was necessary. After a while, everybody understood it was necessary."

(Han et al, 1998: 133)

The systematic use of 'state performance' in tackling state emergency has created immense political leverage, which rallied the popular and political support among the populace in Singapore. This is reflected by the pattern of general election results. Table 4-1 shows that the PAP government started from a solid political platform of securing 54.1 per cent of the total votes in 1959 (the Legislative Assembly Election). This was gradually increased over the years to 70 per cent or more in the following two decades⁴.

⁴ There is some simplification here as the early popular platform of the PAP was made possible because of the pro-communist alliance. The pro-communist section of the PAP had the 'grass-root' popular support. However, the alliance does not detract from the underlying argument of the immense political leverage that the PAP had secured. For details of these early political events, see Josey (1968).

Table 4-1: General Election Results of Selected Years

Year	Votes for PAP (%)
1959	54.1
1963	46.9
1968	84.4
1972	69.2
1976	72.4
1980	75.5
1984	62.9
1988	61.8
1991	59.5
1997	61.3

Sources: Vail, 2000; Cotton, 1993; <http://www.pap.org.sg> (PAP official site).

For the purposes of the analysis, two important points should be highlighted from the voting patterns. Firstly, there is no doubt that the PAP has enjoyed a very wide support in society. Given the historical incidents mentioned above, the instrumental rationality tactic has worked very well for the PAP government for a long period of time. Secondly, within the very high levels of political support, the changes and, in particular, the downward trend since 1980, is not without political significance. The 1980s were the beginning of Singapore's contemporary affluence. With education, employment and living standards rising throughout the period, it appeared that the population in Singapore had started to seek greater participation in polity and accountability of government. Issues such as consultation and opposition politics became popular concerns (Vasil, 2000). Therefore, the 1984 general election result came as a shock to the PAP government when the total votes for the PAP had reduced by 12 per cent and voters had chosen two opposition candidates for the first time. Since then, the PAP votes have fluctuated at a lower level than the results in previous decades.

However, it is important to note that the decline of the PAP votes does not mean that the PAP government has lost its legitimacy. The votes for the PAP are very high compared with voting results in other countries with similar parliamentary systems. The changes in

PAP votes reflect the tensions between aspirations of the citizenry and the continued use of instrumental rationality by the PAP. Often these tensions express themselves in the form of personal dilemmas. On the one hand, individuals are persuaded by the 'rationale' behind the PAP pragmatism; after all, the PAP policy has brought prosperity to all. On the other hand, individuals can see that hard work has borne fruit and that time might have come to give priority to other personal aspirations in their life. These two opposing forces stretch the individuals' loyalty and commitment to the system to the full.

In addition, the developmental state faces a paradox. This paradox has implications for the developmental workers as well as the developmental state's long-term development strategy. Essentially, the paradox for the PAP is its commitment to the formula of success. The PAP's legitimacy depends on continued economic performance. In order to achieve further economic growth, the developmental state has a tendency to rely on the known pragmatic approaches which are normally justified by economic progress. The PAP worries that should economic progress fail to materialise, individuals in society would begin to question the PAP's legitimacy in practising pragmatism. Although economic progress may enable further pragmatism and PAP's future legitimacy, further economic progress also brings greater individual aspirations to directions other than the developmental state's developmental goals (Ho, 2000).

I will argue in the subsequent chapters that it is this mix of a success-aspiration paradox and personal dilemmas that shapes the relationship between the developmental state and the workers. By virtue of working and interacting continually with the developmental state and having to confront the constant personal dilemmas, this interactive process gives rise to a new class of workers – the 'developmental worker'. Chapter Six will define the developmental worker model in greater depth and Chapter Seven will examine the developmental state-developmental worker interactive process specifically.

The discussion so far points to the immense leverage that the developmental state has on citizens. Indeed, there are too many examples to illustrate the developmental state's

leveraging ability. However, in order to meaningfully describe the emergence of the developmental worker, the analysis in the next section will focus on how this leverage shapes the role of the workers within skill formation process at different stages of economic development.

The Role of the Workers within the Developmental State's Skill Formation Strategy

The analysis in this section will build on one of the main themes in Chapter Two which argues that the developmental state constantly pursues a strategic shift in the value content of production of goods and services in order to achieve economic development. This, as argued by the various theorists of the developmental state model, will require the worker to cooperate with the developmental state, and to embark upon a journey of constant up-skilling and re-skilling. This section will therefore adopt a historical framework and demonstrate how the changing skill requirements at different stages of economic development impact upon the skill formation system and therefore the role of the workers in Singapore.

By identifying the substantial role of the workers within the system, driven by the developmental state, I will argue that this brings about the emergence of the developmental worker. Although I will discuss the characteristics of the developmental worker as a result of the current discussion, I will leave the substantive modelling and theorising of the developmental worker to Chapter Five.

Singapore is a very small country. The fact that Singapore has no 'natural' advantages apart from its workers has led the PAP government to emphasise the important features of its skill formation system. Firstly, the skill formation system seeks to maximise workers' output and minimise 'wastage'. With a small population of 3.2 million, the developmental state's economic effort simply cannot afford to waste any of its human resources. Secondly, the skill formation system has to be continually adapted to keep pace with the changing demand from employers and overseas investors for an ever

higher level of worker skills. This orientation has led to two major reforms in the education and training system in the last twenty-five years. These reforms reflected changes in industrial policies and expected future developments. In this process of change, reforms and new measures have always been strategic in nature. Thirdly, there is a close link between international trade and the skill content of the skill formation system. Trade development patterns, as interpreted by the Economic Development Board (EDB), form one of the most important considerations for setting skills targets for the education and training system. The rationale is reflected by the following speech by Goh Keng Swee (Finance Minister):

" ... NICs [newly industrialised countries] started as everybody else did - in poverty. In the early phase, the emphasis was placed on what was perceived as essential - mainly infrastructure in transportation and communications as well as energy supply. Once NICs began to move from purely low-cost labour-intensive processes, the development of skills over a wide range had to be undertaken and the education system overhauled. It should be noted that growth provided both the demand for skill development as well as the supply of resources to mount the effort. Rapidly increasing GNP boosted government revenues and enabled finance ministers to release more funds for education. Thus, there developed a symbiotic relationship between economic development and human resource development."

(Goh, 1985)

Goh's comment echoes the developmental state's strategy of 'dependence development', as discussed in Chapter Three. As indicated by Goh's comment, MNC investment in Singapore enabled economic development to take place. This in turn enabled the government to channel new resources towards emerging new skills which would be required in the next stage of economic development. In this way, the 'cycle' forms an upward spiral. This 'deliberate effort' of creating the 're-investment' cycles enabled Singapore to move up the 'value/skill chain' gradually. From the workers' perspective, the process of continuous economic growth has become repeated series of up-skilling and re-skilling. Furthermore, because these up-skilling and re-skilling efforts have been created and driven by the developmental state, the workers have become part of the

developmental state system by virtue of cooperating with the developmental objectives (i.e. becoming the developmental workers). In order to examine this very fundamental relationship between the developmental state and the workers, I will review this process in four historical stages.

Stage One: Establishing a Manufacturing Base and Achieving Full Employment

Singapore emerged as a new country in 1965 with a range of social, political and economic problems⁵. Industrialisation was seen as the only way forward. As a result, the underpinning philosophy of the economic strategy during this period was one of 'basic survival'. The government sought to attract inward investment from multi-national corporations (MNCs) in order to establish a strong manufacturing base (Low 1993; Tan, 1995). However, one problem at that time was the poorly educated labour force, who were mainly previous immigrants. The unemployment rates were in excess of 14 per cent. The PAP economic strategy had to rely initially on cheap, disciplined labour and a strong and stable political system in order to attract MNCs. Fortunately, these new labour-intensive industries did not require a great deal of skill investment. Thus, the general level of workers' education being limited to primary education was not a big problem. It was more important for the PAP government to maintain a disciplined labour force (with few industrial disputes and high level of compliance with employers) and to contain labour costs, both of which were essential to the MNCs.

Upon Independence, there was no formal training system for workers to speak of. Education was dominated by a community-based system in which schools and syllabi were sharply divided along the race, language and habitat lines (Wilson, 1978). Education was in fact one of the major sources of social division and social unrest. In short, the workers were far from ready for 'industrialisation'. In 1959, as soon as the PAP came to power (self-government), the community-based system was replaced by a

⁵ More detailed discussion of these problems is located in Chapter Seven and Eight.

state system (Gopinathan, 1974). Lee Kwan Yew, the Prime Minister, summed up the problem at the time:

"Our community lacks in-built flexes - loyalty, patriotism, history or tradition ... our society and its education system was never designed to produce a people capable of cohesive action, identifying their collective interests and then acting in furtherance of them ... "

(Lee, 1966)

Lee's comment implied that the requirement of the workers would be more than just a basic education; the workers in Singapore would have to cultivate a set of 'collective values' necessary for industrialisation. In this respect, education was a crucial tool in the nation-building process and in industrialisation. Indeed, education and training soon became an economic tool as the EDB started to recruit MNCs from overseas. In the early stage of economic development, technical education was regarded as important in producing a large number of workers with enough basic technical training. Thus, in 1968, the Ministry of Education set up a Technical Education Department to initiate technical education. From 1969 onwards, all males with lower secondary education had to take on some technical subjects. A year later, the Vocational and Industrial Training Board (VITB) was created to cater for technical education for secondary school-leavers.

With the establishment of the VITB, there was an attempt to establish technical education with a much higher national profile. This is reflected in the immediate effort to formalise technical education. This period also saw the establishment of the Singapore Technical Institute to augment the effort of the VITB (Yip and Sim, 1994). In 1979, the Goh report recommended the introduction of streaming into primary and secondary education. Streaming meant that those who failed to succeed in academic subjects had to follow a technical education syllabus. In a society dominated by Chinese Confucian ethics, academic education has always been regarded as education 'proper'. Streaming was seen as 'condemning' a huge number of students and young workers to the bottom layers of society. However, despite the widespread protests and anxiety, the system was implemented as planned (Low *et al*, 1991).

Despite its lack of popularity, basic education and technical education were of paramount importance in the early stages of industrialisation. However, the skill background of the workers was at odds with the industrialisation requirements. The speed of Singapore's economic growth had meant that many of those who left the education system in the colonial era and in the early stages of Singapore's independence still had literacy and numeracy deficiencies. Even as late as the 1980s, 61 per cent of Singapore's non-student population still had an educational level of primary six or lower (Ministry of Trade and Industry, 1991)⁶. This was to create some serious worker training issues in the periods to come. However, the foundation for the developmental state to systematically link workers' skills to the needs of economic development had been laid.

Stage Two: the 'Second Industrial Revolution' – Creating a Skill Upgrading Strategy

Two events changed the economic development strategy of Singapore in the late 1970s. Firstly, all developing countries increasingly faced mounting protectionism in the developed countries. Typical barriers would be in the form of quotas which limited the amount of exports that the developing countries could sell to the developed world. Under the threats of the Multi-fibre Agreement, Hong Kong was the first of the four Asian 'Tigers' to seek a solution to the emerging economic crisis. Upon the publication of the Advisory Committee on Diversification in 1979, Hong Kong had decided to diversify away from its traditional low cost textile and garment industries to higher value-added production. Although Singapore did not have a significant textile industry like Hong Kong, it, too, was sensing the global sea change. Secondly, the late 1970s saw competition among the East Asian countries intensified. Both Hong Kong and Singapore faced rising competition from Taiwan, South Korea, Malaysia, the Philippines and even China because their costs were lower than those in Hong Kong and Singapore.

⁶ The problems of high-dropout rates meant that there was and still a section of society in Singapore with low levels of education. Green (2000) reported that by the late 1990s, 34 per cent of the workforce still had no more than primary education.

In 1979, Singapore launched the 'second industrialisation'. Under this initiative, new companies producing high value-added production would be invited to set up operation in Singapore; existing companies producing low value-added goods (on the basis of low cost labour) would be 'persuaded' to upgrade to high value-added production. The objective was to be achieved through a 'wage correction' policy and by investment in education and industrial training (Peebles and Wilson, 1996).

Wage increases had always been controlled and suppressed by the National Wage Council so that the cost of production could remain competitive. However, under the 'second industrialisation', wages were to be forced upward. In 1979, the National Wage Council recommended a wage rise of \$32 across the board, plus a 7 per cent increase. A 4 per cent increase in the national pension scheme, Central Provident Fund (CPF) was added. Similar increases were to follow in 1980 and 1981. These drastic moves reflected the PAP government's determination to act independently of the immediate interests of MNC capital. The high-value production plan meant that the EDB had to entice new companies which could introduce higher value-added production to Singapore. At the same time, the PAP government had to strongly advise companies already established in Singapore to move away from low value-added production. Toward this end, employers in low value-added production were encouraged to relocate, and the NTUC was actively encouraged to push for large increases in wages. The PAP government also imposed a levy on low paid labour to discourage companies from continuing to embark on low value-added production (Wong, 1993). This levy created the Skills Development Fund (SDF) which was then used to finance a series of programmes aimed at improving worker skills and employers' ability to train.

In addition to the 'wage correction policy', the PAP also intervened directly in a number of areas which might bring about a higher level of skill more rapidly. One example was the establishment of technological institutes. These included inter-governmental collaboration which resulted in the German-Singapore Institute of Production Technology, the Japan-Singapore Institute of Software Technology, the French-

Singapore Institute of Electro Technology. In another area, the government set up the Government of Singapore Investment Corporation (GSIC). The idea was to make use of some of the massive foreign reserves and domestic savings to invest in high-tech companies abroad which might later be brought back to Singapore. In short, the two-prong attack was designed to hasten industrial restructuring.

These new measures had massive implications for the role of the workers and their skills requirements. The combined effects of new (high skilled) investment and the phasing out of low skills meant that workers would have to up-skill and re-skill in the decade to come so that the overall economic strategy could be fulfilled. To set the momentum going, like the Advisory Committee on Diversification in Hong Kong, the PAP government set up a government-led enquiry to spearhead the effort. Unlike Hong Kong, Singapore's new strategy was not located in an economic policy document, but in an education reform report – the Goh Report (1979). This highlighted the significance of the skill content of the workforce and the role of education and training in the 'second industrialisation' plan. It suggested that without the workers going through a rapid skill adjustment process, the 'second industrialisation' plan would be severely affected. The Goh Report was specifically written to implement two particular reforms: a) supplementing the Ong Report on Moral Education (1979) in order to inculcate a 'socially disciplined' and more cohesive workforce; b) creating an up-skilling structure for the workforce.

However, as we have seen, the first phase of industrialisation still had to cope with a very high proportion of the working population who were under-educated. Therefore, the new policy in the second phase paid a lot of attention to worker education and training. This meant that in the second phase, worker qualities such as 'discipline' and 'collectivity' might not be enough. The workers in Singapore were expected to embrace 'up-skilling' as part of the expected role of the workers. As a result of this change of strategic emphasis, a series of worker up-skilling programmes were launched. The programmes, delivered in modular form through the VITB and employers, provided a progression route. Workers could continue their education to secondary school level or

could use skill upgrading classes to enhance their work-based skills. These programmes were funded by the Skills Development Fund, and were managed by the National Productivity Board (NPB; now the Productivity and Standards Board). Some of the most significant training schemes included:

- 1983 Basic Education for Skill Training (BEST)
- 1986 Modular Skills Training (MOST)
- 1987 Worker Improvement through Secondary Education (WISE)
- 1987 The Core Skills for Effectiveness and Change (COSEC)

There are two very important features among these schemes. Firstly, the coverage of these schemes was extensive⁷. In the case of BEST, by 1992, 78 per cent of the targeted workers (225,000) have been put through BEST. Likewise, WISE has covered 42 per cent of the targeted 122,000 workers (ITE, 1993). Secondly, these schemes formed the main structure to upgrade the skills of the workers from basic skills to specific vocational skills. Thus, BEST was set up in 1983 to cater for a large proportion of the Singapore immigrant workforce who had not completed primary education. The main objective of BEST was to ensure that basic education was firmly embedded in the workforce. BEST is the foundation for other upgrading schemes. In the late 1980s, three further schemes emerged to further the skill building process. For example, WISE was to take the general education of the workforce up to secondary schooling (i.e. 'O' level). MOST was put in place to enhance the skills of semi-skilled workers. With the rising importance of the service sector, COSEC targeted the skill needs of service sector workers. Therefore, the emergence of these training schemes was by no means incidental

⁷ Some of the schemes are still in operation today carrying out a skill 'maintenance' role, e.g. BEST and Wise. However, the main focus of national training schemes has moved on with a very different emphasis in the late 1990s. See later discussion on CREST.

but strategic. These national schemes ensured that when the high-value strategy started, the overall economic development would not be held back by the inadequacy of education and training.

The 'corrective wage' policy turned out to be one of the PAP government's rare failures. The expected technological upgrade was slow to materialise. Instead, new investment for the period was down by 40 per cent, and some MNCs even moved to Malaysia and Thailand (Low *et al*, 1991). And there was little evidence that MNCs were bringing research and development (R & D) operation into Singapore during the period (Bello and Rosenfeld, 1992). The three years of wage increases also brought about a situation where real wage increases for the period of 1982-84 being twice as high as real productivity growth (Tan, 1995). The net result was a recession in 1985 in which gross domestic product actually fell by 2 per cent.

These episodes highlight some of the limits to the developmental state's ability to influence enterprises and, in particular, the delicate relationship with MNCs. Nevertheless, the PAP government has generally been pragmatic and flexible enough in pursuing its developmental vision, and has used its considerable power to encourage new industries and relocate old ones, if necessary.

Stage Three: The Pursuit of "The Next Lap"

Toward the end of the 1980s there was a further shift in the PAP leaders' vision of the future of Singapore. To stay ahead of their competitors in the region, the government set out to match the economic performance of the best industrial economies - a form of 'national bench-marking'. The 'vision' was set out in the strategic document 'The Next Lap' (Government of Singapore, 1991). The implications of this vision for the economic development of the country was detailed in *The Strategic Economic Plan* (Ministry of Trade and Industry, 1991). Through the eight strategic thrusts, the 'Strategic Plan' was

to achieve the same standard of living for the Singaporean people by 2020-30 as that already achieved by the Swiss⁸.

To achieve the status and standard of living of the Swiss by the year 2020 or 2030, the economy had to continue to attract companies planning to invest in the production of high value-added goods and services. Thirteen industrial clusters were identified as areas where Singapore could sustain a competitive advantage in world markets and these were to be the priority areas for development. However, in order to sustain economic growth it was considered necessary for Singaporean companies to move out of Singapore into the Asia Pacific region and to form a 'second ring' (known as 'regionalisation'). This would enable Singapore not only to take advantage of cheaper labour in the less developed countries in the region, but also to place Singapore in the centre of the region's drive for economic growth. Singapore would move from 'Singapore Incorporated' to 'Singapore International Incorporated' (Low *et al*, 1993). This sequence of events has some fundamental theoretical implications. The discussion in Chapter Two of the 'world-systems' theory and the developmental state suggests that not only will the developmental state profit from the possibility of dependence development, but that it does so through upgrading of the skill/value content of its production, and also through extracting surpluses from countries lower down in the skill/value chain. Singapore's experience provides some very important evidence for the world-systems and neo-statist's models of economic development⁹.

⁸ The eight thrusts: 1. enhancing human resources; 2. promoting national teamwork; 3. becoming internationally oriented; 4. creating a climate for innovations; 5. developing manufacturing and service clusters; 6. spearheading economic re-development; 7. maintaining international competitiveness and 8. reducing vulnerability (Ministry of Trade and Industry, 1991).

⁹ The current 'regionalisation' programme has its origins in the early EDB-MNCs co-operation which culminated to the 'Growth Triangle' initiative in the late 1980s. The Growth Triangle consists of Singapore, Johor of Malaysia and Batam of Indonesia. The project was not intended to be a customs union like the European Union. Instead, it is an economic initiative which takes advantage of the different stages of economic development and relative resource endowments of the co-operative partners (Low *et al*, 1993).

Two years after the 'Next Lap' announcement, a special Committee to Promote Enterprise Overseas was set up. The Committee was to identify obstacles to regionalisation and to return with recommendations. Using Switzerland as a benchmark, the Committee identified the target that Singapore has to achieve. The Committee concluded that Singapore's external economy was very small - only 6.3 per cent of Singaporean companies had invested overseas; direct investment overseas occupied only 8 per cent of GNP and income derived from overseas investment was only 0.5 per cent. Compared with Switzerland, Singapore's position was only a quarter of that of Switzerland and it was estimated that it would take at least 10-12 years to catch up (Tan, 1995a).

The benchmarking exercise shows the extent of ambition of "The Next Lap". In order to catch up with major industrialised countries and to become successful in its effort in regional expansion, the PAP government decided to go for further skill upgrading. This new effort focused on three particular areas: a) the identification of the basic/core skills required for effective participation in an advanced industrial society; b) the enhancement of intermediate level technical skills and c) the expansion of higher education.

To identify the basic/core skills, the PAP government studied education practices in Germany and Japan, which it considered to be the most advanced, and found that the teaching of language (the mother tongue) and mathematics amounted to 50 per cent of curriculum time in primary schools (Ministry of Education, 1991). This was considered important for later skills acquisition. However, in Singapore the problems posed by 'bilingualism' (English and the mother tongue) meant that if children in primary schools were to have the same exposure in the working languages and mathematics, then there would be less time left for other important subjects. The real problem was insufficient curriculum time for the relatively wide syllabus that Singapore children had in school. The solution, introduced through the 1990 reforms, was to introduce a preparatory programme for all five year olds in order to compensate for the heavier demands made by the bilingual education. In order to ensure that school-leavers would master these

basic skills necessary to enable them to develop further at work, it was decided that all young people should have 10 years minimum general education¹⁰.

Intermediate technical skills were to be produced through an upgrading of vocational education. The VITB, renamed the Institute of Technical Education (ITE) in 1992, would only take on young people for technical training after they had completed basic education. The intention was to enhance the standard and status of technical education. The ITE would start offering much higher skill content courses, which enabled those following the vocational route to proceed to further education in the polytechnics and universities. For those already in the labour force, the lowest level of National Trade Certificate (renamed National Technical Certificate in 1992 and roughly equivalent to the UK NVQ level 1) was terminated in 1995. The lowest level would be equivalent to the standard of the competent craftsman. The aim of these reforms was to ensure that all those entering the labour market had the requisite skill base on which the latest skills and those of tomorrow could be built. In line with this objective, the types of skills transmitted in the educational system started to shift from the 'harder' technical skills to the 'softer' office and business skills (Felstead *et al*, 1994).

Although training programmes such as BEST and WISE were still in operation, the emphasis was moving towards enhancing the process of work-based learning. It became evident in the late 1980s that while improvement in the quantity of training undertaken by employers was important, the emerging industries of the 1990s demanded not just competence in technical skills but also in the ability of workers to achieve greater flexibility and to develop solutions to tackle new and unforeseen problems. In these new circumstances, learning at work took on greater importance. Studies of the German dual system and the Japanese and Australian systems of on-the-job training were used to identify ways in which this might be achieved.

¹⁰ It is important to note that the rigour of learning and skill upgrading start from an early age in Singapore. Owing to its elitist approach, the system is intensely competitive. It has immense social implications which ultimately shapes the workers' views of society and the state. See Chapter Seven for a detailed analysis.

One of the lessons learnt from the German dual system was the need to integrate on-the-job and off-the-job elements in training if it was to provide the quality of learning experience and the depth of skills required for Singaporean companies to compete effectively in world markets. The significance of this policy shift was underlined by the findings from a number of studies which suggest that some of the skills necessary for companies to compete in the markets for high value-added goods and services could only be acquired through a combination of on-the-job and off-the-job experience (Streeck, 1989; Kioke & Inoki, 1990). Improvements were made to the apprenticeship system by the introduction of the New Apprenticeship Scheme (NAS) in 1990. Modelled closely on the Baden-Wurttemberg version of the 'Dual System', it was targeted at employers with the ability to train their own workers. Similar to the German dual system, the NAS required pedagogically qualified trainers (Meisters) and both on-the-job and off-the-job training. Concurrent with the launch of the NAS in 1991, the ITE introduced the Industry Trainer Programme to help companies develop pedagogically qualified trainers to support their apprenticeship courses. By 1994, the ITE had trained some 1,900 industry trainers. Based on some 600 companies that are participating in the apprenticeship scheme, this works out at an average of three trainers per company.

While the apprenticeship model was the preferred form of education and training provision for new workers, not all employers would adopt it, and therefore other forms of intervention had to be found if the labour force as a whole could have its skills enhanced. This problem was tackled in two ways. First, employers were provided with a series of programmes which offered help and assistance for them to learn how to organise and implement their own training. Secondly, after studying other countries, ways were found of helping firms enhance the quality of their on-the-job training. The solution lay in the development of sector-based 'OJT best-practice' blueprints.

The task of helping employers to learn how to organise and implement training was done through the Training Grants Scheme funded by the Skills Development Fund (SDF). The Training Grant Scheme provided grants to employers of between 30-90 per cent of the

cost of (re)training workers through in-plant programmes to upgrade their skills. The largest of the schemes, the Worker Training Plan, encouraged companies to undertake systematic training through an annual plan. This was responsible for 61 percent of the total training places supported by the SDF in 1991 and accounted for 88 per cent of the total SDF spend (SDF, 1992, p12). The trainee recipients of all these schemes tended to be workers with average or below average educational levels; 72 per cent of training places were filled by workers with 'O' levels or lower (SDF, 1992: 38). Since introduction, some 1,360 plans, or an average of 200 plans a year, have been received by the PSB. These plans now contribute about half of the 500,000 training places supported by SDF every year¹¹. In addition, other schemes are in place to enhance the training infrastructure, for example, by helping managers improve their ability to train and providing training in delivery of quality in the service sector (Ashton and Sung, 1994).

Another way to improve the quality of training identified by the PSB was the more widespread use of structured, on-the-job (OJT) training. This was seen as the most cost effective form of training. Research by the NPB in 1986 revealed that 90 per cent of companies in Singapore engaged in some form of OJT but this was not necessarily structured. As a result it was found that "more often than not, OJT meant that workers were left to chance to acquire skills during the course of their work" (NPB 1992: 9). A task force was therefore set up with the Economic Development Board and the Institute of Technical Education to identify the core skills needed to be developed through OJT schemes. Following this, the NPB introduced a programme aimed at identifying industry-based blueprints or model OJT schemes. This programme commenced in 1993 with schemes being developed with leading companies in a variety of industries. These were then used as a base model for other companies to emulate. By May 1995, 36,000 workers had successfully completed OJT programmes (NPB, 1995). In addition steps were taken to develop OJT instructors. This would complement the off-the-job training undertaken by the ITE and would be available for firms in service as well as

¹¹ See http://www.psb.gov.sg/news/releases/96_10_16.html.

manufacturing industries¹². By 2000, the PSB had trained over 330,000 workers and more than 60 per cent of the companies in Singapore had structured their OJT¹³. Further targets have been set. The OJT 21 Plan aims to train 500,000 workers by the year 2005. PSB will develop 500 industry-wide OJT blueprints to help companies deliver quality training and work with 1,000 companies to offer certified OJT courses to the workforce¹⁴.

Good quality OJT, while providing workers with the skills required for today's companies, might not necessarily equip workers with the skills required to cope with the demands of the new markets and industrial restructuring associated with them. Therefore, the PAP government introduced a further element in its strategy. The idea was to augment the provision of flexible multi-skilled workers to the task of skills deepening.

Swiss workers are seen as extremely well trained in technical skills and "equipped with the foundation for drastic retraining should industrial restructuring take place" (NPB 1993: 51). Following a study mission to Switzerland in 1992, the NPB worked with other government departments to identify the leading edge companies with potential for skills deepening. These were seen as the industries experiencing rapid growth and having the potential to compete in regional and international markets. The NPB was working with such companies to develop and design training programmes to deepen core job skills, using OJT techniques. The aim was to train workers in these companies, not just with the technical skills but also the deeper intellectual skills necessary to cope with the drastic retraining they might have to undergo to enable them to handle industrial change and restructuring. Core areas of the economy such as precision engineering have been targeted for the implementation of a programme of skills deepening (Ashton, *et al*, 1999).

¹² Information supplied during interviews with NPB officials, 1994.

¹³ Information supplied during discussion with PSB officials, March 2001.

¹⁴ See http://www.psb.gov.sg/news/releases/00_04_28.html.

The Current Stage: Tackling Globalisation and the Knowledge-based Economy

On assessing the achievement of the third stage of economic development - the 'Next Lap', it appears that Singapore is still a long way off the targets that it set for itself. The setbacks are mainly due to unexpected events. Events such as the Financial Crisis between 1997-1999 and US downturn in 2001 have held progress back¹⁵. However, the last ten years have witnessed a great deal of 'workforce development' programmes being developed, and workers have been involved in more training and re-training more than in the previous two decades. This is reflective of the PAP government's belief that the emerging knowledge economy and globalisation will require more knowledge-based, conceptual and adaptive skills. As a result, a national 'integrated workforce development system' has been introduced in 2000¹⁶.

Under the new system, previous schemes such as WISE and BEST still exist, but they carry out a 'maintenance' function only. Central to the new system is the concept of work redesign. Work redesign is based on the idea that by changing the content and arrangement of specific jobs, it is possible to improve productivity and quality of work experience. These changes may involve automation or computerisation for value-added work, and in-sourcing and out-sourcing for managing the less value-added tasks. As a result of work redesign, work can be for enlargement, enrichment and rotation, as well as to provide flexible work arrangements.

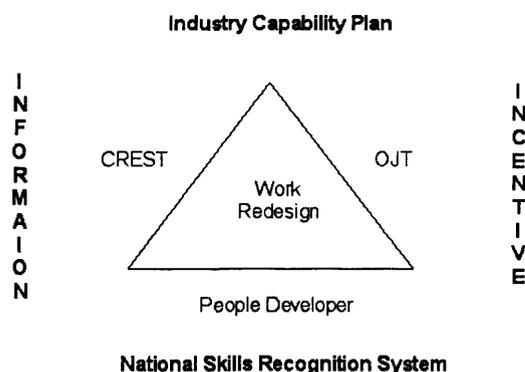
Diagram 4-1 shows that work redesign is supported by three more recent training initiatives – (structured/best-practice) OJT, People Developer and Critical Enabling

¹⁵ The US recession in 2001 is a more severe economic set back than the Financial Crisis. The Financial Crisis brought about 35,000 job losses and a reduction of national output to around 3 per cent. However, the current crisis has brought annual growth down to 0.5-1.5 per cent with eventual job losses expected to be greater than any previous crisis (except the 1984 'wage correction' recession). See <http://sg.news.yahoo.com/010710/3/191rn.html>.

¹⁶ Information supplied by PSB officials at a meeting in Oct 2000.

Skills Training (CREST). OJT is the same scheme that we just discussed. But there is a small difference. The new OJT (called OJT21) has an emphasis of imparting underpinning knowledge to workers. Therefore, it is not just about a more efficient way of imparting skill, it is also about workers' ability to problem-solve. Most skill training is frequently criticised as lacking in underpinning knowledge. As a result, workers know what to do but not why they are doing it, or why they are doing it in a particular way. Workers are therefore unable to transfer learning when things change. Under OJT21, the new focus is on the content of OJT to provide the underpinning knowledge so that the learning can be transferred across changing customers, products and processes; and certifying skills acquired on-the-job to facilitate better internalisation and transfer of learning.

Diagram 4-1: The Integrated Workforce Development System, 2000



People Developer is similar to the UK *Investors in People* Award which focuses on making training more result-oriented¹⁷. Introduced in 1998, CREST is relatively new. CREST aims at building a system of 'critical skills' that will enable workers to continuously acquire and apply new knowledge and skills and to innovate. Seven 'critical skills' are included in CREST. These are 'learning-to-learn', literacy (reading,

¹⁷ Given the procedure-driven nature of the scheme, I will not discuss the details in this chapter. However, details of People Developer are available at <http://www.workforceone.org.sg/pd/>.

writing and computation), listening and oral communication skills, problem-solving and creativity, personal effectiveness (self-esteem, goal-setting and motivation, personal and career development), group effectiveness (interpersonal, teamwork and negotiation) and organisational effectiveness and leadership (Sung and Raddon, 2001). Within two years after launch, around 60,000 workers have been put through CREST. CREST has become one of the more popular training schemes because of its generic and forward-looking content¹⁸.

Mechanisms Linking Education and Training to the Demand for Skills

There are two ways that every worker in Singapore forms a constituent part of the national skill formation system – as students during the formative years of becoming adults, and as workers after formal education. I have just reviewed the training systems for workers. In the following section, the discussion will focus on the skill formation system before entering into the workforce.

Two particular aspects of the education system tend to have skill formation implications for the future workers and their respective role within the developmental state system later as workers. The first element is the ‘streaming’ practice within the education system. The second is the range of subjects and number of places in tertiary education available beyond the first ten years of general education.

In the Singaporean school system, after ten years of general education, streaming will take place that determines a student’s later ‘learning routes’ (Gopinathan, 1997). The more ‘academically-able’ will follow the academic route, while others will follow the ‘technical route’. Most students following the former will prepare for education at a junior college and later at a university. The latter tend to go through education at the Institute of Technical Education. Obviously, these two very different routes of pre-work

¹⁸ CREST progress is monitored at <http://www.workforceone.org.sg/crest/facts.htm>.

learning will have different influences on future work options for the students concerned. The second element concerns the way workforce planning affects the range of subjects available and the number places within those subjects. For example, when new jobs are brought to Singapore by the Economic Development Board, the PAP government will have to ensure how these jobs are supported, in terms of skill levels and quantities. As a result, the types of output and quantities of higher education output is closely coordinated by a set of linking mechanisms carefully instituted by the PAP government.

Central to the linking mechanism is the Ministry of Trade and Industry. The Ministry of Trade and Industry spearheading the rest of the system by identifying the process of economic growth in a 'vision' framework. Once the 'vision' is identified, the targets set will inform the work of the Ministry of Trade and Industry and the Investment Board. The Ministry of Trade and Industry is a powerful ministry responsible for ensuring that the economy is geared to the demands of the international market and is, therefore, in a position to achieve the government's vision. Other departments such as Ministry of Education and the Productivity and Standards Board are subordinate to the Ministry of Trade and Industry. This ensures that the requirements of industry are always taken into account when decisions about skills and human resource allocation are made.

Secondly, it is very important to have effective communication and coordination among the collaborating government departments. Thus, to identify the future human resource needs of the country, the PAP government relies on agencies such as the Investment Board. Through negotiating foreign capital, the Investment Board is in a position to identify future demands on the country's human resources and what form of investment are likely to take place in the future. The Ministry of Trade and Industry then collates such information and this is mapped against projections from research about the likely state of labour (human resource) supply. The results provide the basis for the identification of the country's skill needs.

The Economic Development Board, as well as actively recruiting foreign investment in Singapore, translates the projections about the country's skill requirements into targets

for the Council for Professional and Technical Education (CPTE). This is the third, and perhaps the most significant body, that has influence over the learning content and opportunities within the education system (Ashton *et al*, 1999). First established in 1979, the CPTE is a national coordinating body, chaired by the Minister responsible for Trade and Industry, which sets targets for education and training at all levels. This Council institutionalises the link between trade and industry policy and the education and training system and thereby ensures that the human capital demands of new industries inform the targets (Selvaratnam, 1989).

The CPTE disaggregates the overall target into specific targets for the universities, polytechnics, schools and the Institute of Technical Education and ascertains whether these targets can be met, or whether new institutions or policy initiatives will be necessary to meet them. For this exercise they require feedback from the education and training authorities. If the government cannot meet the targets from indigenous institutions, other options may have to be considered, including the importation of labour with the requisite skills.

The quotas for numbers and targets for performance are implemented by the higher education institutions, schools, the ITE and the PSB in their own plans. The performance of the respective institutions is then systematically evaluated against the targets. For example, the ITE training plans are formulated over a five-year cycle, but these are rolled over every two years. When any revision occurs, the Trade and Industry Ministry has a significant input. This ensures that the future demands of the economy are constantly fed into and inform any revision of targets. In this way the education and training system as a whole responds to the future human resource development needs of the economy. Very few countries in the world have tried to coordinate the matching of demand and supply of skills in this manner.

The preceding sections have covered a number of important aspects of the skill formation system. From the workers' perspective, however, there are a number of important implications.

Firstly, it is important to note that instrumental rationality has enabled the developmental state in Singapore to make national economic development the focus of education and training. As a result, the primary driving force behind the education and training system in Singapore is neither the *immediate* needs of individuals, nor those of employers, but the perceived long-term needs of the economy as a whole. It was mentioned earlier that the developmental state would need to demonstrate tangible economic benefits in order to continue justifying pragmatism under instrumental rationality. This pressure on the developmental state to perform in turn pushes the skill formation system ever closer to matching the needs of economic development. Hence, we have witnessed the repeated waves of up-skilling and re-skilling for Singaporean workers. Viewed from this perspective, I would argue that workers who become an integral part of the developmental state's economic development give rise to a new category of workers – the 'developmental worker'. Arguably, membership of the developmental worker 'status' does not necessarily depend on the actual beliefs of the workers or explicit subscription to the beliefs. The acts of long-term participation in the developmental state's skill formation system which helps achieve the economic miracles, is itself a qualification of the developmental worker.

Secondly, it is significant that given the above emphasis, the education and training system has become a national structure of 'routes' – starting from general education upwards and beyond full-time education to work. All these routes are designed to create a useful contribution towards the developmental state's developmental goal. The role of the workers (or developmental worker) within a developmental state system is, therefore, one of contributing towards the national goals along one of those 'routes'. Individual aspirations are possible. However, they have to be negotiated within the system while fulfilling a contribution towards the plan of the developmental state.

Given the above analysis, we can identify three general but defining characteristics of the 'developmental worker':

- Providing a necessary and very substantial level of political support to the developmental state;
- Providing a very high level of worker participation to the skill formation system;
- Providing continuous support to the developmental state system *in exchange* for tangible economic benefits.

This last characteristic is very important to the continuation of the developmental state–developmental worker relationship. Many studies regard the term ‘authoritarian’ as a meaningful and sufficient way of describing the relationship between the state and citizens in Singapore (e.g. Clammer, 1993; Lingle, 1996). I argue that this view has all too easily dismissed some of the useful contributions that the developmental state has brought to the development of Singapore and the complexity of the relationship between the developmental state and the developmental worker.

I will tackle the last point in Chapter Seven (i.e. the complex relationship between the developmental state and the developmental worker). However, in the next chapter, the study will focus on the ways in which the relationship between the developmental state and the developmental worker is maintained through tangible benefits.

Chapter V: Singapore as a Developmental State: Nation Building and Social Engineering'

"Give me liberty or give me wealth"

(Russell Heng, 1994)

In the last chapter, I argued that in order that the developmental state can continue to engage the masses in pragmatic result-oriented practices, economic development has to be balanced by benefit-oriented policy. Only under such circumstances, might the developmental workers continue to provide their cooperation. Furthermore, despite being rewarded by tangible benefits, the participation of the developmental workers cannot be guaranteed. The developmental state and developmental worker have to continue to negotiate their relationship throughout the different stages of economic development. For this reason, there have been occasions in which the practice of instrumental rationality met with difficulties, and pragmatic policies did not work. It was at these times that the developmental state lost its legitimacy and leverage over the developmental workers¹.

The following discussion will focus on public housing and the social security scheme (Central Provident Fund, CPF) as examples of effective social engineering in a developmental state. I will use the examples to illustrate the extent of successful relationship building between the developmental state and the developmental workers. By applying various social engineering devices, the developmental state has been able to:

- a) provide tangible benefits to the developmental worker so that the developmental state is seen as 'delivering the goods' (Chua, 1991: 28); and

¹ One classic example was the graduate mother scheme in the 1980s in which graduates were encouraged to marry people with the same level of education. The rationale was that 'clever' parents would bear intelligent children. The scheme met with intense criticism and immediate rejection by the public.

- b) construct a sense of stake-holding among the developmental workers so that the workers can maintain their continuing participation in the long-term economic strategy of the developmental state.

Through stake-holding, the use of instrumental rationality and pragmatism can be further justified as worker participation may be argued as not so much for the benefits of the developmental state, but for the benefits of the developmental workers. In addition, through stake-holding and other forms of benefits, the developmental state's ability to 'deliver the goods' is further reinforced.

In the first section, it will be argued that the concept of the developmental worker extends the applicability of the various neo-statist theories in which there has been under-theorisation of nation-building and social engineering through the welfare perspective. The result of the discussion will show that the developmental state and neo-statist theories have missed out many of the operational aspects in the area of worker participation, despite Wade's extension of Johnson's model (see Chapter Three). The discussion will also show that a successful developmental state strategy requires more than just a competition strategy, an efficient bureaucracy and legitimacy, in order to create any continuing effort to upward shift a country's position along the 'value-chain', it will also require successful social engineering to ensure that social/economic benefits are transmitted to the developmental workers such that the workers feel that their hard work and future participation are all worthwhile. As such, the two concepts of stake-holding and worker participation work together to underpin the developmental worker and developmental state relationship.

The next section of this chapter will therefore use the two aforementioned examples – public housing and the Central Provident Fund – to illustrate the process of social engineering in relationship building between the developmental state and the developmental workers.

Welfarism in Dependent Development and the Developmental State

While studying the social insurance system in Mexico, Wahl (1994) made one of the first attempts to identify the effect of globalisation on welfare state developments in developing countries². In particular, Wahl suggests that the development of social policies and welfare state systems in developing countries will be 'shaped' by the implications of the dependency theory (see Chapter Three).

Accordingly, the dependency theory (e.g. Wallerstein's world-systems theory) assumes that developing countries can only be integrated into the world economy through dependence development. Wahl argues that because of this constraint, the political elites in the developing countries will tend to allow the dominance of foreign capital and the state's over-riding interest in capital accumulation. Wahl further argues that dependent economic development will inevitably lead to either an absence of any welfare system or to a severely under-developed form of welfare state. This is reflected by the findings of Evans' (1979) earlier study in Brazil which found that dependent development has led to restricted political democracy and the systematic repression of opposition to the state through 'paternalist-corporatist' patronage. Evans (1979) refers to this as the 'triple alliance' among foreign capital, local employers and the bureaucratic-authoritarian state.

In the case of under-developed welfare state within dependent development, it is expected that welfare is only provided to 'placate' workers in order to satisfy foreign capital and local employers that the workforce is 'disciplined' for the purposes of inward investment (McMichael, 1996). A more sophisticated analysis involves a further distinction between the possibility of minimum welfare provision to the urban workers and relative neglect of the rural workers (Wahl, 1994). This 'urban bias' leads to the general marginalisation of rural workers in most developing countries (Stryker, 1998).

² For other contemporary analyses, see Pampel and Williamson (1989), Bradshaw et al (1993) and Strang and Chang (1993).

Wahl's (1994) paper points to important areas for the developmental worker model, namely the nature of 'rewards' to workers, if used, and the concept of marginalisation of 'less important' groups. The latter essentially concerns the nature of distribution.

The dependency theory is one of the first significant theories to highlight the central role of the state within the dependent development process. The state fulfils its function by coordinating a competition strategy which is perpetuated by global capital (as discussed in Chapter Three). However, dependent theory does not pay a great deal of attention to how the workers' role fits into the dependent development process. Dependency theory therefore assumes that it is sufficient to 'reward' the workers, and as a result, the workers will be happy to cooperate with the political elites as well as capital throughout the whole process of dependent development. I would argue, however, that it is insufficient to rely on 'reward' alone. What distinguishes the developmental state strategy from others, including those of the dependent theorists, is the deliberate creation of stake-holding (mostly through welfare provision) in order to generate a 'self-motivating' momentum among the developmental workers. This crucial difference has immense implications for the developmental worker model.

The absence of stake-holding activities in the dependent development process means that the concept of the developmental worker cannot emerge in the dependency models. The concept of the developmental worker arises in response to the challenge of the developmental state, and the use of stake-holding strategy means that upon interacting with the developmental state, the developmental workers become part of the system through the workers' 'ownership' of the system. Stake-holding blurs the line between working for the developmental state (and hence global capital) and working towards your own economic betterment. I therefore argued in Chapter Three that the developmental state may be able to substitute itself for society in the definition of societal goals and, thus, increase state capacity through legitimacy. In Singapore, the blurring of these lines means that many of the workers interpret their participation, including the many waves of up-skilling and re-skilling, as being for the improvement of their stake-holding in society, instead of solely for the benefit of the developmental

state³. In the case of dependent development, it is difficult to see how workers can establish a continuing role, especially if they are marginalised, other than that of ‘coping with survival’.

Wahl’s analysis on Mexico (1994) used a ‘power-resource’ perspective to examine how and why the coverage of social policy varied across industrial sectors and over time. Essentially, the ‘power-resource’ approach predicts that ‘marginalisation’ in welfare coverage will take place in sectors whose output is less relevant to the dependent development strategy. ‘Marginalisation’ will also take place where the workers do not affect the political continuation of the political elites (Stryker, 1998). A typical situation is that rural workers do not have a vote because of technical problems or they are too disorganised to be effective in the political process. The ‘power-resource’ framework was found to be highly appropriate in explaining the experience of the rural workers in Mexico (Wahl, 1994). However, marginalisation of this nature does not occur in the developmental state. By definition, the developmental state requires *all* workers (and resources) to achieve its developmental goals. However, this does not mean that all workers are treated in exactly the same way. The discussion in Chapter Four shows that workers may be differentiated through their respective roles within one of the many ‘routes’, all nevertheless making useful contributions to the developmental state targets.

Overall, despite Singapore’s dependent development experience in its early industrialisation, the dependent theory is less applicable when it comes to explaining the developmental state and developmental worker relationship, and even less useful when it comes to explaining how the welfare system takes shape in a developmental state. The dependency theory predicts different welfare coverage as a result of ‘power-resource’ differentials whereas the developmental state is about how welfare may enhance worker participation.

³ See Chapter Seven for interviews and analysis. However, it is worth remembering the argument in Chapter Four that this stake-holding process takes on a different emphasis once affluence is attained, i.e. stake-holding may extend itself to non-economic factors, e.g. individual aspirations and other needs.

Social Welfare in Singapore

The previous discussion has established that the developmental state has to be seen to 'deliver the goods' so that continuous participation of the workers can be ensured. However, within the Singaporean framework of the developmental state, such economic benefits are seldom seen as part of the remit of social policy for distribution (or re-distribution) purposes. The developmental state has explicitly avoided the entire issue of 'welfarism'. In the PAP government's view, welfarism would work fundamentally against everything the developmental state stands for. For example, universal public housing provision in Singapore was established with the creation of the Housing Development Board (HDB) in 1960. However, the provision of high quality/low cost public housing is not regarded as a welfare provision, even though many would argue that it is. The PAP government would prefer public housing provision be understood as a set of arrangements for organising private property rights, and it is not seen as a matter of welfare provision (Hill and Lian, 1995).

In order to understand why the developmental state has such a fundamental objection to the practice of welfarism, we need to examine the rationale behind the PAP's thinking, and in particular, Lee Kuan Yew's understanding of the appropriateness of welfarism in the context of a developmental state.

Lee's view on welfarism came from two principal beliefs. Firstly, Lee's view is influenced by his particular understanding of human nature. Secondly, he believes that in order to create incentives, society must recognise the differences in human ability and their relationships with rewards. In essence, the two beliefs are both influenced by the developmental state's emphasis on economic survival.

Surprisingly, on the first issue, Lee's approach to welfare provision is very similar to that of the neo-classical school where an individual's welfare is best looked after by himself/herself, although Lee's view also carries a 'cultural' emphasis with the family occupying a special position in an individual's welfare network. Lee believes that all

individuals will instinctively stride for advancement for themselves and for their families, and that this is fundamental to human nature. The state, in Lee's view, should be mindful not to supplant individual effort and responsibility, though the state could/should 'work with' these human tendencies. The fundamental position of the PAP government is that no ties of care or concern between families and communities can be replaced by a system of public welfare provision. Lee argues forcefully that:

" ... We live in different concentric circles. And your closest circle is your own family, then your extended family, then your clan and then your friends. ... the only people who will sacrifice for you are your family. The big idea of altruism, when resources are scarce – that counts for nothing. But the genetic drive to protect your own offspring is a very powerful one. ... This is an instinct of all human tribes and societies. ... And I think if you go against that, you will create unnecessary problems ... "

(Han et al, 1998: 163-165)

Lee's second view on rewards centres on the recognition of balancing between the need for incentives for all and recognising individual differences in participation. Hence, Lee asks:

" ... How do you organise society so that you encourage everybody to do his best, never give up, even if he can do only one-tenth of the course, but still, encourage him and give him something? ... I mean, you have to think up some system to keep everybody in the race. It's a problem of social cohesion and performance. If you don't give the also-rans a chance to feel that they belong and they have been discarded, then society will have no cohesion. If you have too much cohesion, there's not enough reward for high competitive performance and winning, then the achievements will be low. So you've got to balance the two."

(Han et al, 1998: 165)

The above quotes reflect Lee's thinking and the dilemma that Lee and the PAP government faced. The PAP government had to entice the workers to work with the developmental state objectives. However, widespread welfarism (e.g. as practised in the West) may 'soften' the competitive edge of the workers. Therefore, there was a dilemma

that on the one hand, the developmental state had to provide an enticement to commit the workers to participation. On the other hand, the developmental state went to great lengths to stress that such benefits are not a *right* of citizenry.

Starting from a background of poverty and basic survival, Lee thought the option for the developmental state was very clear:

"In Singapore, a society barely above the poverty line, welfarism would have broken and impoverished us. ... Since, I was first saddled with responsibility, ... I have developed a deep aversion to welfarism and social security, because I have seen it sap the dynamism of people to work their best. What we have attempted in Singapore is asset enhancement, not subsidies. We have attempted to give each person enough chips to be able to play at the table of life. This has kept the people self-reliant, keen and strong. ... Most have hoarded their growing wealth and have lived better on the interests and dividends they earn."

(Han et al, 1995: 159)

The significance of Lee's remark lies in two key phrases, namely 'asset enhancement' and 'enough chips to play at the table of life'. The 'chips' refer to a societal stake that every worker should have, e.g. high quality house ownership. 'Asset enhancement' implies that it is in everyone's self-interest to protect and increase the value of that societal stake. Together, these two key phrases highlight that while the PAP government may exercise social policy to spread the benefits of economic development to all, the exercise also embeds each and every worker into a process of societal stake-holding. The ultimate effect of such societal stake-holding is to commit the workers to establishing a personal undertaking to continue to work hard. The harder the workers work, the more benefits there are to be shared. However, the more economic benefits there are to share, the higher is the stake for each worker to protect. Therefore, the overall effect of social engineering by the developmental state is to create an environment of self-regulated and self-perpetuated momentum for ever higher levels of worker participation.

Public Housing, Stake-holding and Nation Building

Upon taking power in 1959, the PAP government decided to increase the state's effort in providing large-scale, affordable public housing to the majority of Singapore citizens (Tan and Phang, 1991). Initially, this provision was to meet the pressing problems of communal segregation and the general problems of over-crowding. In 1947, a social household survey found that the most typical household form was a single male migrant who had only a 'rudimentary' form of lodging; migrant workers often had 'cubicles' and 'sleeping spaces'⁴. Over-crowding was common for 75 per cent of the population (Department of Social Welfare, 1947).

A second report in 1956 on income and housing did not find any improvement in social conditions in the interim period. In fact, the poverty level had gone up. There were more unemployed earners in the second survey and 20 per cent of the households were below the poverty line (Goh, 1956). Over-crowding remained a major problem. The conditions in Chinatown was described as one of the 'most primitive' in any urban area of the world (Kaye, 1960).

The Housing Development Board (HDB) was established in 1960 in order to tackle the pressing problem of over-crowding and the poor level of the standard of accommodation. The HDB is entrusted with extensive responsibility in delivering a universal public housing programme. The power of the HDB covers land acquisition, planning, resettlement, design, all other development-related activities except the actual construction itself. In addition, the HDB manages all after-construction activities, e.g. allocation, sales and rental (Chua, 1995). With the introduction of the Home Ownership scheme (HOS) in 1964 and the use of the CPF for public housing purchases in 1968, the purchase of HDB flats continued to rise in the following decades. In 1960, only 9 per

⁴ Migrant workers often had to save as much remittance as possible to send 'home'. This meant that many of them would choose the simplest and cheapest form of lodging, - e.g. a 'cubicle' or a slot of the bunk bed, just for over night sleeping purposes. Most of these arrangements were found in old Chinese shop-houses with the first floor catering for anything from 4 to 8 'households'.

cent of the population lived in public housing; it rose to 36 per cent, 74 per cent and 86 per cent in 1970, 1980 and 1990, respectively (Tan and Phang, 1991; Singapore Year Book, 1999).

The public housing programme was initially 'de-politicised' through the denial of the PAP government that was a part of welfarism in Singapore (Chua, 1995). Indeed, Lee has argued that there is no place for welfarism in Singapore. However, as the coverage of the public housing rose and rose, and eventually achieved what could be regarded as a 'universal' provision of public housing, the potential for public housing to become part of the social engineering process became obvious. Indeed, it is important to observe that 'near-universal' provision of public housing has failed to materialise in all Western capitalist countries. Social and other factors might have made the idea impractical. But more importantly, the political lobbying by private sector developers would have stopped the idea at birth (Wright, 1982). The fact that the PAP government was determined to achieve such a goal also reflected the PAP's understanding that public housing in the form that it was provided (i.e. high quality and low cost) would create a powerful tool for social engineering on a massive and lasting scale.

In order to examine how the PAP government effects the immense power of public housing provision, it is important to examine the following incidents.

Land Acquisition and Asset Enhancement

In Chapter Three, we discussed the strategic importance of the Economic Development Board (EDB). The EDB was charged with the task of bringing in foreign investment and of creating jobs. However, when foreign investment arrived, it was immediately clear that there were a number of obstacles to overcome before the investment could be turned into jobs. The main obstacles were the lack of freely available land and the masses of labour needed to be organised ready for work. It is therefore no coincident that the EDB and the HDB started to work in tandem at the initial stages of industrialisation. The

fundamental strategy behind the PAP's industrialisation plan was to have "a nation to build and [a nation] to house" (Low and Aw, 1997: 41).

In a small country such as Singapore, land value is always at a premium. To carry out a massive building project which would take decades to complete, would have created immense pressure on land prices. The economic effect, would have pushed land prices 'sky-high'. The consequences could jeopardise the broad objective of universal provision of public housing as well as industrial projects through investment by the MNCs. It might even have induced unbearable inflationary effects in the economy.

However, riding on the back of a popular initiative (i.e. good public housing for all), the PAP government was able to introduce two significant measures, both of which were justifiable on the grounds of being benefits to the citizenry at large. The first measure involved the amendment of the Land Acquisition Act in 1966, which was initially passed by the colonial government. The amendment gave the PAP government the right to acquire land for purposes such as public housing, industrial development, port development, educational purposes, infrastructural and social amenities (Low, 1987). Land acquired under the Land Acquisition Act was compensated at the 1973 land prices (this happened to be a year of depression of land prices because of the Oil Crisis) or at the date of notice of acquisition, whichever was lower (Chua, 1995). The compensation also took into consideration of the different types of possible land use, whichever was lower. Given the shortage of land, land speculation would have been a normal event in a place like Singapore. However, the Land Acquisition Act posed a serious deterrent to land speculation.

Ironically, deterring land speculation was a popular move among the general public, but it is at the same time a threat to foreign investors who would like their investment in fixed assets protected. Hence, the Ministry of National Development gave the undertaking that the PAP government would not nationalise any of the commercial properties developed by MNC investment (Chua, 1995). The differential treatment of the two categories of property owners – local and foreign – serves to highlight that equity is

not a determining factor in the process of acquiring land for nation building; the result is. The overall impact of the land acquisition programme meant that the PAP government was able to acquire all the land necessary for public housing and industrial development at the lowest possible costs.

The second measure was the use of the Urban Redevelopment Authority in re-selling cheaply acquired land back to the private sector for development purposes at tendered prices⁵. Low (1985) reported that in some years revenue from such land sales would exceed tax and non-tax government revenue. Hence, instead of the private sector profiting from land speculation, any land-related windfall might as well go to the public coffer. The PAP government therefore took the lead in demonstrating that asset enhancement was an important element in the process of nation building. This principal of asset enhancement was later adopted by public housing owners. The re-sales market of public housing and the asset enhancement activities associated with public housing were to have a major impact on the notion of stake-holding among Singaporean workers.

The Central Provident Fund – Social Security, a Pension or Stake-holding?

The Land Acquisition Act made land available readily and cheaply for public housing development. Now all the PAP government needed was a system of finance to get the project underway. This was eventually achieved via the Central Provident Fund (CPF). The CPF emerged out of rather unusual circumstances. It was initially perceived as a form of social security. Then it became a form of ‘forced savings’/pension and gradually it became a resource for purchasing public housing and a source of wealth for all workers. The following section examines how the CPF transformed itself into one of the most important and tangible forms of stake-holding for all workers in the Singapore society.

⁵ Some land was acquired through land reclamation.

Early reports show widespread poverty in the post-war years (Department of Social Welfare, 1947; Goh, 1956). Subsequently committees and commissions were set up to examine the needs for social welfare provision. Two major reports appeared in 1957 - Caine (Council of Ministers) and Brocklehurst (The International Labour Organisation) Reports. Both recommended a compulsory social security system backed by an insurance pooling scheme, as well as a new Department of Social Services to be formed. In the event, a new Department of Social Services was established two years later. However, the unemployment insurance provision was not included as part of the remit of the new department. It was decided that any social security system emerging should be fully-funded and not derived from an insurance-based scheme. This was thought to be influenced by the stance of the British colonial administration that social security matters should not burden the colonial administration (Low and Aw, 1997).

In order to avoid a fiscal burden on the administration, the CPF was introduced in 1955 (the year the two Caine and Brocklehurst Committees started work) as a fully self-funded system (Lim *et al*, 1986). In effect, it is a compulsory saving-pension scheme in which the total benefit of any worker would equal the total contribution made, plus interest, with both employers and workers contributing towards the workers' CPF accounts. It is significant to note that despite the contemporary concerns on issues such as health insurance, maternity arrangement, invalidity, unemployment and work-related injury (as reflected in the Caine and Brocklehurst Reports), the CPF only addressed one single issue, namely pensions. Viewed from this perspective, the Colonial government and the early PAP government had a similar aversion to the provision of social welfare. That is, the comprehensive form of welfarism, as adopted by industrialised countries, would not be suitable for Singapore. The narrow focus on a fully self-funded pensions was to relieve the government from the fiscal burden of having to look after retired workers.

Despite its early narrow-welfare beginning, the role of the CPF was to change upon self-government in 1959. At any level of political engagement, it would have been difficult for the PAP government to continue with a minimum structure of social welfare. The

PAP government had to be seen to be doing something for the masses, especially since the *Barisan Sosialis* (pro-communist) had the support of workers in the late 1950s and the early 1960s (Josey, 1968). Low and Aw (1997) argue that this formed the beginning of the CPF becoming the major instrument to nurture the workers' political commitment and stake-holdership. With the introduction of the Home Ownership Scheme in 1968, CPF savings were allowed to be used for the purpose of purchasing HDB flats. Before long, the facility was extended to private housing and non-residential properties (Low, 1999). However, I will argue in a later section that the initial use of the CPF for housing purposes was an effective mechanism only in the process of nation building. The impact on stake-holding did not occur until other events such as the establishment of the re-sale market for HDB flats and the liberalisation of the use of CPF in other areas of investment.

During these early days of transition, the CPF had two functions. Firstly, it was the major source of the HDB development budget (until the PAP government built up enough budgetary surpluses in the late 1970s), and secondly, the CPF enables the masses to become house-proud homeowners who would help maintain and later upgrade the quality of mass housing design. Incidentally in these early days, the connection between housing and worker participation had started to emerge. For example, by moving households from dispersed locations in *kampongs* (villages) and the rented accommodations into public housing, the PAP government could exploit the locations of these housing estates and their connection with economic development. In particular, Low and Aw (1997) comment:

" ... Public housing estates provide the nuclei for activities which generate income and employment. Incorporating light industries within these estates to tap the ready pool of housewives who prefer the convenience of working close to home ... As house owners with mortgages to pay up, the population could not but work productively and continuously."

(Low and Aw, 1997: 45)

The above comment means that as well as the massive improvement of living conditions within a very short time, ‘citizens’ have transformed into ‘workers’ through a subtle but fundamental societal change⁶.

Despite its economic connection and its subtle social implications, early HDB flats constituted mainly a form social welfare provision in the eyes of HDB property owners. These properties were heavily subsidised through cheap land and low interest rates. As a result, re-selling HDB property was not easy. Before 1971, any re-sale of HDB flats had to be ‘bought back’ by the HDB at the original purchase price, allowing for the depreciated cost of improvements (Tan and Phang, 1991). This arrangement meant that there was no re-sale market for HDB flat (as there was no profit to be made) but merely an arrangement to enable the transaction to take place.

In 1971, the first sign of a re-sale market appeared. HDB properties would be allowed to be sold at market prices to any buyer who satisfied the eligibility requirements of the HDB⁷. The seller had to occupy the property for at least three years⁸. Below that length of occupancy, the old arrangement (via the HDB) applied. In any case, after re-selling the HDB flat, the seller would not be allowed to re-apply for another HDB flat for one year⁹. But by now, there was technically a re-sale market, albeit too restrictive from the market’s point of view.

⁶ This change was particularly ‘drastic’ in the case of people who had previously lived in *kampongs*. One interviewee (no. 10) in the current study commented that by moving into an HDB flat, they realised that ‘things’ such as bills, rates and other charges for amenities had to be seen to. But these ‘things’ did not exist in the *kampong*.

⁷ There were (and still are) various eligibility requirements, e.g. income ceiling, minimum age and ethnic groups. The last requirement is to ensure that HDB estates do not become ethnic enclaves. The proportions roughly reflect the profile of the population at large. Further details are listed at <http://web.singnet.com.sg/~wsqkwang/hdbresale.html>.

⁸ This was extended to 5 years in 1973.

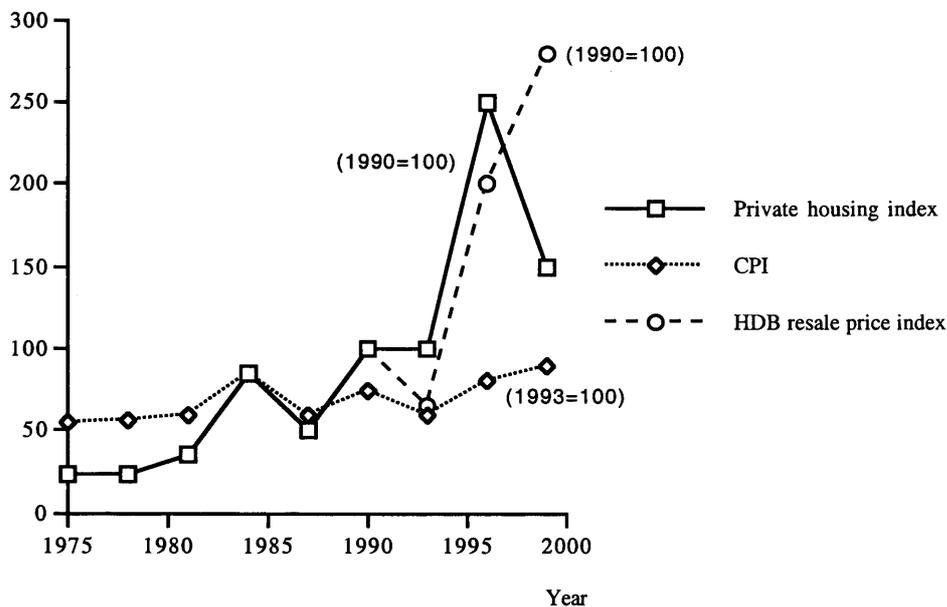
⁹ The debarment was extended to 30 months later.

The real change came in 1979 when debarment was removed (provided that the owner had three years of occupancy in an HDB flat before re-application). This encouraged HDB re-sale activities to grow rapidly. In 1979, there were 773 units of HDB re-sold (representing only 3.22 per cent of housing units sold in the year). By 1987, 13,436 units of HDB flats were re-sold, representing 36.8 per cent of the housing units sold in the year (Tan and Phang, 1991). From this period onward, the re-sale prices of HDB flats were closely linked to market forces and the prices of new HDB flats. Tan and Phang (1991) further commented that the relaxation of the rules for re-sale coincided with the substantial price increases of new HDB flats and a property boom between 1979 and 1981. The profit margins for re-selling HDB flats became significant and substantial.

Phang (2001) reports that asset inflation continues to increase net housing wealth significantly in the subsequent periods. Net housing equity as a proportion of GDP between 1980 and 1997 rose from 0.42 per cent to 2.34 per cent. The equivalent figures in 1997 for the USA and the UK were 0.73 and 1.37, respectively (Miles, 1994).

Furthermore, the re-sale price index of HDB flats after 1991 has risen far higher than private sector house prices and the inflation index in the last ten years. The HDB re-sale price index reached its peak in 1997-8 which was four times higher than value in 1990 (see Diagram 5-1). As a result, public housing has become the most important instrument in distributing asset wealth (Pugh, 1997). Given the fact that the majority of these HDB occupants were non-property owners twenty years before, these sustained increases in HDB asset value have created a significant 'wealth effect' on a massive scale.

Diagram 5-1: Housing Price Index and CPI Index, 1975 - 1999



Source: adapted from Phang, 2001: 454

As ownership of public housing and its wealth effect continued to grow, the PAP government stepped up its effort to encourage HDB owners to ‘enhance’ the assets that they own. In 1989, the HDB announced a 20-year upgrading programme, costing S\$10-15 billion. HDB owners are only required to pay between 7 percent and 42 per cent of the upgrading costs, depending on the type of HDB flats. Again, the owner could use the CPF to pay for their contribution. It is important to note that the upgrading programme is not a cosmetic exercise. The programme aims at achieving fundamental improvement through quality design to bring older estates up to the standards enjoyed by new towns. Low and Aw (1991) argue that the strategic use of CPF and continuing enhancement of assets mean that Singaporean workers have progressed from slums to quality housing with substantial market value within just one generation.

While property prices continued to boost the ‘wealth effect’, there was also a parallel development with the use of CPF. This concerned the eroding effect of inflation on the CPF savings in the 1970s and 1980s. In responding to widespread concern, the PAP

government introduced an additional method of asset enhancement in 1986. Under the Approved Investment Scheme (AIS), CPF holders could exercise up to 20 per cent of their investible savings for 'approved investments', which included unit trusts, gold, trustee stocks and convertible loan stocks. This was an interesting development as the CPF members were in effect allowed to manage their own asset portfolios for the first time, albeit within the boundary of 'approved investments'. However, the AIS was a response to tackle the effect of inflation; it had relatively little direct intention of cultivating the stronger sense of stake-holding among the workers. The later attempts were far more purposeful than the AIS.

In 1993, the Basic Investment Scheme (BIS) and Enhanced Investment Scheme (EIS) were launched to replace the AIS. The BIS was more conservative, allowing the CPF holder to invest up to 80 per cent of the investible proportion of the CPF in more reliable trustee stocks (blue-chip shares). Ten per cent of the investible savings could be used for non-trustee stocks or gold. The non-trustee stocks would be more risky but might attract higher returns. A minimum reserve had to be set aside to safeguard the CPF account¹⁰. The EIS required a higher level of minimum reserve to set aside. However, the 80 per cent investible savings could be placed with a greater range of financial instruments. These investment options with the CPF savings very quickly became popular with CPF holders as the investment is made without affecting take-home pay; the investment is covered by the CPF contribution¹¹.

Compared with AIS, these new schemes were deliberately made more attractive for CPF holders to become share owners. At the National Day Rally Speech in 1992, the Prime Minister, Goh Chok Tong made a point to emphasise that only 14 per cent of

¹⁰ The minimum set aside amount are adjusted periodically.

¹¹ There is even a 'top-up' Share Ownership Scheme (first introduced in 1993) under which every Singaporean is given a fixed amount of cash at each exercise deposited in the CPF account. The balance can be used to buy safe options, e.g. Singapore Telecom, at a discount rate. Details of each 'top-up' share exercise can be located at http://www.cpf.gov.sg/cpf_info/home.asp

Singaporean adults owned shares, in contrast with 27 per cent in Japan and 21 per cent in the UK. He stressed that:

“... We are studying ways to transfer directly to individuals more and more of the assets now managed by the government. ... The aim is to let you build up your assets – giving you title, paper, personal ownership of as many of these assets as is practical.”

(Quoted from CPF, 1995: 40)

In the following year, Finance Minister, Dr Richard Hu reiterated in his Budget Speech that:

“...[We endeavour] to build up the assets held by Singaporeans and promote wide-spread long-term ownership of blue-chip stocks, so that Singaporeans will have a more direct stake in the growth and prosperity of Singapore.”

(Quoted from CPF, 1995: 41)

Now, the transformation of the CPF from social security to a fully self-funded pension fund, and from a fully self-funded pension fund to a stake-holder society is complete. If we re-examine the earlier statement made by Lee Kuan Yew, that:

“... We have attempted to give each person enough chips to be able to play at the table of life. This has kept the people self-reliant, keen and strong. ... Most have hoarded their growing wealth and have lived better on the interests and dividends they earn.”

(Han et al, 1995: 159)

We can derive extra insight here. In a developmental state, welfarism has relatively little practical impetus in the process of committing the workers to a continuous process of up-skilling and re-skilling so that the objective of moving a country up the ‘value chain’ could be achieved. The simple act of giving the workers tangible economic benefit, e.g. quality public housing ownership, may invoke appreciation on the part of the worker, but it does not necessarily bring long-term commitment to the developmental state’s

economic strategy. It may not guarantee that the workers will continue to cooperate with the developmental state, especially when affluence and material needs are achieved. What really commits the workers to a long-term partnership with the developmental state is the creation of stake-holding among workers. Once this is done, instrumental rationality works logically to its intended conclusion because the workers now have every reason to defend their hard-earned 'stake' in society. This, I argue, is the most powerful reason behind the emergence of the developmental worker.

Chapter VI: The Developmental Worker Model

In order to construct a sociological model of the worker experience in the industrialisation process for Singapore – the *developmental worker model* – the analysis takes advantage of some of the existing prominent sociological models on society and work. The intention is to provide some form of continuity in terms of intellectual development and analytical ease. Indeed, there has been a strong tradition of studying the relationship between the state, society and individuals in the social sciences, and in sociology and political science in particular.

In many respects, the developmental worker model cannot claim originality. As we shall see, some of the features of the developmental worker model can be identified in the writing of Marx, Durkheim and Weber, as well as more recent research on the ‘worker-citizen’ (Brown and Lauder, 2000; 2001).

Although previous analytical efforts might have focused on the social dimension of workers, the current research effort differs from others in the respect that it aims at constructing a worker’s perspective to better explain the developmental state model. In so doing, I am also arguing that, despite its close fit, the developmental state model cannot fully explain the rapid growth experience in Singapore unless we take into account the experience of the worker - the developmental worker. The developmental worker is therefore a complementary concept to that of the developmental state – one cannot fully explain the experience of Singapore without the other.

In this section, I will examine some of the early sociological research around work, and make use of relevant concepts in order to construct a ‘new’ model: the *developmental worker model*. The purpose of this exercise is to test to what extent we can build a sociological model to explain the experience of Singaporean workers in the course of their interaction with the developmental state. The model that I arrive at contains four main components:

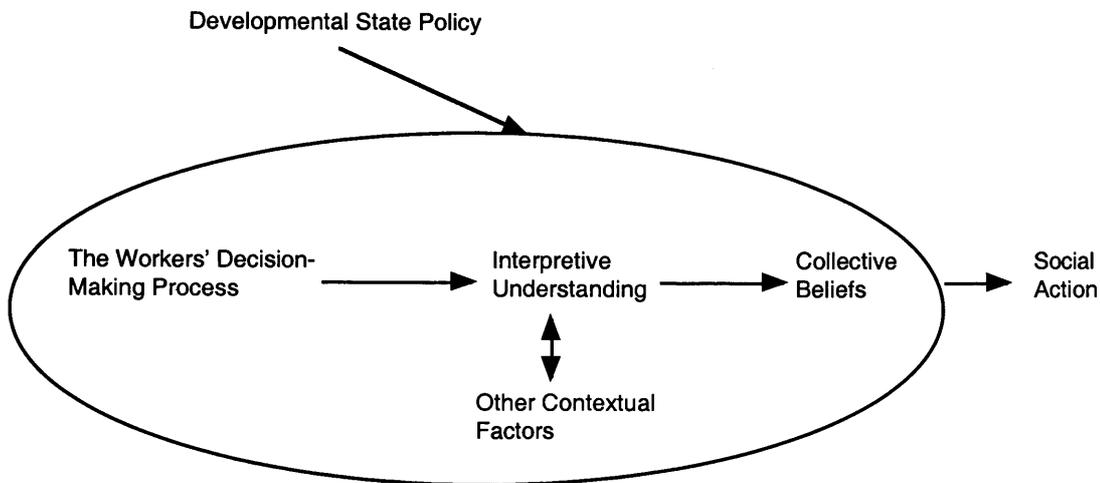
1. There exists a set of common/collective beliefs among individuals in society which influences their social action¹;
2. Collective beliefs are in turn influenced by the process of 'interpretive understanding' by workers;
3. The relationships (1) and (2) can be further mediated by other factors such as the history of Singapore as a new nation and relevant political and economic issues;
4. All relationships (1), (2) and (3) ultimately interact with (if they are not influenced by) the policy and behaviour of the developmental state.

Points (1) to (3) may be described as a general sociological model for worker participation. What makes the developmental worker model deviate from the general model is the presence of the developmental state – point (4). Within this distinction, I will argue that workers whose experience can be adequately described by the model are the 'developmental workers'.

Diag. 6-1 shows the relationships among the four components. However, the diagram will be further developed and refined as we go through the discussion.

¹ Since we are discussing individuals in the context of society and work, the terms 'worker' and 'individual' will be used interchangeably in the discussion.

Diagram. 6-1: The (Initial) Model of the Developmental Worker



The Early Work of Marx

The earliest writing on economic growth and workers can be found in the writing of Adam Smith (1910 [originally written in 1776]). However, the reference to the individual worker's contribution towards the nation's wealth is very limited. It is confined to the analysis of individual workers pursuing private economic gains as a free agent. They do so by entering into economic exchanges without other (especially social) obligations towards society at large. Smith's analysis effectively means that the relationships between the state and the workers and that among workers themselves are reduced to a set of pure economic transactions. Workers' participation is therefore seen as an act of pursuing 'self-interest', and through competition, private enterprises, individuals and society at large will reap the benefits of more efficient economic activities.

Smith's underlying rationale is that individual economic exchanges inevitably lead to higher levels of economic prosperity and therefore national stability and growth – the 'invisible hand'. The market mechanism has an amazing ability to sort everyone's needs through exchanges. Implicitly, it is in every worker's interest to participate. The role of

the state is therefore one of maintaining private individual rights and the wider legal and economic framework to facilitate the pursuit of economic gain, as evident in much of the neo-classical economic research in Chapter Three.

The idea that individual workers pursue individual economic gain independent of societal consideration and state activities would do little to explain the East Asian experience where developmental state policy has been rigorously applied (Amsden, 1989; Deyo, 1987; Johnson, 1982; Wade, 1990; Ashton et al, 1999). This is certainly opened up to criticisms by scholars who consider that work, the behaviour of workers and economic activities in general, can only meaningfully explained if a sociological context is engaged (Goleman, 1996; Brown and Lauder, 2001).

In response to Smith's analysis on wealth (and in particular Smith's analysis on 'value of production'), Marx argued that Smith had failed to consider that the value of production was *inherent* in the activity of human labour, and as a result, work is a part of the social framework. In Marx's view, the value of production is far from being an independent economic phenomenon, it is actually a consequence of a series of social relations which affect economic outcomes as well as the participation of workers (Marx, 1976 [1867]; p. 63).

For the first time, Marx's analysis on work and value of production meant that workers' activities were recognised as a social phenomenon which influences economic outcomes, instead of the reverse. This of course led Marx to engage a substantial part of his effort in analysing the economic consequences of unequal social conditions on workers and developing his view on the political solution².

² The effects of poverty and inequality remain a strong tradition in the sociological analysis on workers' behaviour. The most recent treatment can be found in the 'collective intelligence' discussion by Brown and Lauder (2001: chapter 13).

Durkheim's Work on Collective Beliefs

For our focus on the relationship between the developmental state and the developmental worker, the next useful contribution comes from Durkheim's analysis of the division of labour and in particular his analysis of 'collective beliefs'. Durkheim's work on the division of labour shows that workers' participation decisions are not purely economic in nature, and social considerations occupy a central position in these decisions.

Durkheim's original study was intended to develop a way of understanding society and to identify the crucial links connecting individuals to society and the social cohesion among society members. In addition, Durkheim wanted to examine how those social links change over time as society became more 'advanced' and what impact these changes might have on the division of labour.

One of the central concepts of Durkheim's work on the division of labour is the 'collective beliefs' (sometimes referred to as 'common conscience'). Of all the early analyses on workers, this concept of 'collective belief' forms the first component of the developmental worker model.

At its basic level, the term 'collective beliefs' refers to a set of beliefs, practices and collective sentiments which are held by all (or most) members of society. The most important effect of the 'collective beliefs' is that they define social purposes, and thereby give a sense of purpose and meaning to the actions of society members. In addition, 'collective beliefs' structure the pattern of social and societal life (Durkheim, 1933 [1893]). However, Durkheim's assertion that 'collective beliefs' evolve of their own accord and they are "... not an expression of individual consciousness" (Morrison, 1995: 131). This understanding of collective beliefs may largely be a Western concept. The developmental worker model deviates from Durkheim's assertion that collective beliefs are largely autonomously formed. Instead, in explaining the East Asian experience, it is important to allow for the possibility that common beliefs and collective understanding are mediated by a complex process, including the workers' own personal

experience of society, societal events and the interaction with the developmental state policy. In fact, some may argue that autonomous collective beliefs (in the Western sense) in the case of Singapore seem almost impossible. This is due to the overwhelming presence of the state structure which constantly shapes and guides societal developments. Despite this fundamental difference, the developmental worker model builds on Durkheim's notion of collective beliefs and practices whilst recognising that such beliefs are not autonomous, but socially constructed.

Having introduced the concept of collective beliefs, Durkheim's goes on to examine the four characteristics of collective beliefs. These are also important in further defining the developmental worker model. In Durkheim's analysis, the four characteristics are: volume, intensity, determinateness and content (Durkheim, 1933 [1893]).

Volume refers to the extent of pervasiveness of the collective beliefs and, therefore, the extent to which these are shared by the society as a whole. Durkheim expects that 'volume' is an indicator not only of the extent to which beliefs are shared, but also the extent of collective beliefs 'enveloping' individuals in society. In other words, Durkheim expects the flip side of the sharing of beliefs to be that the collective beliefs may 'intrude' into the lives and attitudes of individuals. This is a particularly relevant concept for the developmental worker in relation to the developmental state. The Singaporean experience shows that while there is a wide range of societal norms that help provide a high degree of 'orderliness' and stability, there can also be inconveniences and restrictions on personal freedom³. Also, what may be shared at one point in time, may be perceived otherwise later on – economic and generational aspirations may alter perceptions over time. Indeed, in Chapter Eight, I will examine the survey data on workers' values and beliefs to explore the nature of such collective beliefs and how they relate to different workers. I will also look at some of the qualitative interviews in

³ Examples such as banning smoking in public places, chewing gum, littering and regulations on hair length, public speaking and flushing toilet and so on are numerous. However, the main issue appears to be a constant dilemma of striking a balance within the process of creating social benefits which is coded into the marginal loss of personal freedom. See Sheridan, (1999: 67) for further discussion.

Chapter Seven, and examine the process in arriving at those collective beliefs and how they relate to the developmental state.

A second characteristic is the ‘intensity’ of the collective beliefs. Durkheim relates this to the ‘leverage’ that collective beliefs and practices have on individuals. Durkheim expects that the greater the intensity, the greater is the leverage that collective beliefs and practices can have to mobilise individuals within the community. This will create a stronger social cohesion and help develop a stronger sense of purpose or community among individuals. In some cases, the idea also suggests that collective beliefs may exert greater ‘claims’ on individuals. This characteristic is very relevant to the developmental worker model. For example, in order to maintain communal peace, individual rights do not include the freedom to discuss racial matters in Singapore. Indeed, the survival theme that featured so strongly throughout Singapore’s early economic and political history has made a great impact on ordinary individuals’ understanding of Singapore’s priority such that collective well-being was always perceived to be more important than that of the individual (Han *et al*, 1998). For example, on the role of the government, Vasil (1992) commented:

“ ... Central to PAP leaders’ thinking on the role of government was their view that the compulsions of economic progress and ethnic harmony made it imperative that the government in Singapore controlled all instruments and centres of power and did not allow the growth of political pluralism ...”

(Vasil, 1992: 131)

The third characteristic is ‘determinateness’. This refers to the resistance of the collective beliefs and practices vis-à-vis changing circumstances. Durkheim postulates that the more ‘uniform’ and well-defined a collective belief is, the greater is its ability to resist change. On the other hand, if the collective belief is ‘vague’, there will be a great opportunity for individual to exercise individual discretion. Whether this remains a valid assumption in the developmental worker model remains to be seen. In many areas of collective beliefs in Singapore, we are witnessing more and more debates on collective beliefs in the form of Singaporean national values, and increasingly these values are

subject to different interpretations (Chua, 1995: 121). While this is a relevant concept for the developmental worker model, the question of determinateness probably does not depend on definition and clarity alone. It is likely that there are sources of 'indeterminateness' other than those identified by Durkheim, e.g. individual aspiration, the level of education, wealth and learning through exposure to outside ideas.

The last characteristic of Durkheim's notion of collective beliefs is 'content'. Although Durkheim did not elaborate on this point in too much detail, it has been suggested that this could refer to the 'more dominant characteristics of society and its collective disposition', e.g. religion or economic and political institutions (Morrison, 1995). For clarity of exposition, I shall refer this as 'structural content' from here on. In the case of the developmental worker model in Singapore, we may expect that the structural content has a fundamental relationship with the existence and extent of collective beliefs. Factors such as 'race', religion and the geo-politics of the country will influence the substance of the collective beliefs. Indeed, one would expect that the greater the diversity in the 'structural content' of collective beliefs (e.g. race and religion), the less likely are the collective beliefs to be uniformly shared. The diversity in structural content is therefore expected to have a negative effect on collective beliefs and practices. In this sense, one could possibly argue that the developmental state policy in generating a 'top-down' policy and decision has helped Singapore avoid the negative effect of the diverse structural content of the Singaporean society. In the survey results in Chapter Eight, I shall look at whether some of the collective beliefs are differentiated along the 'structural variables', e.g. class, race, gender and occupation.

In constructing the developmental worker model, Durkheim's work represents a good deal of progress from the early work of Marx. Durkheim's concept of collective beliefs occupies a very central position within an analysis of the relationships between the developmental state and the developmental workers. However, it is Weber who brought by far the greatest theoretical input into my own effort.

Weber's Theoretical Contribution – Interpretive Understanding

One of the most important theoretical discussions of Weber is the 'Theory of Social Action'. Weber has some fundamental objections to approaches that study society without incorporating social elements. Weber points out that there is a fundamental distinction between studying the natural science and social sciences in which the latter distinguishes itself by the fact that human individuals 'understand' their actions and those of others. The consequences of this understanding will therefore influence the individuals' subsequent actions. Weber's analysis therefore suggests that an individual's behaviour is a result of a particular social environment.

Central to Weber's *Theory of Social Action* is his argument that an individual has an 'internal capacity' to understand his/her environment, to choose between means and ends and to exercise 'rational' judgement over a range of choices in order to achieve these ends. The form of internalisation (understanding) that an individual exercises is a process of 'assigning meanings' to events and experiences or other factors relevant to the environment. For Weber, understanding has two forms: (1) direct understanding and (2) interpretive (or explanatory) understanding (*Verstehen*).

Direct understanding is a straightforward concept which refers to the normal observation that everyone performs in the course of their daily activities. For example, an individual may observe an object having a particular shape. It therefore does not have a great deal of significance in the internalisation process of understanding; little conjecture on the part of the individual is involved, and it is therefore less important to the developmental worker model. However, in the case of interpretive understanding, the process of understanding involves the individual constructing reasons and assigning motives for an action. Frequently, in order to make a good interpretation of a situation, the individual has to contextualise the action. This contextualising process gives interpretive understanding its form and complex meaning.

What is remarkable about Weber's interpretive understanding is that this form of understanding is often 'subjective' in nature (Morrison, 1995). In other words, the assigned meaning is derived from the individual's own internalisation process. Weber's interpretive methodology of social action stresses the significance of individual voluntarism, the freedom to act in terms of values and ideas that the individual conceives to be important in any social situation.

In the developmental worker model, this is a useful point as the decision for the worker to work with the developmental state depends on this interpretive process that goes on within the worker's understanding of the environment relevant to the workers and Singapore. The interpretive understanding concept may enable us to highlight the potential difficulties for an outsider to understand decisions made by the developmental worker since the outsider, by definition, may not have gone through the same environment and interpretive process. Indeed, one could conjecture further that should the developmental workers be found to exist in the Singapore industrialisation history, they may not be found again in the future history of Singapore as the relevant consideration and contextual factors may have moved on. The interpretive understanding may equally offer explanations for why Singaporeans have continued to vote for the PAP party for so long. These are points that I will investigate further in Chapters Seven and Eight.

Given the importance of interpretive understanding, Weber proceeds to outline four types of social action - each has a varying extent of 'rationality' attached. In Weber's terms, rationality refers to a behaviour of systematic evaluation of all means and ends in order to arrive at a most effective outcome. Weber identifies two main forms of rationality: 'subjective' rationality and 'objective' rationality. What differentiates the two is the latter's tendency to adhere to rules, guidance or specific formula (Levine, 1981).

The first type of social action is called the 'traditional action'. Weber puts most everyday life action, e.g. greeting and courtesy, in this category. 'Traditional action' is a habitual

response to the world 'outside' an individual, which is by and large governed by custom or other general expectations. This is a typical form of 'objective' rationality. The second form of action is 'affectual action'. This type of action is an emotional action, e.g. satisfying a need for letting off anger. This subjective form of rationality has relatively little evaluative content and is in most cases, 'irrational', in Weber's definition. Thus, 'traditional action' and 'affectual action' lacks the evaluative process, i.e. interpretive understanding; and, as such, are not of relevance to the developmental worker model.

While the first two types of action have relatively little rationality content, the third and fourth - 'value rational action' (*Wertrational*) and 'instrumental action' (*Zweckrational*) – exemplify rationality as the basis for action, and they are therefore central to Weber's Social Action Theory and they also form the central building blocks of the developmental worker model. 'Value rational action' refers to the individual seeking to put into practice what they value most important within their personal circumstance, e.g. religious beliefs, loyalty to a particular organisation. It is equivalent to some sort of 'conviction' or 'faith' to a cause. Weber believes that this form of rational action may be carried out for the sake of it because it is of paramount importance to the individual. In this respect, Weber argues that the individual may feel 'obliged' to follow whatever course of action it takes to achieve the value (Weber, 1978: 25). Therefore, 'value rational action' is subjective in nature.

With 'instrumental rational action', the individual weighs up all the options, possible outcomes and other relevant factors before a course of action is taken. This form of action is based neither on obligation nor faith, but on efficacy of means and ends. However, Weber maintains that, given the evaluative nature of the exercise, subjective judgement is often required in order to achieve the best results (Weber, 1978: 26).

If we assume that the developmental workers will evaluate all means and ends before arriving at their beliefs, the last two types of action can be expected to have a significant role in explaining workers' experience in Singapore. However, in the developmental

worker model, it might be difficult to differentiate the two types of rational action; there is a great deal of overlap. For example, it is not clear whether the very high level of political support given to the state (as discussed in Chapter Four) is a 'value rational action' or an 'instrumental action'. Some may argue that the former might well be true as many Singaporean citizens were of a very low level of education in the early part of the industrialisation process, and therefore were not in a position to 'evaluate' their action. They ended up following what was on offer, e.g. the PAP's industrialisation plan. Hence, some may argue that the action on the part of the worker was by and large 'an act of faith' in the ruling party and in the leadership itself. However, others may argue that since most citizens had gone through the very hard times – racial riots, high unemployment, economic crises and political hostility from neighbours – their understanding of what Singapore required was based on a set of personal understandings, and it was, therefore, an instrumental rational decision which formed the basis of their subsequent action.

I mentioned earlier that Weber's discussion on rational action assumes that the individual is free to make any choice. While some writers have questioned this concept of individual freedom in relation to workers (Althusser, 1969), this is certainly not relevant in the developmental worker model. In particular, the relationship between the state policy and individual actions negates this concept of individual worker freedom to choose their own direction. In the developmental worker model, these rational choices are conditional to the actions of the developmental state. Hence, we might expect that the relationship between the developmental worker and developmental state is to be negotiated by the two parties on a continuous basis. For example, without tangible benefits for the developmental worker, it might be difficult for the state to entice the kind of 'team' performance and long-term cooperation from the workers. The consequence of the interaction between the developmental state and developmental worker is that rational and subjective activities coexist within the developmental state and developmental worker decision-making process. In this way, a symbiotic relationship is formed and maintained.

The latter point leads to a 'pragmatic' style of leadership on the part of the developmental state while the same point explains (as evident in the interview data in Chapter Seven) the mixed feelings on the part of the developmental worker towards the state. The mixed feelings are typified by the developmental worker's deep appreciation of the developmental state – developmental worker achievement, but at the same time being very critical of the developmental state – developmental worker relationship which is often being conducted in a state-led manner. The state-led manner means that as workers' aspiration changes over time (e.g. as a result of rising prosperity), the tension between the state and workers may become acute.

As a complementary concept to Castell's developmental state model (1992), I therefore define a developmental worker being any worker who, by virtue of his/her participation, helps deliver the economic vision of the developmental state whilst their continuing participation is maintained in exchange for current, but more importantly, future personal economic benefits. This status is not defined by any expressed agreement on the part of the worker with state strategy and policy. Instead, it is reflected by the actual act of participation which is normally embedded in the wider pattern of state-worker partnership in the economic growth process.

As a result of the above discussion, we further refine our early developmental worker model in Diag. 6-2.

Diagram 6-2: The (Final) Model of the Developmental Worker

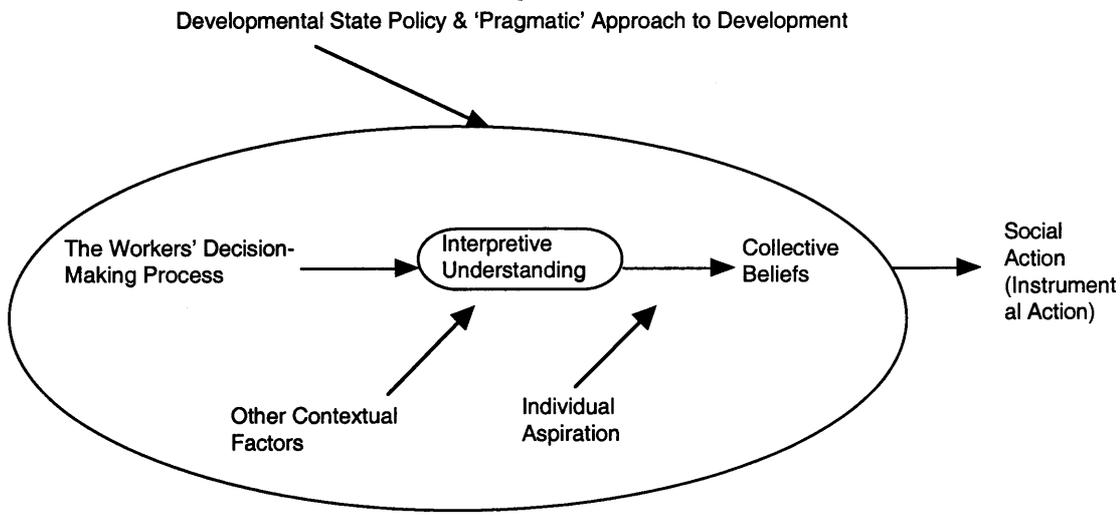


Diagram 6-2 will form the basis of the empirical exercises in the current research. In particular, qualitative data will be employed to analyse the interpretive understanding process on the part of the developmental worker in Chapter Seven. In Chapter Eight, quantitative data will be used to explore aspects of the developmental workers' collective beliefs.

Chapter VII: The Developmental Worker – Issues and Themes

This chapter will explore the nature of the developmental worker through an analysis of the data from interviews with fourteen individuals from a cross-section of Singaporean workers¹. I will identify the main themes emerging out of a series of individual in-depth semi-structured interviews and small groups discussions. The following broad themes were prominent in the interviews and group discussions:

- The effects of social and economic conditions on individuals
- Education and the developmental worker
- The developmental state and ‘me’

The three broad themes contain sub-themes and there are overlaps between themes. These themes and the interviews in general also helped formulate questions in a subsequent questionnaire on workers’ values and beliefs which will be explored in Chapter Eight.

By examining the content of these emerging themes, I explore the ways in which elements underpinning the developmental worker model are reflected by workers’ own experiences. The interview data are particularly useful in helping us to construct more insights into the interpretive understanding process of the developmental worker, as depicted by Diagram 6-2 in Chapter Six. The analysis is not focusing the interpretive process in psychological terms. Rather, I am interested in the content of the interpretive process. Therefore, I place particular research emphasis on the meanings which were assigned by the individual to specific events in their lives and consider the impact this had in terms of the developmental state and developmental worker relationship.

¹ More details on the interviewees can be found in Chapter Two on Research Methodology.

In the developmental worker model (Diagram 6-2), three components are important in generating social action on the part of the developmental worker. These three components are: the effects of social and environmental factors on individuals, the interpretive understanding process of assigning meanings to events (and thereby shaping individuals' understanding of their future course of action) and the existence of some important common beliefs among workers. Although these three components are important in shaping decisions, they will not in themselves generate social actions relevant to the developmental worker model. It is the existence of the developmental state and how the developmental state's action and decisions interact with the developmental workers' decisions and experiences that generate social actions relevant to the developmental worker model.

I therefore emphasise the interactive process between the developmental state and the developmental worker, and as a result of this interactive process, a particular (symbiotic) relationship between the developmental state and the developmental worker will be established. Furthermore, I expect that the interactive process will take a number of forms – e.g. cooperative dialogues, benevolent leadership, indicative and autocratic action. It may not be possible to assume any particular *a priori* form of interaction because it does depend on the specific circumstances involved. However, within this interactive process, it is expected that the distribution of power is often unequal. As a result, the relationship between the developmental state and the developmental worker can be difficult at times, and for the most part, the relationship may be described as a 'tolerated' one with the emphasis that sacrifice brings future progress for all. This important feature remains the basis on which the developmental state and developmental worker continue to evolve.

A further assumption within the developmental worker model is that by virtue of working and living within a developmental state, most workers may be expected to fall into the developmental worker status. However, it is possible to have workers in a developmental state who are not developmental workers in terms of their fundamental beliefs. As a result, it is possible that their social action might be different from that

expected of the developmental worker. Following on from that, we may also expect that it is possible for a developmental worker to become a 'non-developmental worker' at a different point in life, and vice versa. It all depends on the circumstances involved and how these circumstances impact on the individual's willingness to enter into a relationship with the developmental state, and therefore share particular collective beliefs. The next chapter will examine some of these collective beliefs and how deviations may occur. The results will help inform the profile of a developmental worker and those individuals who are unlikely to be one. Meanwhile in this chapter, the analysis concentrates on the interpretive understanding process of the developmental worker.

The Effects of Social and Economic Conditions on Individuals

" ... Survival – all I can remember as far back as primary school days in the 1960s. Survival ... I can remember how my parents struggled to make a living, to have enough money to feed the six of us and pay for our schooling. That is the very first thing that I can remember."

(Interviewee 8)

This quote, in which survival features very strongly, is reflective of the historical and social context of the development of the developmental state in Singapore. In order to understand this context and the response of the developmental worker, I will give a brief examination of events crucial to the establishment of the developmental state and developmental worker relationship. Indeed, I will argue that these early social and economic conditions are crucial in cultivating a cooperative relationship between the developmental state and developmental worker.

In 1959, Singapore achieved self-government. However, this heralded another six years of traumatic and trying times for the ruling People's Action Party (PAP) and citizens alike. It was not until 1965 when Singapore was abruptly expelled from the Malaysian Federation that Singapore was finally on its way to manage its own affairs and concentrate on building a new nation.

The problem during this period was largely underpinned by the PAP strategy that Singapore would only have a future if it was to merge with Malaysia under the Federation of Malaysia. One can easily understand the reasons for this belief as historically, politically and in term of kinship, Singapore had been closely linked to the mainland of Malaysia. Many 'Singaporeans' (a term yet to be invented at this stage) had (and many still have) families in different parts of Malaysia. It was unthinkable not to be part of Malaysia (Lau, 1998). This close tie was reinforced by the traditional economic function that Singapore had been established for, i.e. being an entrepôt that would make a living on trading goods such as rubber, tin, copper, pepper, petroleum, textiles, machinery and basic foodstuff that moved through Singapore to different parts of the region (Cheng, 1991). The PAP had hoped to work out a 'Common Market' solution within the Federation so that Singapore could be part of a much bigger market for its industrial goods and continue to carry on with its traditional trading function. This was thought to be the most logical industrial strategy for Singapore by the PAP, and especially by Lee Kuan Yew (Chan, 1971).

With the benefit of hindsight, the long-running stormy relationship between Singapore and the Federal Government in Kuala Lumpur and the deep distrust between the Malays and Chinese communities meant that the Common Market idea had never been a realistic option. As a result, when Singapore was abruptly expelled from the Federation in August 1965, the experience was made all the more painful when so much time, sacrifice, effort and emotion had been spent in vain².

On Independence, Singapore was essentially still an under-developed country with all the symptoms typical of many of the third world developing nations of its time. These included immense problems of poverty, high unemployment, low levels of education,

² Lau (1999) provides an excellent account of events and relevant contextual factors running up to the 'separation'. Also, in Y. K. Lee's memoirs (vol. 1), Lee provides a personal account of pain and anguish throughout the short-lived marriage between Singapore and Malaysia.

totally inadequate housing and health facilities and periodic communal/racial violence (Vasil, 1992).

Prior to the 1950s, the population of Singapore fluctuated significantly depending on the opportunities available in the locality. The fluctuations were mainly due to migrant workers (especially Chinese migrant workers) who would move around Southeast Asia wherever opportunities took them. However, for many of them, their eventual plan would be to go back to China with enough money for retirement. Therefore, before the 1950s, unemployment was not generally a problem because of the transient nature of a large section of the Singapore population (Cheng, 1991). However, with the Communist Party taking power in China and the increasing legal and political restriction placed on migrant workers in the region, the Singapore population became more settled, and the fluctuating pattern (or 'safety-valve') of the migrant workers ceased to exist any more. Instead, high unemployment suddenly became a reality in the early 1950s.

Economically, the strategy to create a Common Market was to ensure that extra jobs could be established in manufacturing in Singapore and the products would be sold to West Malaysia – Singapore's traditional trading hinterland. Singapore's exit from the Federation in 1965 saw thirty American manufacturers calling off their plans to start manufacturing in Singapore (Bonavia, 1967).

The unemployment pressure was critical, and this saw frequent overseas trips by government ministers in search of new markets and investors in the early days of Independence. Sadly, much of this effort brought little immediate result. There were no official figures on unemployment in Singapore at the time of Independence because of the transient component of the population. Government official estimates put it at 10 per cent, but the common belief was more like between 15-20 per cent (Chan, 1991). Some 25,000 young people entered the labour market every year, but only 5,000 new jobs were created in new industries each year between 1963 and 1967 (Drydale, 1984). Then in July 1967, the British (Labour) Government announced a complete withdrawal of its military base in Singapore by mid-1970 in order to cut public expenditure to arrest the

Sterling crisis. As British base expenditure accounted for some 20 per cent of Singapore's GNP in the 1960s, the PAP government estimated that 18,000 additional jobs every year had to be found in order to absorb direct and indirect job losses as a result of the British military withdrawal (Drydale, 1984).

For the ordinary people, what did these events mean? Most of our respondents were too young to be in the labour market. However, the difficult economic conditions did not escape their notice as children. Often, they understood the importance of having a job during this period, and that jobs were important not only for the survival of the family, but also the only route to improve their current poverty. Survival and poverty were frequently the subject of their childhood memories. This is vividly captured by the following quote:

" ... Security means being able to be self-reliant. It means to be gainfully employed. It means being able to pay for the up-keep for my family. It is important to me as I was impressed by an early experience of my dad being a 'daily-rated' employee before Independence. Those were troubling times, of course. I think I was more worried than my father. I remember staying up late at night and I could not sleep. I could not sleep because I worried that he might have got caught up by the riot, or he lost his job. Only after he came back, I could sleep. ... I worried about my dad because he was the sole breadwinner of the family and should anything happen to him, how could I improve myself? Who would support us?"

(Interviewee 4)

It is important to note that in times of poverty and social unrest, children 'grow up' fast. The interviewee recognised the importance of having a job. The issue of survival was worrying the interviewee in the background. It is also interesting to see that the interviewee thought that it was important that his dad continued to be gainfully employed so that (through education), the interviewee could improve the current plight (poverty). A reference was made about the racial riot. I will consider the effect of that on people's psyche in a moment. Other interviewees also commented on the issue of jobs:

" ... My mother had three part-time jobs. She used to come home around 11pm after working late at the hotel. I would always look out of the balcony and see her

getting off the bus at the regular time. If she was late, I would get very worried. I feared that something might have happened to her and I would be losing her. But I never thought about that about my father. I always look up to my mother as a mentor. Sometimes she had to do over night duties at the hotel, and I could not sleep as I would be thinking that as I was going to sleep, and my mother might be working so hard and 'suffering'. These things have made a very deep impression in my mind."

(Interviewee 3)

We can see in both this quote and the previous quote from interviewee 4 that there is a strong concern from the children towards their parents in terms of safety and financial security. This is reflective of the turbulent times in which they were growing up – nothing could be taken for granted. In the following quote, we can see that Singaporean residents before self-government had yet to establish a sense of belonging to “a country”. This was because the British “were in charge”; life was still ‘transient’. Issues such as crime came second to struggling to survive.

" ... In the 1950s, there were no jobs. Crime was quite an issue. However, the British were in charge. There was nothing you could do. People just tried to find anything to make a living.

(Interviewee 12)

In another interview, the job situation, poverty, education and the riots are all linked together:

" ... I could remember racial riots, people getting hacked to death and curfews imposed. We could not go onto the street. I was about 8 years old. ... I was aware of unemployment problems. One day I came home from school and my father told us that he had become unemployed. ... This was very bad news to us all... The event did affect me as I could not fail in the class and repeat. If I failed, future opportunities would be limited for me. The Clan Association, which subsidised my education, would stop [supporting me]."³

³ From the colonial times to early PAP period, education was either subsidised by the government or run by religious bodies (see Wilson, 1978). The Clan Associations were overseas Chinese associations whose

(Interviewee 9)

The above comment also touches on a strong theme in many other interviews, i.e. education was very important for future opportunities. This coincides with a short comment by interviewee 8 that it seemed to him that their parents were constantly preoccupied by two things: (1) making ends meet; (2) preparing a better future for the children. The latter comment has to be understood within the context of a new nation with little public provision. Nearly all aspects of welfare were looked after by the family. For this reason, the 'family' is also a frequently mentioned institution throughout all the interviews. In times of instability around Independence, the 'family' has added importance. I will return to more discussion on this additional importance of the family in the next section of this chapter.

Other than understanding the importance of jobs and the issue of survival, it was evident that the difficult times also made people learn the reality of life a bit sooner than they otherwise might have. Often, children would start learning adults' tasks very early on in life. The following conversation reflects this early learning process:

" ... I am the youngest in the family. My early memory involves cooking for the parents who wanted me to be able to deal with life, and be independent. Both of my parents had to work to make ends meet. ... I saw it [the domestic training] more of survival. Parents came back from work very late - 10 pm . Fending for yourself was really good, and all I was thinking was that "I wanted to grow up, I wanted to grow up ... ". I became very independent when I went to school – the teacher could see it; I had the leadership quality. ... I was not the only one ... the practice was quite widespread in my generation [in the 1960s]; it was a norm!! That training to manage the house had set a deep impression in my mind, ... helping me to manage today!"

(Interviewee 5)

objective was to provide mutual assistance to people who came from the same province in China. The were the main welfare institutions for overseas Chinese migrant workers.

Unemployment and poverty were not the only social problems at the time. Upon Independence, Singapore was also troubled by communal violence, industrial unrest, power struggle with the pro-communists, *Barisan Sosialis* and the political problems with Indonesia⁴. I will examine these factors in turn, and see how these factors together formed a set of favourable conditions for the developmental state to emerge, and with it the emergence of the developmental worker.

Race has always been a difficult topic in the region. However, under British Singapore, the relationship between the Malays and the Chinese had been somewhat less confrontational. While the Malays mostly derived their living from the land, the growing arrival of Chinese sought their fortune from commerce and manufacturing. The two groups were therefore able to tolerate each other with relative peace despite the fact that the ever-increasing arrival of Chinese soon put the Malays into a minority of the island. The Chinese population moved from around 33 per cent of the population in 1824 to 75 per cent in 1963 (Chan, 1991). In terms of economic activities, the Chinese soon ‘out-paced’ the Malays.

Moving from British Singapore to PAP self-government, the Malays in Singapore remained numerically weak and too disorganised to form an effective voice in Singapore’s politics (Chan 1991). However, the merger between Singapore and Malaysia within the Federation in 1963 soon changed the balance and provided the main source of the subsequent communal violence. Ironically, it began when the PAP government started ‘upgrading’ various social and communal amenities for the Malays in Singapore, including better education facilities for a higher number of pupils enrolled in education. The idea was to show that Singapore would ensure that Malays in

⁴ *Barisan Sosialis* was a pro-communist group and had strong connection with unions in Singapore. It broke away from the PAP when the PAP decided to merge with Malaysia. Indonesia had a territory ambition over the region and had made claims on East Malaysia (Borneo). It opposed to the formation of the Federation of Malaysia. Subsequently, Indonesia launched an action called *Konfrontasi* (Confrontation) – political and economic boycott against Malaysia and Singapore. Indonesia was one of Singapore’s major trading partner at the time.

Singapore would have equal participation and therefore this would help consolidate Singapore's membership within the Federation. Indeed, the policy went so well that in the Singapore general election in 1963 – 4 years after self-government was achieved - the PAP popularity among the Malays in Singapore led to PAP Malays candidates winning all the seats within predominantly Malay constituencies, beating all the United Malay National Organisation (UMNO) candidates⁵. The Prime Minister of the Federation and UMNO, Tunku Abdul Rahman, was caught by surprise, and believed that something must have gone wrong within the Malays community in Singapore (Straits Times, 23 September, 1963).

There were two consequences: Firstly, the victory over the UMNO candidates in Singapore led to the PAP's beliefs that the PAP could also win votes among the Malays within the Federation as it did in Singapore. This, of course, aggravated the mistrust on the part of the Tunku and UMNO (which sowed the seeds for later expulsion from the Federation). Secondly, the Tunku wanted to win back the support of the Malays in Singapore by challenging the PAP to grant special privileges such as job quotas, residential reservations and special business licences to the Malays in Singapore (Chan, 1991). Most of the Malays in Singapore immediately supported the Tunku's call and a tense situation soon emerged. After Prime Minister Lee Kuan Yew formally turned down the privileges request from the Malays in Singapore, riots broke out on the 21st of July 1964 (Lau, 1998). For several days, the Malay and Chinese communities were engaged in communal wars. These were subdued by periodic curfews and then restarted. The chaos lasted a few months till September.

In effect, in addition to the unemployment and poverty conditions, the racial riots added to the misery of the country as a whole. Members in different communities lived in fear. Their daily life was totally disrupted. The PAP was also concerned that the riots would do little to encourage foreign investment in Singapore. For the ordinary citizens in

⁵ UMNO was the dominant political party in Malaysia. Under the Federal arrangement, both PAP and UMNO could file candidates in Singapore and Malaysia.

Singapore, it seems that these dark days of the past have made a very strong impression on them. I will argue in a later section that because of the difficult times, the individuals in Singapore would be ready to go along with PAP hard measures in order to give progress a chance. In comparison to the 'dark days', those hard measures were relatively easy. Some of the interviews reflect these dark moments very vividly:

" ... I remember the bad memories more vividly than the good ones. When I was about 4 or 5, I remember the racial riots [1964]. We were living in this 'attap' house⁶ – between a poultry farm and a pig farm; all run by the Chinese. We were the only Indians living among the Chinese there. Other Indians were located two roads away. ... One day I was playing with my Chinese friends in the poultry farm. There was shouting and yelling. We saw people running with the 'parangs'⁷, and we actually saw them hacking people down, and that memory is still with me these days. I remember feeling very frightened. I can also remember that people were saying that the Indians did not have to worry because the Malays were attacking the Chinese only. I ran to the nearest house that I could run to, and that was my Chinese neighbour's house. The irony was that I was in the most dangerous place. The safest house would have been my parent's house"

(Interviewee 4)

" ... [My parents] always said, 'Go home and lock the door!' Therefore, as a young kid, you would get a sense of what was going on even though you could not really comprehend the politics and causes behind every event. But I knew there was danger. Sometimes, you could see your parents coming home early and could not go out for a day or two. ... If there was a demonstration, a riot or something like that, you would have a few hours to come out to buy food, and then you would have to stay indoor. The soldiers would shoot on sight if you dare venturing out. I remember I could see the street scene from the flat. A soldier pointed the gun at me, and I quickly shut the window."

(Interviewee 3)

The two narratives, in their different ways, describe the negative images of the riots, and lives were far from 'normal'. The fact that these memories have remained vivid after all these years shows what a deep impression they made on these individuals. It is perhaps

⁶ These are houses made with an 'attap' (palm-leaf thatch) roof.

⁷ A Malay word for machetes.

reasonable to expect that Singaporean citizens who have gone through such experiences would avoid repeating those experience at all costs.

In the following interview passage, the interviewee talks of industrial disputes, riots, curfews, unemployment, poverty and social disorder together:

" ... When I started primary 1[school], there were a lot of riots and curfews, ... there were lots of strikes too. The bus companies were the instruments of industrial action. They had strikes frequently. ... My parents always told us about the curfews and strikes. ... power failures were very common. There was rationing of the water supply. We had to queue up at the public water point. Those times were very inconvenient. Communist activities were rife. You could see communist propaganda slogans everywhere, all written in Chinese. Unemployment was very high. ... Unemployment did not help the social situation. Fighting often broke out. ... We had seven families staying in the same flat [Chinese house]. Looking back, it clearly showed the level of poverty at the time."

(Interviewee 3)

In the early 1960s, industrial disputes and strikes were frequent, and sometimes these disputes led to more riots. Some of these disputes and riots also had a political background as the Barisan Sosialis and left-wing students were involved (Josey, 1968; Drydale, 1984)⁸. However, most of the disputes had arisen out of issues such as dismissals, discrimination and benefits (Vasil, 1992). As a result, the industrial scene was one of 'chaos'. Disputes reached a peak of 946,000 'man-days' lost in 1955 and another height of 402,600 'man-days' lost in 1961 when the PAP split with the pro-communists (Sung, 1998; Drydale, 1984). Between 1960 and 1967, there were 389 recorded industrial disputes, and it was thought that while foreign investment was desperately needed, Singapore would not be on any investor's list (Vasil, 1992).

All these events had immense impacts on people's psyche and how they might have been yearning for a solution. I and others have argued that the on-going chaos provided

⁸ See Chan (1971) for more details. Against the backdrop of the Korean War, the Vietnam War and events in China, South-east Asia was the 'hot-bed' for Chinese communists.

the persuasive background to bring about a consensus between individuals and the state that a breathing space for social order and welfare had to be created (Vasil, 1992 and 2000; Tan, 1997; Sung, 1998; Drydale, 1984; Chan, 1971; Oei, 1992; Josey, 1968; Devan Nair, 1982). This remains one of the most important sources of support for the PAP in all the early general election victories (see Chapter Four).

This is reflected by Vasil's (1992) comment:

" ... When the PAP assumed political power ... its leaders were fully aware of this socio-economic reality. And right from the beginning, these staunchly pragmatic leaders found it not too difficult to shed the ideological milestones of the days when they were out of power ... They viewed the engineering of social, economic, educational and political change in Singapore in terms of the objective reality rather than a preconceived model ... This is the central strand that still runs through the thinking, approach and priority of the PAP leaders."

(Vasil, 1992: p. 7)

And of course, this gives the developmental worker model its distinct relationship with the developmental state. The developmental state (i.e. the PAP leaders) brought leadership and a new ideology to pursue progress and improvement⁹. Having 'internalised' their difficult experiences, the developmental workers responded with cooperation and participation in the 20-25 years after Independence.

The above line of argument has one important implication – that had the workers not been through this internalisation process, they might well not be able to work in cooperation with the developmental state policy. In Diagram 6-2 of Chapter Six, I argue that without the developmental state link, this would simply reduce the developmental worker model to a general (or an 'Anglo-Saxon') model of the worker. There would be nothing distinctive about the developmental worker.

⁹ It has been argued by many writers that the history of modern Singapore cannot be understood unless one takes into account the personal qualities of Lee Kuan Yew. For more details, see Han et al (1998).

I have discussed in Chapter Five a wide range of 'performance-oriented' policy by the developmental state, e.g. the constant demand for worker upgrading, to name but one. The non-developmental worker would, I would argue, find these policies and the developmental state in general difficult, if not too prescriptive and 'limiting'. One suspects this might be what happened in the last twenty years when another generation of workers, which was largely brought up under relative affluence, joined the Singaporean society. Dissenting views from this group can be seen in their comments in a later section.

Even if the developmental worker has been able to work very closely with the developmental state structure, economic progress in general, higher standards of living and individual aspirations mean that the same relationship between the developmental worker and the developmental state may not stay the same over time. Higher living standards are often accompanied by many other aspirations¹⁰. For example, some parents who have gone through a long period of hard work to improve the well-being of the family. They may not want to see their children go through the same harsh and competitive environment.

The following interview extracts reflect these sentiments:

" ... but I feel that everything I have is what I have earned. You see, since Independence, we, as the 'pioneers', did not have anything because most people were so poor. It is only the second generation who will benefit from the 'system'. We had to build the system first. ... While we were building the system, we weren't in a position to see the results. But the next generation can. ... However, only after we came out from the Army, getting a job, started earning and now having a family, you look back, you realised how poor we were then. Then of course, now I together with the younger generation enjoy the fruit of the early hard work. However, whether the younger generation knows it or not, that's another matter.

¹⁰ I will not elaborate on the economic and social progress that took place in the last 40 years. Much has been written widely. For example, Ong *et al* (1997) provides an extensive discussion on many aspects of social developments in Singapore. Likewise, Low (1999) provides an extensive coverage on various aspects of economic developments.

The fruits are – political stability, social cohesiveness and relatively prosperity. Our parents and ourselves worked hard to bring everyone the 'system'."

(Interviewee 11)

"...Singapore is a place to make money; it is easy to make money, but the quality of life is not good. You are always stressed out; you are always in a rush. We do not enjoy life. That makes great contrast to the US that you can go to the beach and the mountains. In Singapore, they just want you to be a good worker and have kids. ... Hence, people leave for Australia and so on. A lot of friends in my age group share my view. But they would not take action and do something about it. In the west, people just leave their parents and live their own lives. However, we cannot do it here. There is a social stigma of leaving your parents behind."

(Interviewee 7)

The first passage clearly demonstrates a personal journey of hard work and progress from the early days of poverty to today's relative affluence - a good example of the developmental worker. But notice that there was a hint of uncertainty about the younger generation and the interviewee felt concerned that the younger ones might not know how the improvement had come about (the 'system'). The first interviewee had sensed that changes in society were taking place.

The second interviewee was younger and saw things rather differently. He started life from a much more established Singapore. He enjoyed the economic prosperity and growing opportunities. However, his aspiration was very different from the 'pioneer'. The exposure to western culture when he studied in the US made him aware of a wider range of possibilities. However, the most important and crucial comment that he made was that despite this awareness of other possibilities and aspirations, many Asians were 'locked' into a cultural dilemma. One dilemma is that one may not be free to pursue anything as one wants, looking after parents, your children and brothers and sisters (if required) are obligations within many Asian cultures. This is an important point in that the comment may suggest that there may be more and more people (including some of the developmental workers perhaps) who may have other ideas, but they continue with the 'system' because there is nothing better that can replace the existing way of life.

The first comment concerning the younger generation also touched on another aspect of change – the ‘maximum reward and minimum participation’ syndrome – which can be observed in the following quote:

" ... [Youngsters] want something quick! For example, young people would like to go to work for places where sound systems are already in place. In other words, they want to be with people who are already 'successful', but not with people who have uncertainties/difficulties. They may not therefore want to be involved in development work. If the system was not there, they would ask 'why not there? [Singlish]' But they would not make the initiative to create the system. Start-up companies are therefore in a more difficult position to get bright young people. ... In the old days when some one took on a new task, if you asked whether they could discharge their responsibilities. The usual answer in the old days would be 'I'll try my best ...'. This was a humble way of answering the question. These days, the answer would be 'Sure!'. I feel that they are not all that concerned with their contribution; they are only concerned with what you will pay them. They even come and tell you that if you pay peanuts and you'll get monkeys. Pay is not the issue to me, but contribution is. Since unemployment is not on their minds. They resign today. Tomorrow, they get a new job."

(Interviewee 9)

Clearly, a great deal of change has taken place between the interviewee's understanding of the ‘old way’ and that is emerging among the younger generation. Given the sentiment of the statement, are we saying that the developmental workers are disappearing? If they are, is it therefore an issue of age and generation gap? I will explore some of these issues in Chapter Eight. The next set of comment continues with the ‘complaint’ about the younger generation, but adds one more dimension to the changing reality of the developmental worker.

" ... They (young ones) are not as committed in terms of time spent at work. They want a specific time for work, and beyond that, time is for 'personal use'. ... Sometimes, I asked the new recruits why they do their job the way they do. The reply was 'This is my job scope!', ... but job scope can change ... (the young ones have a) 'get things quick, little effort' attitude'. They are actually very 'clever'; they want to get to the top within the shortest possible time - getting rich very quickly. Job-hopping is not an isolated phenomenon. They constantly compare their own positions with their peers. ... In the earlier generations, we did think about the future. We knew that we would need to do well. Lately, people are not so sure

about doing the work as such. They might ask 'What's in there for me?' Some even feel that they are doing the company a favour. The 'get rich quick' culture has taken over everything - why should I wait for 10 years? University graduates are particularly under this category."

(Interviewee 12)

The last comment is effectively saying that the competitive way of life in Singapore is accepted by default. However, unlike the developmental worker, who might tackle the issue through a patient and compliant manner, the younger generation deals with these issues very differently. The approach is more 'individualistic' in nature than that preferred by the developmental worker. Hence, this might suggest that we should expect more difficulties in finding the developmental worker among the younger generations.

Education and the Developmental Worker

The second theme is the recurrent emphasis on the importance of education in an individual's life chances. Two particular points have been mentioned so far in the previous section. One is the education financing issue. The other is that education is seen as a means to build security for the future, i.e. a survival tool in a very competitive society.

In the early period, despite the low cost of education (through heavy subsidies from the government), there was no guarantee that any child would necessarily complete even the most basic education because education was not compulsory¹¹. The family is normally the main source of support for an individual to stay in education. The support is generally very positive. However, the financial situation of the parent is always the deciding factor. During the early years, drop-out rates were very high, especially among

¹¹ In fact, education was only made compulsory in August 2000. Details of the Education Bill could be obtained at: <<http://www.gov.sg/parliament/bills/data/000023.pdf>>

the very low-paid and the unemployed. Indeed, high-drop rates were a regular feature until the Goh Report and associated reform in 1979 (Low, 1991; 1999).

In the 1960s, education was seen by two of the interviewee with particular implications:

" ... Education was seen as an insurance policy ... Our parents knew that money could buy education and that would be the insurance policy that they could afford ... Survival was also the driving force behind my motivation to do well with my PSLE/GCEs. ... I knew I had to do well as my parents were supporting me financially. I really had to make it through. ... (some of) my class-mates who could not progress in education would eventually end up with some 'low value-added' jobs. They might be labourers or 'hawkers' (petty street sellers) and so on. Today, to work in a low-value added job, one cannot live on it. That is what I mean by high standards. There is little room for anyone to survive on primary school qualifications."

(Interviewee 8)

" ... One childhood memory that stayed my mind was the watching old Chinese movies in the 1960s - the classic Chinese tales – which invariably built a story around the importance of a young person studying hard and getting somewhere. The young person then returned home as a well respected person by your clan folks"

(Interviewee 12)

The first comment reveals the relationship between the parents and the child with regard to education – education was an important investment in their children and the financial burden came from the parents. The sentiment also reflects the interviewee's view that education was intimately linked to life chances. It is so important that the interviewee saw education as a 'mission'. Some people may argue that the relationship exists elsewhere too. However, in the developmental worker model, education has a much greater emphasis on 'survival'. This is partly shaped by the meritocracy policy that underpinned the approach of the PAP government to employment and the workplace matters (Chua, 1995), and partly influenced by the historical lack of welfare provision (in the western welfare state sense) that meant that individuals had to find their own means to 'prepare' for the future. In Singapore, the financing of education had always

been left to the individuals and charity organisations until the PAP took over government¹² (Wilson, 1978).

When family support was involved in this way, this evidently led to the individual feeling 'obliged' to 'do well' so that the family would not be disappointed. This has created immense pressure for a child even at a young age. In this sense, the (economic) utilitarian function of education and the pressure of the working world were transmitted to the 'young' developmental worker in an indirect manner via the parents – apparently, under a totally well-meaning motive and parental care. This is an unintended irony and we shall see some of the unintended consequences later on.

The second comment by interviewee 12 reflects the cultural bias towards education. In an indirect manner, individuals might have been 'cultivated' to reinforce the view that education was very important economically, but also socially, among relatives and clan folks.

The following quotes by younger interviewees echo the comments on the importance of education with a more recent backdrop:

" ... When I was in secondary school, it was like 'indoctrination'. All the teacher started talking about was the importance of doing well and going to university. I remember my form teacher who was telling us about his life experience. He was well-off. And he did well in education and now held a well-paid job. He would wish all of us to follow him to earn a good living. Every time when some students got into trouble, he would go through the same thing about the importance of education and the economic benefits. ... The best jobs at the time was with the Civil Service. To get in, you would need a good education! I really believed in it."

(Interviewee 4)

¹² Wilson (1978) shows that under the colonial system, education in the Straits Settlements (Penang, Malacca and Singapore) had always been under funded since the Settlements were established. What was available tended to be distributed very unevenly among the three settlements with Singapore often getting the smallest share.

" ... In Singapore, if you don't have a paper qualification, that's the end for you. ... I go for extra learning all the time. I finished a 3-month course on web design. I went to e-commerce. I go to all sorts of seminars. Personal ambition – I am ambitious. ... I may be a little high strung, but most Singaporeans would be as ambitious like me. ... The family played an important role. My father put a lot of pressure on me. ... I was the eldest son, I was expected to do well in school so that two younger brothers could look up to me. ... But after national service, I decided to get some 'A' levels but performed very poorly. My father was very upset because I did not do well in my studies. ... Singapore is a society in which everyone is trying to out-do another. I guess this has become part of our psyche. You have to be an achiever. Otherwise, one might become just another statistic."

(Interviewee 7)

The above quotes show that the view of education vis-à-vis the world of work has not changed since the 1960s. In fact, over time, the apparent importance of education and the pressure to succeed in education for better future welfare have stepped up in intensity because of competition. The obvious question is that "Why should the developmental workers compete so intensely with each other as if it was a 'zero-sum' game?" After all, is it not the PAP government's wish to have developmental workers who emphasise teamwork and collective values?

Like the discussion on parental pressure on children, the answer of ever increasing competition lies in the unintended consequences of the open advocacy of meritocracy. Thus, in order to strengthen the quality of the workers in Singapore, the PAP government has made meritocracy the 'cornerstone' of Singapore's struggle for success. This emphasis has been systematically translated into an ethos of meritorious recruitment, retention, reward and promotion in Singapore's public bureaucracy (Ho, 2000). The PAP form of meritocracy is often criticised as 'elitist' because it is entirely based upon the ability to pass exams and achieve paper qualifications (Chua, 1995). Given the relative size, presence and conditions of the Civil Service within the Singapore economy, the PAP meritocratic practice has therefore created a hierarchical

structure in terms of academic achievement and job opportunities¹³. The overall effect of meritocracy is therefore a constant awareness of one's own economic position in society. And this awareness is most vividly conveyed in comparison with other workers.

In the following quotes, we can see how 'competition' – albeit indirect competition – translates into awareness through constant 'comparison':

" ... pressure, ... society and family want you to do well. Therefore there are too many activities for every waking hour. ... I did not do well in school but my cousin did well and became a teacher. I was compared and judged all the time ..."

(Interviewee 10)

" ... It is a pressure cooker. You can feel that people are rushing round. They know this is not good, but they may not have a choice. If you ask them whether they would like to have an alternative, they may well say 'yes'. However, nowadays, school kids are getting it. I worry for them. Some of these kids are not able to keep up, though they may have other talent. Parents put pressure on them. Parents put them through [extra] tuition at night, weekend and so on. They don't have a normal childhood. In Singapore, the pressure is on the kids as well as the parents too."

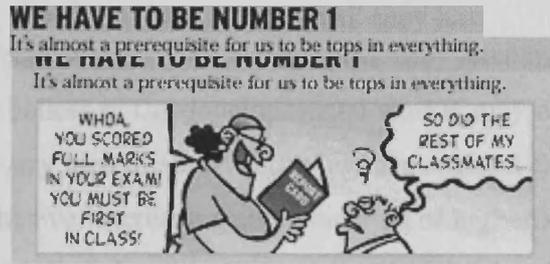
(Interviewee 7)

" ... Perhaps there was less competition in my school days. The parents might not ask what grades their children got from their exams. These days, they do! They compare results these days!! I noticed from the 1970s onwards, people started comparing results.... There is always the pressure to pass, but [I am not sure whether] this is same as the pressure to excel... From the 80s, 90s to today – 'comparing' is very important. Kids are always asked by adults!!"

(Interviewee 5)

The following cartoon from the Straits Times is 'typical' of parental pressure/drive for excellence:

¹³ In 2000, the AsianWeek Salary Survey shows that the Head of Government pay in Singapore was 2.5 times that of the US, at US\$ 43,365 per month. For details, see <http://www.asiaweek.com/asiaweek/magazine/2000/0317/cover1.html>



"What makes us unique?" by Lee Chee Chew, Straits Times, National Day Web Special, 9th August, 2001
<<http://straitstimes.asia1.com/mnt/html/webspecial/nday2001/identity.html>>

The preceding comments all show that the developmental workers and their children are well aware of their own presence within a 'system' – albeit a successful one – that success has created immense pressure to bring more success and the collaboration between the developmental worker and the developmental state means that before any alternative appears, the ever intensifying cycle continues. Within this condition, the next comment is very telling:

"... There appears to be a big system of stratification with so many levels in society. You constantly ask your self the question 'Where are you?'."

(Interviewee 1)

Some of the awareness has turned into soul-searching activities. This has made the developmental worker constantly questioning their own beliefs.

"... The virtue of education has changed over time. It was seen as good (i.e. an insurance policy). Now, it is too competitive and oppressive. Modern day children are thought to be pressurised into the grown-up world too soon – the whole idea of preparing yourself has gone horribly wrong. ... Now, I am financially secure. I am not worrying about not having enough money to afford my children's schooling. I am more worried about the kind of education system that we have and whether it has a high level of standard. I am not looking at survival in terms of financial income. Rather, I am concerned with the 'survivability' in a very high standard society."

(Interviewee 8)

The last comment reflects that the issue of 'survival' may have moved on in affluent Singapore, though the beliefs of the developmental worker may not. While survival is no longer a problem, the very idea of survivability against societal expectations (i.e. 'high standards') points to the ever increasing sophistication of higher skills, greater effectiveness and 'social discipline' that are expected of the developmental worker. Participation in itself may not be enough. By implications, the fruit of economic progress, instead of making life easier, may be making life a little harder. This reinforces the unintended consequences that we discuss above.

Another area of greater expectation is the whole area of worker skill upgrading. In Chapter Four, I showed how the skill base of the workforce was systematically upgraded to meet changing demand, and therefore helped create the emergence of the developmental worker. Many Singaporean workers have seen waves after waves of state-led skill 'upgrade' programmes. However, how important is this experience to the worker?

The following are two very typical comments from developmental workers:

" ... The government is always encouraging 'upgrading'. Even stock checking in supermarkets is now computerised. Things have moved on. As an adult educator, I am trying to help a lot of people who are unaware of the change. The major problem with less educated worker is that they lack the conceptual skill. The WISE students are the typical examples. ... (Because they are not doing the skill training full-time) ... they have 'compressed learning' – normally half of the time. They find it difficult. But they are scared of losing their jobs. They went along to upgrading [anyway]."

(Interviewee 3)

" ... If the government came out with another training programme, I would go along with that. Singapore is my root. ... It is not a matter of trusting the government. There is no reason to object to government training scheme. I would go along because I believe that it is necessary to have the new skill to live in Singapore."

(interviewee 8)

The above two very different comments demonstrate the common motives to go through government training schemes. One is the developmental worker's automatic instinct of maintaining gainful employment. Another is the developmental worker's systematic behaviour to keep up with ever changing skills demand. However, it is important to understand that all the above responses are underpinned by individual economic objectives and not an act of altruism. For others, the economic motive is even more explicit:

" ... There has been a lot of government training schemes. People are getting insensitised to the nature and intention of the schemes. People are thinking that the essence of the schemes are the same – just more and better skills. They cannot tell the differences in approach and emphasis. ... the frequent change and the speed can be a problem in themselves. ... (For some) the real motivation for training is about money or the opportunity to secure a better job. Therefore it can be said that there is a great deal of unwillingness to train in general. ... This is particularly the case with older workers. ... The younger ones may be prepared to look into the future. Still, the success of these schemes depends on the use of incentives."

(Interview 11)

The 'incentives' in the last comment refer to the use of the Skill Development Fund – a training levy. However, as argued by the above interviewee, to get the worker to continue to train all the time is not an easy task. This view is backed up two other comments:

" ... The government has done very well in taking the initiative. The SDF (Skill Development Fund) is very good as the subsidies. There are lots of grants to help you learn, and there are so many that some are not even known to most people. The government is good at creating the system."

(Interviewee 7)

"We also used quite a bit of SDF to train staff. We use it for BEST, WISE and CREST. ... but it is not easy to convince workers to study."

(Interview 12)

By now, it is evident that the developmental worker is constantly assessing the results of their participation and the relationship with the developmental state. The developmental worker can be motivated to take part, but their participation cannot be guaranteed. The developmental state has to work on the participation of the developmental worker constantly. Using incentives is just one of the examples; the other may involve giving stake holding to the developmental worker, as we will see in the next section. As a result, it is not surprising to see that the third theme emerging from these interviews is their overall assessment on the relationship between the developmental worker and the developmental state.

The Developmental State and 'Me'

Deyo (1987) once described the relationship between the developmental state and the worker as one of 'exclusion' – i.e. major decisions are made by the state and capital. As a result, the developmental state is seen to be acting independently of the 'constraints' of labour. Others (e.g. Chua, 1995) describe the relationship as 'paternalistic' because the developmental state plays two roles at once with the workers. On the one hand, the developmental state is benevolent when the children (the workers) abide by the parents' wishes and guidance. On the other hand, the developmental state has a set of disciplines to observe, failing which the children may be punished. Some others (e.g. Bloodworth, 1986) argue that the relationship between the developmental state and the worker is one of an 'authoritarian' in the sense that the developmental state is in a constant drive for 'absolute dominance'. Any dissent is systematically suppressed. Although the term of developmental worker was never used by any of the above authors, their views form a useful starting point of our analysis with the developmental worker.

From the interview data, the developmental worker sees their relationship with developmental state being slightly different from those proposed previously. It is fair to say that the previous analyses have touched on aspects of this relationship but all missed out the one perspective that is internalised by the developmental workers themselves,

and that is, the way in which the developmental worker constantly weighs up a wide range of personal experience in the course of Singapore's economic development and their relationship with the developmental state.

On assessing the relationship with the state, the first thing that most respondents would cite is the general appreciation of relative wealth that most workers enjoy. In many ways, this reflects the PAP's 'results-oriented' legitimisation process that we discussed in Chapter Five, i.e. results can be persuasive in gaining further cooperation and support from the developmental worker. And results can be internalised by the developmental workers with a positive *overall* impact. The following comments reflect this general position:

" ... I appreciate the government because it lifted people from poverty, giving people good housing, good education, good transportation infrastructure and opportunities to develop. ... Basically, there is not anything that I really do not like."

(Interview 8)

" ... I feel I have benefited from the 'system' through the heavily subsidised education. I used to ask how come the school fee was so cheap – S\$3 per month! Grown-ups would say that was because of the government subsidies. As a young kid, you would get to know these things because adults always talked about it."

(Interviewee 3)

" ... I was given opportunity to go through an education system which is publicly funded. We paid very little for primary and secondary education. Even at polytechnic, we paid very little. I was then given the opportunity to serve in the public sector in my first job. I have learnt that the basis of meritocracy works. Housing is very much subsidised. I also know that I am part of a nation building process – I have been given shares in telecommunication, in companies that I worked (MRTC). It has given me a great sense of belonging. I feel that this is where my family is; this is where my fortunes are. I have sunk a lot of investment in this society. Looking at it from my life experience, I have been rewarded for the effort that I put in. I contributed and received as much as I put in. That gives me the impression that this is one place that has taken care of me and my family."

(Interviewee 4)

" ... there is probably no other government in the world who has done as much as the Singapore government; in terms of reaching to each and every citizen; it is a

very planned process; right from the kindergarten; all forms of government agencies; plan in terms of 10-15 years ahead. ... Why foreigners criticise us? Lack of understanding, perhaps. For example, the US does not understand other brands of democracy; everyone must follow them. There are also cultural issues. After all, the average Singapore worker is rather conforming."

(Interviewee 12)

Nearly all these comments are derived from some form of comparison of the past and the present in terms of progress and benefits, tangible or not. It is very significant that all of these comments come from the older interviewees who have seen the difficult times in the 1960s, we can appreciate how they come up with these generally very positive statements. It is also important to remind ourselves that these statements were made after workers had internalised their own experiences. For some people, there is an even more straightforward answer:

" ... I once asked my father, who was in his 60s, which party he was going to vote in the coming election. He said, 'PAP lah! What else? Don't forget PAP got you jobs, food and a roof over your head! (Singlish)"

(Interviewee 3)

For the younger interviewees, the comments on their relationship with the developmental state are more diverse. Most of those comments actually reflect some of the concerns over the intense competition and the seemingly never-ending cycles of 'upgrading' that we discuss earlier on:

" ... The most frequent reason for leaving this country is the 'rat race'. Second reason is the greater opportunities out there. ... This country gives greater consideration towards the excellent people [talent], but leaving the average no career ladder. In a way, the top people have a career anywhere and do not need looking after. ... The people do feel that the government is doing good job from protecting us from external factors, e.g. Indonesia. They have all sorts of problems in Indonesia. People feel that the government has done a good job to keep racial harmony, though the minorities from time to time feel that they might have been sidelined. For example, the 'Speak Mandarin Campaign'. Mandarin speakers can go farther. The minorities feel that the Chinese have a head start. Although some

minorities do speak Mandarin because they decided to learn when they were young."

(Interviewee 7)

" ... Singaporeans are very proud of their country and the government. They feel that they have achieved something that not many other countries have achieved. But the SIA crash brought it home that we are not necessarily 'perfect'. People suddenly realised that it is an SIA plane, it cannot crash, but it did! ... So we feel that we are proud of our government, but they [the government] do not want to let go. ... They [the government] are under pressure from foreigners to have free speech. So we have this Speaker's Corner. The control may have eased off a bit now. But they are not all that sincere. Just look at the location. Nobody goes there. It's out of the way. It is open air under the hot sun with no shade. You cannot use a loudspeaker. You have no place to stand. You have to give notice on your topic, and then there is a police station next to the site. Within two weeks, nobody goes there."

(Interviewee 6)

The above statements are mixed as well as being very critical assessments about the developmental state. While it is evident that the developmental state has failed to meet those stated expectations, the criticisms are always accompanied by appreciation towards the state that is seldom seen in a lot of other countries. I would argue that this is the very feature of the relationship between the developmental state and the developmental worker - the deep appreciation accompanied by a strong sense of mixed feelings.

As wealth accumulates, a more recent phenomenon also starts mediating the relationship between the developmental state and the developmental worker – stake holding. When workers become stake holders within a capitalist system, this turns analyses which are based upon clear divisions between capital, labour, state, authoritarian and so on, upside down. Therefore, some of the past analytical framework may no longer be adequate in capturing the essence of the developmental worker.

For example, if the process of cooperation between the developmental state and the developmental worker has produced tangible results for the developmental worker, the developmental worker might be prepared to go through difficulties that others have

raised, and still regard the relationship as worthwhile and positive. A previous comment has already mentioned about his view on being given (MRTC – the underground system) shares by the state¹⁴. The following statements are also typical of stakeholding-based developmental workers:

" ... CPF at first was not a very good idea for me. I was rather mad with the contribution – 20% [of wages] ... I used to ask 'Why can't I invest the sum myself?' But when I got into other necessities, like housing. I started to appreciate the idea more. I think the government has been responsive to the people's aspirations. Now, you could use the fund for shares, education and medical insurance. The turning point was when I could use the CPF to buy an HDB flat, I could really feel the benefit of the idea and I began to view the facility more favourable. ... Now I started to take advantage of CPF. Now I could use the CPF to insure against my wife and my children. I had a change of mind completely. Now my take-home pay is not affected. I do not even look at it as 'forced saving' any more as I could exercise the fund in many purposes. For example, I could use it to invest in shares and see it grow. It is more like an investment for me. The interesting thing is that the capital sum has to stay with the investment. However, we can withdraw the interest earned and use it for something else. That adds to my disposable income."

(Interviewee 11)

" ... In the old days, the highest priority was jobs. Once we had that, 'materialism' came in. ... Then a lot of people wanted to save money. In the 1970s, the CPF was very high – 25%. The CPF could be used to buy HDB flats. Being an owner, the flat becomes a 'stake' of yours. You look back, you appreciate how much you have achieved."

(Interviewee 3)

Taking all these views into consideration, it seems to suggest that the relationship between the developmental state and the developmental worker has not been an easy one, even though progress is a tangible outcome that no one can deny. However, in order to maintain this relationship positively, it requires a lot of contextual pre-requisites and a lot of patience, sacrifices and involvement. The following comment from one of the

¹⁴ During a long spell of privatisation exercise of selling off government-linked companies (GLCs) in the 1990s, a great proportion of the shares were allocated to Singaporean citizens at discounted prices (with a proviso that they would hold the shares for at least 5 years).

interviews therefore sums up all the interviews and perhaps, some of the most important aspects that previous research has overlooked:

" ... Singapore is a good place to be a base. Security is good. To take advantage [of Singapore], you need to reach out to other places and things. There is a trade off. We do not completely dislike the government despite what Westerners think. We feel that we could do with less pressure. Pressure could get to you. They said the growth is 10 per cent. But unless you can enjoy the fruit of it, you do not see it. National achievements is the most proud thing for us - producing something from nothing ..., but you pay a price for it."

(Interviewee 7)

Chapter VIII: The Developmental Worker - Values and Beliefs

This chapter examines some of the fundamental aspects of the collective beliefs held by the developmental worker. Diagram 6-2 in Chapter Six shows that the interpretive process of the developmental worker leads to a set of collective beliefs, and it is these beliefs that drive a wide range of social actions on the part of the developmental worker. In the case of Singapore, the discussions on 'national values' and 'national ideology' have a long history that started from the early period of Independence¹. In fact, we can identify three periods in which the debate of national values underpin the efficacy of the developmental state as well as the relationship between the developmental state and the developmental worker:

- The 'ideology of survival/pragmatism' in the 1960s and early 1970s;
- 'Asian values' between late 1970s and mid-1980s, and;
- 'Communitarianism/shared values' in the 1990s.

This chapter will therefore be divided into two main sections. The first section will examine the issues arising out of the three periods of 'national values' debates. The second will examine the empirical evidence arising from my Workers' Values and Beliefs Survey (WVBS).

National Values in a Developmental State

It is important to recognise right from the outset that national values are a difficult concept in a country which has a relatively short history and whose population comprises mainly descendants of migrant workers whose ancestors were as diverse as a

¹ The terms 'national values', 'shared values' and 'collective beliefs' may be used inter-changeably as they refer to essentially the same concept but were adopted by politicians, academics and other parties at different times and in different contexts.

Chinese coolie from Southeast China, a Hindu Brahmin from Tamil Nadu, an Arab trader from the Middle-East and a Malay fisherman from Sumatra. In addition, in a developmental state, there is an obvious difficulty in separating workers' collective beliefs from that of state ideology because the two constantly interact with each other. The developmental state history of Singapore is full of examples of this kind of difficulty. As a result, a spectrum of views have been expressed on this subject. On the one hand, Clammer (1985, 1993) argues that, for all intents and purposes, national values have been replaced by state (developmental) ideology. On the other hand, some believe that, despite the strong developmental state ideological campaigns, national values exist in Singapore, and the relevant question is whether these are shared widely by Singaporeans and whether additional elements ought to be added to the (state proposed) national values (Quah, 1990). I will examine the relevant debates and studies in a chronological order. The understanding that can be derived from the historic events will help contextualise the quantitative data from the WVBS survey.

The 'idéology of survival/pragmatism' in the 1960s and early 1970s

Many of the interview comments in Chapter Seven describe the difficult and chaotic conditions in the early 1960s, i.e. the political upheaval with the pro-communists, industrial unrest, the loss of the 'Common Market' as a result of exiting from the Federation of Malaysia, high unemployment, racial riots and the external threats from Indonesia (under *Konfrontasi* between 1963 and 1966²). As discussed, these provided exactly the right background for the PAP to mobilise the masses in Singapore to build a new national focus – 'national survival'.

'National survival', in Lee Kuan Yew's estimation, would include effective leadership, sufficient economic and human resources and external recognition to safeguard

² See Chapter Seven.

Singapore's insufficient military strength³. This is reflected in S. Rajaratnam's (Foreign Minister) remark:

"... Whether Singapore survives or collapses will depend not so much on the fact that it may face difficulties as on whether we have the courage and determination to overcome them. ... We must also learn to understand the kind of problems we are likely to face and take measures how to meet the problems. ... In other words, what we need is a population with a new attitude."

(Rajaratnam, *The Mirror*, 1966)

In mobilising the population's sentiment behind the 'national survival' theme/ideology, the PAP leaders were able to construct a set of 'values' which were to influence the different subsequent debates on national values in the three decades to come. Firstly, the PAP leaders were able to secure an uncompromising support from the population for a multi-racial, multi-lingual and multi-cultural society, and this support lent weight behind Lee Kuan Yew's determination to deal very harshly with any political group which might make language, culture and race political issues (Chan, 1975)⁴. Two consequences can be identified after this event: a) This set an important precedent that in a developmental state environment, the dividing line between the population's collective values/beliefs and the state's ability to create an ideology became blurred. As time went by, it became even more difficult to distinguish between what was driven by the developmental state and what were genuinely the collective beliefs among the workers and citizens, as the developmental state's ideology became part of the 'way of life' of the ordinary citizens; b) Multi-cultural society has become one of the most important cornerstones in PAP's ideology/collective values.

³ One of Lee's immediate actions after Independence was to declare Singapore's neutral and non-aligned status in the hope that mass recognition would provide some sort of protection against Indonesia's military threats under *Konfrontasi*. I will not elaborate the subject here. For more detail see Chan (1975) on the slow progress on non-aligned movement and UN membership p. 42-44; also see Lee's memoirs Vol. 2, Ch. 17 on *Konfrontasi*.

⁴ The following discussion on early ideology building and implications for the emergence of national values is drawn mostly from work by Chan and various sources of local publication, such as *The Mirror*.

The second ideological exercise was the PAP's stress on the workforce being able to attain skills, knowledge, and most important of all, the discipline necessary to effect the requirements of Singapore's economic expansion (Straits Times, 2 July, 1966). The argument was based on PAP's view that Singapore was too small to influence events. It must be flexible and versatile enough to change with events. Hence, the PAP demanded workers to embrace the necessity to upgrade their skills constantly and back it with social discipline. This second theme of PAP ideology had two implications for the workers – not only were workers expected to be 'flexible' and capable of handling 'change', they would also have to sacrifice short-term rewards for long-term gains – a kind of 'social discipline' (Chan, 1975). The state's expectations of citizens were readily expressed by the Lee Kuan Yew's comments:

"... by 'right values', I mean the values that will ensure you a reasonably secure, a relatively high standard of living which demands a disciplined community prepared to give of its best and ready to pay for what it wants."

(Quoted from Tamney, 1988: 116)

Some may argue that the events during this period were 'common sense' politics, given the need to consolidate a recently established country (Vasil, 2000). On the other hand, one could argue that this was the beginning of a long series of state ideology building (Hill and Lian, 1995). After all, there were more similar state-driven national values to come in the following two decades. On balance, however, even if these early events were accepted as significant, there was little evidence in the literature to show that a set of collective values/beliefs had been established and shared as such during this time. There was no empirical research on the subject for this period.

'Asian values' between late 1970s and mid-1980s

The 1970s saw rapid industrialisation and growth in Singapore. Accompanying these events was increasing concern over changes within society. The concern was mainly centred around the consequences of 'westernisation' (Hill and Lian, 1995). Ironically, it was the very success of Singapore that opened up the interface between the populace in Singapore and western cultures. The PAP government attributed the 'crisis' to the open nature of the Singapore economy and the use of English as the main language for communication among the races and with the outside world. It was thought by the authorities that many of the 'western' influences would dilute the 'core values' of the Singaporean society that had made Singapore so successful in the decade after Independence (Goh, 1979). Kuo summed up the concern succinctly:

" ... By the late 1970s, when most of the basic needs of the population had been satisfied, ... there emerged a new and increased concern over the non-material [social and cultural] dimensions of nation building. Alarmed by increasing [or at least socially more visible] numbers of crime, delinquency, drug-abuse, abortion and divorce [and despite the fact that ... such indicators were comparatively low in Singapore ...], there emerged a collective sense of moral crisis, calling for collective action."

(Kuo, 1992)

Up to this point, there had been no specific definition of the notion of 'core values'. However, the publication of two official reports put the term into the regular academic and political debate in the next ten years to come. These reports were the Goh Report on Education Reform and the Ong Report on Moral education (Hill and Lian, 1995).

The Goh report was mainly concerned with " ... the dangers of secular education in a foreign tongue [... leading] to the risk of losing the traditional values of one's own people and the acquisition of the more spurious fashions of the west. ... " (Goh, 1979: 1-5). The recommended solution to these 'dangers' was to incorporate the teaching of the historical origins of culture for all three races in Singapore.

The Ong Report drew lessons from moral education from the Taiwanese, the Russians and the Japanese, and recommended that not only would moral education be desirable for the inculcation of traditional Asian moral concepts, values and attitudes, the most efficient means for such moral training would be via the mother tongue. In addition, the Report argues that religious studies would reinforce the teaching of moral values without necessarily diluting the desire to be economically successful. This specifically referred to the entrepreneurial values portrayed by Weber's Protestant work ethics and capitalism (Weber, 1970). Consequently, the syllabus for moral education developed rapidly in the early 1980s with input from religious bodies (Gopinathan, 1988).

As a result of the acceptance of the two Reports, the 1980s saw massive changes in the education sector. One aspect of the education reform is worth mentioning – the particular emphasis on the teaching of Confucian ethics. The rationale behind the adoption of Confucianism into the syllabus had its origins in observing other successful Asian countries, e.g. Hong Kong, Taiwan and South Korea, who also had a strong cultural tradition in Confucianism. The PAP thought that in those cases, the Confucian ethics played a similar role to that of the Protestant ethics in the west – a kind of 'cultural ballast'. The 'cultural ballast' would have two functions. Firstly, it could be used to hold your 'own culture' when encountering others. This was thought to be particularly useful when the Singaporeans had to interface with the western world constantly through the use of English. Secondly, Confucianism emphasises hard work as well as collectivism through social obligations (Hill and Lian, 1995). As a result of the above thinking, the PAP was very much in support of the effort of the 'Asian Values' movement in Singapore during this period. Some of the efforts were translated into concrete actions such as the 'National Courtesy Campaign', 'Senior Citizens' Week' and many other socially/value oriented activities (Kuo, 1992).

Two implications are worth noting: 1) the dividing line between developmental state ideology and the developmental workers' collective beliefs continued to be blurred, if not more so. Some of the concrete actions ventured into the social domain of the workers – social engineering for a better and more disciplined workforce; 2) the developmental

state and developmental worker relationship continues to be mediated and defined by the tension between the developmental state's understanding of the national values and that among the developmental workers.

It is significant that after years of working very closely with the developmental state under the 'survival ideology' during the early stages of growth, the developmental worker may have 'embraced' (internalised) some of the 'values' discussed so far. The research up to this point does not provide any clue as to whether collective beliefs had emerged among the developmental workers/ordinary citizens, nor does research tell us how much of the imposed initiative has remained a political ideology and how much of it has never been internalised by citizens in Singapore. The interview data in Chapter Seven show that some workers genuinely believe that Singapore's progress owes a lot to the developmental state and developmental worker partnership as well as to the pragmatic approaches that the PAP leadership provided. However, the interview data also show a great deal of dissatisfaction among workers in areas such as individual aspirations. In other words, some developmental workers are looking beyond the successful working relationship with the developmental state. Indeed, the dichotomy of 'collectivity vs. individualism' remained a source of contention in the years to follow and remains a dilemma today.

'Communitarianism/shared values' in the 1990s and today

The pre-cursor of the latest round of collective values debates can be dated as October, 1988 when, the then Deputy Prime Minister, Goh Chok Tong spoke to the PAP youth wing on the issue of the emerging 'dangers' that young Singaporeans faced. Deriving his argument from a book written by Lodge and Vogel (1987), especially on the opposing concepts between 'individualism' and 'communitarianism', Goh raised serious concern about societal developments during the period. Goh argued that:

“ ... There has been a clear shift in our values [from communitarianism to individualism, especially among the young] ... If individualism results in creativity, that is good, but if it translates into a ‘me first’ attitude, that is bad for social cohesion and for the country. ... The question is how to preserve them [our core values] when daily we are exposed to alien influences. My suggestion is – formalise our values in a national ideology and then teach them in schools, the workplace, homes, as our way of life. Then we will have a set of principles to bind our people together and guide them forward.”

(Goh, 1988: 13-14)

Lodge and Vogel’s book on *Ideology and National Competitiveness* makes a simple two-category grouping of national ideologies – communitarianism and individualism – among nine countries. They argue that communitarianism commands competitiveness superiority because western individualism inevitably leads to an ‘adversarial’ society and the different interest groups (e.g. management and labour) pursue their self-interest in ‘getting a larger share of the pie instead of a larger pie’ (Lodge and Vogel, 1987).

In January 1989, the Minister of Trade, Lee Hsien Loong formalised the four ‘core values’ to counter western individualism which were later incorporated into the *White Paper on Shared Values* in January 1991, expanding the four items to five⁵:

- Nation before community and society above self;
- Family as the basic unit of society;
- Regard and community support for the individual;
- Consensus instead of contention;
- Racial and religious harmony.

The significance of the event is that after years of debates and arguments, a set of national ‘shared values’ was formalised in statute for the first time. However, it is

⁵ Further amendments were made in 1993 when Parliament debated the White Paper and later adopted the five statements as the nation’s ‘Shared Values’.

important to remind ourselves that the main thrust of the collective values/beliefs debate throughout the different periods has been about the ‘ability to make economic progress’, and collective beliefs as such have been viewed within that context. As a result, the continuous skills upgrade (Tamney’s quote on Lee) and the communitarianism emphases (including the current five ‘shared values’) could be argued to be means to other ends, and not collective beliefs as such. However, it is equally difficult to distinguish between whether these ‘shared values’ are taken as means to an end or if they are indeed, ends in themselves. For similar reasons, the argument over whether these values are ‘collective beliefs’ or ‘political ideology’ will continue. Clammer (1993) argues that these values are inconsistent⁶ and the way that these values have been put together is consistent with the dominant political culture – the developmental state, and after all, the five shared values were proposed on the basis that Goh termed the ‘National Ideology’ in the 1980s. Clammer may have a point. However, as I have argued in the earlier section, the evidence of our interview data and local studies show that the picture is far from clear. Indeed, Clammer (1993: 46) also suggests that the debate has reached a stage in which the most interesting result would be to look at “the extent to which this vision (the ‘shared values’) is in fact shared by the Singaporean populace”.

I will now proceed to explore the extent to which our Workers’ Values and Beliefs Survey (WVBS) has provided us with additional information to inform existing knowledge on the subject.

Empirical Analysis on National Values of the Developmental Workers

While there have been debates on Singaporean ideology/collective beliefs, there is a paucity of empirical analysis on the subject. Fewer still, are studies based on large scale

⁶ For example, one of Clammer’s criticisms was that while the ‘Shared Values’ encouraged consensus and not conflicts, there was no mechanism to produce consensus, e.g. trade unions (p. 42). There was clearly a presumption that the absence of a western type of trade union or similar mass organisations would automatically preclude consensus from happening.

surveys. As a result, the concept of the collective beliefs of developmental workers remains largely conceptual in nature.

Two existing survey-based studies are partially relevant to my analysis, though none was directed specifically at an analysis of workers' values and beliefs. I will only briefly bring out some of the relevant findings of these studies but will not return to them in the course of my analysis as it is not possible to compare my current study with those previous ones, like for like⁷.

The first study that touched upon individuals' values in Singapore was Chiew's (1990) study of national identity, ethnicity and national issues⁸. This study involves 706 individuals polling on questions which cover race relations, marriage, religions, political awareness, emigration intention. The study found that 'mutual dependence' among the three ethnic groups was needed and acknowledged for defending Singapore from external threats, economic progress and improving the quality of life. Most Singaporeans believed that Singapore was 'over-regulated'. Most were aware of national issues but few felt that they had taken sufficient interest in them, and just under half of the respondents described themselves as 'politically alienated'. About 15 per cent of the respondents had considered emigration, and this group of respondents tended to be young, single, better- and English-educated, feeling 'politically alienated' with higher incomes. Although Chiew's study did not address workers' collective beliefs as such, the findings brought some useful pointers. For example, there may exist a sense of collectivism for economic and social reasons. The issues of 'over-regulation' and

⁷ There is actually a third large-scale national study on youth values and lifestyles between 1995 and 1996 by Chew *et al*, covering 1047 pre-university students. Some of the questions in this study did cover education, family values, work and thrift attitudes. However, Chew's *et al*'s sample was restricted to a narrow age group of young adults who had yet to enter into full-time employment. In addition, the majority of the questions concern career aspirations and leisure. Thus, it is felt that this study does not provide comparable results for comparison with my current study. I have therefore excluded Chew *et al*'s study in the following discussion.

⁸ The actual survey was carried out with Tan Ern Ser in 1989 on behalf of the Institute of Policy Studies (IPS).

emigration echo our interview data in Chapter Seven. The fact that 15 per cent of the respondents had thought of emigration, especially among certain groups, may be indicative of the difficult relationship between the developmental state and the developmental worker.

The second survey on 'values, aspirations and lifestyles' was carried out by Kau *et al* (1998) in 1996, involving 1,525 respondents. This study has a number of useful topics such as family, social and work values. Despite these topics and the use of factor analysis to identify value dimensions, Kau *et al*'s study is not strictly comparable with my current study. The main reason is due to Kau *et al*'s pre-occupation with replicating the American lifestyles research by Mitchell (1983), using the American Values, Aspirations and Lifestyles (VALS) inventory which has a lot of questions on how people live, work, spend time on leisure etc. However, part of Kau *et al*'s study estimated a 'Singaporean' Value System', which is worth citing for comparison with my own effort deriving from the Workers' Values and Beliefs Survey. Kau *et al* factor analysed 55 variables and came up with 6 dimensions of values & lifestyles orientation:

- Family values (kinship and relationship)
- Entrepreneurial spirit (creativity, confidence, change and taking risks)
- Social status (perceptions and 'face')
- Traditional values (women's role, marriage and elders)
- Materialism (money, wealth and other 'worldly yearnings')
- Society (protection of society and environment)

Of the 6 dimensions, only 'family values' and 'entrepreneurial spirit' have some relevance to my current study in the sense that family is expected to have an important influence over an individual's decisions in life events and that Kau *et al*'s 'entrepreneurial spirit' measures included a couple of items concerning the behaviour of working, e.g. working 'smarter' rather than 'harder' and yearning for achievements. In essence, both Chiew's and Kau *et al*'s studies revealed aspects of individuals' beliefs in

Singapore. However, neither Chiew's nor Kau *et al*'s studies dealt with workers' collective beliefs specifically.

In the following empirical analysis, I will divide WVBS study into the following sub-units:

- The sample profile;
- The underlying dimensions of the developmental workers' value and beliefs system;
- The sharing of collective beliefs.

The Sample Profile

The WVBS received 802 returns from workers who were drawn from a sampling frame as described in Chapter Six. Allowing for missing values, Table 8-1 describes the sample profile. Comparing my sample to that described by data supplied by the Productivity and Standards Board (PSB) and statistics from the Singapore Year Books 1999 and 2000, the WVBS sample contains slightly more females, less Chinese, less professionals, more trade union members and workers aged 26-34 workers. However, the differences are generally within a few percentage points in all cases and the current sample could be regarded as very close to the population profile. However, I will test the sensitivity of the results against a weighted sample as a matter of caution.

Table 8-1: The Sample Profile

	%	Valid Cases
Gender		791
Male	43.2	
Female	56.8	
Marital Status		791
Single	37.2	
Married	59.9	
Others	2.9	
Race		791
Malay	16.8	
Chinese	70.3	
Indian	10.4	
Other	2.5	
Housing Type		780
HDB Flat	82.3	
Private	15.5	
Other	2.2	
Highest Qualification		782
Primary education	4.9	
Secondary education	39.4	
Degree/Diploma	55.8	
Professional Qualification		787
Yes	34.8	
No	65.2	
Occupation		774
Professional & technical	21.1	
Managerial	13.6	
Other workers (with supervisory responsibility)	22.6	
Other workers (without sup. Responsibility)	42.7	
Industrial Sector		797
Private sector	72.4	
Public sector	26.6	
NGO and others	1.0	
Trade Union Membership		791
Yes	23.3	
No	76.7	
Age		789
Up to 25	14.1	
26-34	35.6	
35-59	48.8	
60 or over	1.5	

N = 802

The underlying dimensions of the developmental workers' value and beliefs system

The WVBS study collected data on 33 value/belief type of responses. As explained in Chapter Five, these value/belief statements are derived mostly from the interviews and discussion groups with a few informed by the literature. Necessary adjustments were made after the questionnaire was piloted twice and subject to one group discussion on the feedback between the two pilots. An 'ordinal' summated scale of 5, ranging from 'Strongly agree'(1), 'Agree'(2), 'Neutral'(3), 'Disagree'(4) to 'Strongly disagree'(5) are used to measure the value/belief statements. Table 8-2 shows the descriptive statistics of these 33 statements:

Table 8-2: Descriptive Statistics of the Values and Beliefs of Singapore Workers

Values and Beliefs	Mean	S.D.	N
Education qualifications tend to reflect the ability of an individual	2.58	1.05	798
Strong emphasis on examinations is useful in ensuring high standards of education	2.67	1.02	797
Lifelong learning is important for employability	1.72	.87	801
Strong emphasis on examinations is useful in encouraging creativity and problem solving	3.03	1.06	789
The education system is designed to support national economic competitiveness	2.22	.84	798
The education system has been useful for my own development	2.27	.87	795
Continuing education for workers through public schemes (e.g. WISE, BEST etc.) has been important for promoting further learning	1.95	.75	800
Education qualifications provide better job opportunities	1.78	.80	798
I have a good understanding on issues of national importance	2.44	.82	787
The most important purpose of education is for self-development or personal growth	2.05	.91	799
It is important that trade unions work with employers and the government towards national economic objectives	2.13	.83	798
A good worker should be able to adapt to new skills	1.74	.77	800
We are part of a national team constantly improving and supporting our national competitiveness	2.08	.75	799
Financial support by employers or by the government could influence my decision to undergo training and re-training	1.83	.85	799
Encouragement (e.g. time-off or flexi hours) by employers could influence my decision to undergo training and re-training	1.82	.80	800
Employers are equally concerned with workers' welfare	2.67	.95	800
Lifelong learning is important for national economic objectives	1.98	.78	793
Education qualifications are important in promoting self-development	2.13	.81	795
Vocational training (e.g. ITE) is designed to support national economic competitiveness	2.23	.73	796
The National Wage Council is effective in protecting workers' interests	2.63	.84	799
Economic development has benefited me	2.32	.77	782
My basic needs are more than just an HDB flat, food and basic education for my children (if any)	2.15	1.01	798
Most economic policies take time to bring results	2.15	.72	800
I believe that it is important for workers to be involved in national workforce development decisions	2.28	.74	800
CPF is important for meeting future needs	1.81	.89	796
We are part of a national team constantly ensuring the survival of the Singaporean nation	2.10	.74	791

Values and Beliefs (Cont.)	Mean	S.D.	N
Economic development has benefited my family	2.22	.80	794
Having a view of your own is an important quality of a good worker	2.09	.77	790
Continuing education for workers through public schemes (e.g. WISE, BEST etc.) can improve workforce effectiveness	2.01	.71	794
It is important for workers to be loyal to the employers	2.41	.84	783
National security stability is the foundation of economic success	1.91	.75	782
Lifelong learning is important for personal development	1.81	.73	784
National economic survival is more important than personal achievement	2.56	.86	780

Notes: 'Strongly agree' – 1, 'Agree' - 2, 'Neutral' - 3, 'Disagree' – 4, 'Strongly disagree' – 5.

Table 8-2 shows that the full range of the responses ranges from 1.72 to 3.03 in a scale of 5. One obvious feature of the value statements above is the pattern of agreement with the statements (with means between 1 and 2). Also, most of the value statements have relatively small standard deviations, implying that most of the responses ‘bunch up’ around the means. The few value statements with lower degree of agreement include:

“Strong emphasis on examinations is useful in encouraging creativity and problem solving”

“Employers are equally concerned with workers’ welfare”

“Strong emphasis on examinations is useful in ensuring high standards of education”

“The National Wage Council is effective in protecting workers’ interests”

“Education qualifications tend to reflect the ability of an individual”

“National economic survival is more important than personal achievement”

The high agreement value statements include:

“Lifelong learning is important for employability”

“Education qualifications provide better job opportunities”

“A good worker should be able to adapt to new skills”

“Lifelong learning is important for personal development”

“CPF is important for meeting future needs”

“Encouragement by employers could influence my decision to undergo training and re-training”

“Financial support by employers or by the government could influence my decision to undergo training and re-training”

Under a simple inspection, the differences in Table 8-2 appear to suggest that lower agreement is associated with the developmental state ‘system elements’, e.g. wage control through the National Wage Council, the meritocracy system through rigorous application of examinations and collectivism. At the same time, there is a relatively higher degree of agreement on the items that are more concerned with ‘preparing

individuals for the future', especially through continuing learning and skills. However, this simple interpretation is not safe as the pattern is one of high degree of agreement with the majority of the values, and most of these values are 'collective', 'long-term' types of statements. In other words, we cannot jump to any conclusion on those arbitrary divisions.

To gain more insights into these values, one could break down all these value statements and see whether important structural variables such as age, gender, race, occupation and so on may make a difference in these values. However, this appears to be an inefficient way of analysing 33 value/belief statements and at least 10 other structural variables at once. I therefore propose a factor analysis (i.e. data-reduction) strategy to explore the existence of a set of underlying dimensions of collective beliefs (shared by the developmental workers) deriving from the 33 value/belief statements. This will enable the study to analyse the relationship between these dimensions of collective beliefs and the structural variables. This empirical exercise will also enable the analysis to explore the profile of the developmental worker and some specific aspects of Durkheim's concept of collective beliefs.

As a data analysis tool, factor analysis is chosen for two important reasons. Firstly, factor analysis provides a simple statistical method of summarising a large volume of data (Rummel, 1970; Kline, 1994). Secondly, factor analysis provides a heuristic aide to facilitate the study of a complex idea (Field, 2000). In the current study, collective beliefs could potentially refer to a variety of value statements. However, if the result of factor analysis could generate just a few meaningful dimensions, for example, 'planning for the future', we might be able to use the dimensions as a *heuristic* tool to help understand a variety of behaviours of the developmental worker, even though no 'planning' actually took place. In this respect, Kerlinger (1986: 689) describes factor analysis as "one of the most powerful tools yet devised for the study of complex areas of behavioural scientific concern". However, the ability of factor analysis to explore a vast volume of data also provides a potential source of criticism.

The first criticism concerns the dimension structures (or ‘factors’) yielded by an exploratory factor analysis being determined by the mechanics of the methods employed (Mulaik, 1987). For example, at the stage of factor extraction, different methods are available. They are comparable but they have different assumptions and analytical strategies⁹. The current analysis will adopt the most commonly used Principal Components method and indeed, the (VARIMAX) rotation procedures described by Field (2000) in order to avoid additional methodological complication. In this respect, factor analysis could be criticised for not yielding a ‘unique’ solution in the statistical sense, though it remains an ideal tool for theory-generating analysis (Stevens, 1996).

Two more criticisms are generally levelled against exploratory factor analysis, though these criticisms are also applicable to many other statistical tools. Hence, the second criticism lies in the interpretation of the results once the dimensions have been extracted. The interpretation of dimensions measured by a few variables can be difficult if the researcher lacks *a priori* (background and contextual) knowledge and therefore has no basis on which to make a meaningful interpretation. This is crucial in the procedure of generating theory (Nunnally, 1978). In the current study, my extensive discussions on the relevant background and contextual information are the only way to ease this difficulty. The last criticism concerns the fact that factor analysis is based on a linear model, appropriate for data with an underlying linear relationship. However, this is an assumption made by many statistical tools because it is a reasonable assumption in the absence of better information. The appropriate caution to take, as in other linear models, is to assess the usefulness of the assumption when the results emerge.

The Reliability of the WVBS Data

Before the commencement of a factor analysis, it is useful to assess the reliability (or internal consistency) of the data. Reliability comes to the forefront when value

⁹ One could choose from the most commonly used Principal Components method to others such as Generalised Least Squares, Maximum Likelihood and Alpha Factoring.

statements such as those in the WVBS data are derived from ‘summated scales’ which are then used in predictive models, e.g. our modelling of the sharing of collective beliefs in the next section. Since summated scales are a collection of interrelated items designed to measure underlying (unobserved) dimensions, it is very important to know whether the same set of items would elicit the same responses if the same questions were re-administered to the same respondents. Value statements will therefore be deemed as ‘reliable’ only when they provide stable and reliable responses over a repeated administration of the test. For this purpose, the study adopts the common technique of Cronbach’s Alpha (α)¹⁰. Cronbach’s Alpha is a coefficient that describes how well a group of items focuses on a single idea or construct. This is called ‘inter-item consistency’. Cronbach’s Alpha assumes that there is only one construct being measured.

Cronbach’s Alpha can be written as a function of the number of value statements and the average inter-correlation among them:

$$\alpha = \frac{rk}{[1 + (k-1)r]} \quad (1)$$

Where r is the mean of the inter-item correlations and k is the number of value statements. Table 8-3 reports the Alpha values for all the value statements from the WVBS questionnaire.

¹⁰ In practice, Cronbach's Alpha is the average of all possible split half reliabilities for a set of items. If we have 10 statements, then items 1-5 versus 6-10 would be one split, evens versus odds would be another. In fact, there are 252 possible split halves for this test. If we compute each of these split half reliabilities and averaged them all, this average would be Cronbach's Alpha. For further details and SPSS code, see <
<http://www.oac.ucla.edu/stat/spss/faq/alpha.html>>

Table 8-3: Cronbach's Alpha for the 33 Value Statements form the WVBS Questionnaire¹¹

	Mean of the inter-item correlations	Cronbach's Alpha (a)
ED_ABITY	.4214	.9305
EXAM_STD	.4047	.9306
LLG_EMP	.4454	.9298
EXAM_CRE	.3382	.9317
ED_COMPE	.5484	.9286
ED_OWDEV	.5355	.9287
SCH_LEAR	.5942	.9282
EDQU_JOB	.5882	.9282
UND_ISSU	.5126	.9290
ED_SELF	.4408	.9299
TUEMP_WK	.5935	.9281
GDWK_SKI	.6077	.9280
NAT_TEAM	.6210	.9279
FIN_TRNG	.5273	.9288
ENC_TRNG	.5254	.9289
EMP_WELF	.3935	.9306
LLG_NAOB	.6042	.9280
EDQU_SEF	.6064	.9280
VOC_NAOB	.6024	.9281
NWC_INT	.5457	.9286
DEV_ME	.6201	.9279
NEEDS	.3886	.9308
POL_TIME	.4625	.9295
DECI_INV	.4942	.9292
CPF_NEED	.5901	.9281
TEAM_SUR	.6826	.9273
DEV_FAM	.6100	.9280
VIEW_GD	.4784	.9294
SCH_EFF	.6750	.9275
LOYALTY	.4529	.9297
SECURITY	.5591	.9286
LLG_PERS	.5769	.9284
SURV_IMP	.4461	.9298

¹¹ See Appendix A for the explanations of the variable names.

be considered desirable (Ferketich, 1991). Table 8-3 shows that the inter-item correlations of our data fall into the range of $0.38 < r < 0.68$. It was found that value statements that correlated below 0.3 would not be sufficiently related and therefore would not contribute to measurement of the underlying dimensions and that items that correlated over 0.7 would be redundant and probably unnecessary (Ferketich, 1991). In the current study, the value statements are found to be 'compact' enough to be useful for exploratory factor analysis. For Cronbach's Alpha, any value above 0.7 shows that the value statement has good internal consistency and reliability (Björkström and Hamrin, 2000). All of the values statement in the WVBS survey are high, being above 0.9. The data are therefore deemed to be 'reliable'.

The Underlying Dimensions of Workers' Values and Beliefs in Singapore

Having tested the reliability of the value items, the 33 values items from the WVBS data were factored analysed using the principal components method with the (extraction threshold) Eigenvalues set at 1 (Field, 2000). The first stage factor extraction yielded six dimensions of workers' collective beliefs. At the second stage, an orthogonal rotation procedure (VARIMAX in SPSS v. 10) was used to produce maximum factor loading on each of the six dimensions of workers' collective beliefs. As a result of the rotation, the six dimensions explain a total of 54 per cent of the variance in the WVBS data. Table 8-4 reports the factor analysis results.

Table 8-4: Factor Analysis on Workers' Values and Beliefs

Dimensions of workers' values	Factor loading	Common alities	EV	Var
Dimension 1: Continuing learning and worker effectiveness (Cronbach's $\alpha = 0.85$)			10.55	12.57
Lifelong learning is important for employability	.631	.513		
The most important purpose of education is for self-development or personal growth	.614	.515		
Continuing education for workers through public schemes (e.g. WISE, BEST etc.) has been important for promoting further learning	.590	.515		
Lifelong learning is important for personal development	.568	.550		
Education qualifications provide better job opportunities	.545	.514		
Lifelong learning is important for national economic objectives	.534	.562		
A good worker should be able to adapt to new skills	.511	.530		
Continuing education for workers through public schemes (e.g. WISE, BEST etc.) can improve workforce effectiveness	.497	.546		
It is important that trade unions work with employers and the government towards national economic objectives	.445	.461		
Dimension 2: Economic survival (Cronbach's $\alpha = 0.81$)			2.5	9.68
Economic development has benefited my family	.744	.681		
Economic development has benefited me	.664	.604		
National security stability is the foundation of economic success	.565	.557		
We are part of a national team constantly ensuring the survival of the Singaporean nation	.518	.580		
CPF is important for meeting future needs	.477	.457		
Dimension 3: Getting involved/worker participation (Cronbach's $\alpha = 0.72$)			1.5	9.43
I believe that it is important for workers to be involved in national workforce development decisions	.657	.517		
Most economic policies take time to bring results	.650	.531		
I have a good understanding on issues of national importance	.524	.580		
Having a view of your own is an important quality of a good worker	.491	.374		
We are part of a national team constantly improving and supporting our national competitiveness	.465	.500		
My basic needs are more than just an HDB flat, food and basic education for my children (if any)	.423	.436		
Dimension 4: Believing in the benefits of education (Cronbach's $\alpha = 0.78$)			1.1	8.78
Strong emphasis on examinations is useful in ensuring high standards of education	.800	.667		

Dimensions of workers' values (cont.)	Factor loading	Common alities	EV	Var
Strong emphasis on examinations is useful in encouraging creativity and problem solving	.731	.629		
Education qualifications tend to reflect the ability of an individual	.664	.509		
The education system has been useful for my own development	.564	.532		
The education system is designed to support national economic competitiveness	.445	.470		
Education qualifications are important in promoting self-development	.399	.445		
Dimension 5: Symbiotic relationship with the authority (Cronbach's $\alpha = 0.72$)			1.1	7.74
Employers are equally concerned with workers' welfare	.670	.531		
The National Wage Council is effective in protecting workers' interests	.595	.569		
It is important for workers to be loyal to the employers	.565	.434		
National economic survival is more important than personal achievement	.512	.501		
Vocational training (e.g. ITE) is designed to support national economic competitiveness	.386	.451		
Dimension 6: Need for continuing support (Cronbach's $\alpha = 0.83$)			1.0	5.86
Financial support by employers or by the government could influence my decision to undergo training and re-training	.806	.799		
Encouragement (e.g. time-off or flexi hours) by employers could influence my decision to undergo training and re-training	.797	.786		

Notes: EV – Eigenvalues.

Var – Variance explained by the dimension

To interpret and label the dimensions that factor analysis arrives at, it is important to make use of all the discussions that we have conducted up to this point. This will enable the meaningful labelling of dimensions. In turn, the dimensions will form the heuristic tools for further analysis on the collective beliefs of the developmental worker (e.g. the sharing of collective beliefs).

Dimension 1: Continuing learning and worker effectiveness

The dimension as a whole explains 12.57 per cent of the variance of the WVBS data with an internal consistency of $\alpha = 0.85$. I label the dimension ‘continuing learning and worker effectiveness’ because value statements in this group are all pointing at the importance of lifelong learning, new skills, government skill upgrading schemes, education and jobs, and the way that the trade union working with employers and the government in Singapore. The last point needs further explanation. There is only one trade union in Singapore – the National Trade Union Congress (NTUC). Ever since the publication of a detailed memorandum by Goh Keng Swee (Finance Minister) in October 1960, entitled *The Labour Movement and Industrial Expansion*, the role of the trade union has been changing. With the introduction of two major Bills (Employment Bill and Industrial Relations Bill) in 1968, the trade union’s role has been established as one of assisting industrial expansion, through a close working relationship with employers and the government. Initially, ‘industrial peace’ was an important element (Vasil, 2000). In the 1970s, the NTUC’s role expanded to a wide range of welfare, education and civic functions for the workers. Most of these functions have workers’ effectiveness in mind¹².

¹² The current ‘Five Pillars’ of the NTUC movement include: Enhance Workers’ Employability for Life (skills upgrading); Strengthen Competitiveness (effective working relationship with employers and the state); Build Healthy Body, Healthy Mind (recreation); Care More, Share More (citizen welfare) and Develop a Stronger Labour Movement (growth of NTUC). Further details, see <<http://www.ntuc.org.sg/myunion/5pillars/5pillars.html>>.

Dimension 2: Economic survival

Like the first dimension, this dimension has a high internal consistency (Cronbach's $\alpha = 0.81$). The dimension explains 9.7 per cent of the total variance of the WVBS data. All the value statements in this group reflect the importance of economic well-being in both general and long-run terms. Therefore, I label this 'economic survival'. Also, many of the discussions so far have highlighted the constant pre-occupation with the issue of 'survival', although in more recent times, the issue may have moved on to one of 'survivability' as emphasised by one of the worker interviews in Chapter Seven.

Dimension 3: Getting involved/worker participation

The third dimension has the lowest Cronbach's Alpha ($\alpha = 0.72$), though it is still above the threshold of good internal consistency. The dimension explains 8.78 per cent of the total variance in the WVBS data. The value statements in this dimension seem more 'diverse'. However, they appear to be describing the role of the worker from different aspects, ranging from having a view, knowing 'what goes on', getting involved and what the worker wants to get out of the participation. Hence, I label this dimension 'getting involved and worker participation' or just 'worker participation' for short. Chapter Seven has many narratives describing the different aspects of the workers' views on their participation. This appears to be an important dimension of the developmental worker – a form of stake-holding through participation.

Dimension 4: Believing in the benefits of education

The fourth dimension of the workers' values has good internal consistency (Cronbach's $\alpha = 0.78$), and explains 8.8 per cent of the variance in the WVBS data. All the value statements in this group concern the value of education, in one form or another, to the worker. Of course, I have already discussed at length in Chapter Seven the ways that in which workers in Singapore look at education and what it

means in their life plan and life chances. Therefore, I label this dimension 'believing in the benefits in education' or just 'benefits of education' for short.

Dimension 5: Symbiotic relationship with the authority

This is one of the most interesting dimensions in the data factoring exercise. The fifth dimension has an above-threshold level of internal consistency (Cronbach's $\alpha = 0.72$), explaining 7.7 per cent of the values and beliefs variations in the WVBS data. At first glance, the group seems to be made up by very 'different' value statements. However, upon closer inspection, these value statements are describing the workers' trust and willingness in interacting with the authority (or the developmental state system) in the different circumstances. This dimension is consistent with the numerous examples in Chapter Seven, describing the ways that individuals work with the developmental state and constantly face the dilemma that the developmental state policy might be at odds with the workers' decisions and aspirations. Still, in the end, the worker gives the benefit of the doubt to the state because they *trust* that, on balance, such a 'symbiotic' relationship may work out in the end, as it has done in the past. Hence, I label this dimension the 'symbiotic relationship with the authority'¹³.

Dimension 6: Need for continuing support

This last dimension has a very high internal consistency (Cronbach's $\alpha = 0.83$), despite the fact it has only two value statements in the dimension¹⁴. However, this dimension only explains 5.9 per cent of the data variance. Thus, it appears to be less important than other dimensions. At the literal level, the two value statements in this dimension seem to describe the conditions in which the worker is willing to undergo

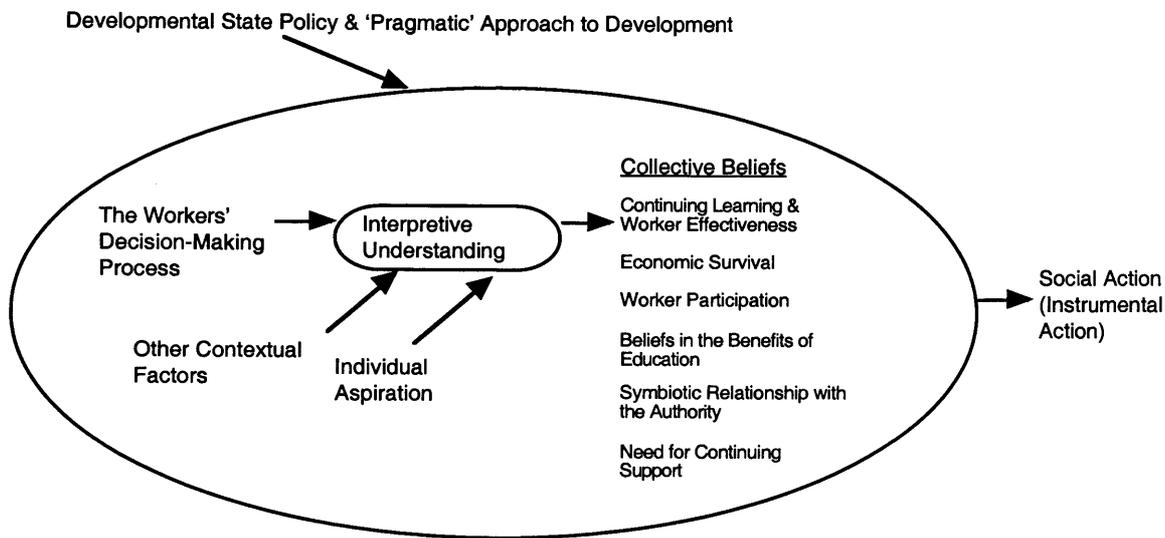
¹³ One may argue that this empirical evidence on the 'trust in authority' and the 'symbiotic' relationship between the workers and the state also provides support for the recent debate on 'high-trust' working, collective intelligence and 'worker-citizen' (Brown and Lauder, 2000; 2001).

¹⁴ In general, one would expect that more items in a dimension to be accompanied by a higher Alpha.

further training or re-training. However, these value statements are likely to reflect a broader aspect of workers' collective beliefs that we discussed in Chapter Seven. In Chapter Seven, the interviewees mentioned the difficulties in getting people to train and re-train. Workers would only continue to train, if there is an incentive coming from the state or the employers, though it is possible that some workers see it becoming part of the 'way of life'. This appears to be a complementary dimension to the 'symbiotic relationship with the authority' in which such a relationship needs maintenance – an incentive or support, so that the developmental worker will be willing to continue in the partnership with the developmental state. As a result, I label this 'need for continuing support', reflecting workers' expectation to have a 'two-way' relationship in order to maintain a difficult interaction with the developmental state.

Instead of looking at the 33 specific questions, factor analysis enables us to arrive at a more succinct way – that is, six dimensions – of looking at Singaporean workers' collective beliefs. These six dimensions are the 'heuristic' tool that can facilitate our understanding of the developmental worker's social action. By adopting the six dimensions of collective beliefs, the study can now clarify the developmental worker model further. In Diagram 8-1, we can improve the developmental worker diagram in Chapter Six:

Diagram 8-1: The Developmental Worker Model with Six Dimensions of Workers' Collective Beliefs



With the six dimensions of workers' collective beliefs, not only can we now describe those interview data more succinctly and heuristically, the study also brings together some empirical evidence on workers' values in Singapore. The developmental worker model therefore suggests that within the developmental workers' collective beliefs, continuing learning and worker effectiveness occupies a very central theme, and this is linked to the developmental workers' understanding of economic survival, the roles of worker participation and education. This, in turn, leads to their view on the relationship between the developmental workers and the developmental state, i.e. a symbiotic relationship that requires 'maintenance', as this relationship is always an uneasy one. Incidentally, this interpretation is actually consistent with the magnitude of data variance that the six belief dimensions explain, ranging the (largest) 'continuing learning and worker effectiveness' (12.6 per cent) to the (smallest) 'need for continuing support' (5.9 per cent).

These six dimensions in the above inter-connected order may therefore explain some of the complex relationships that exist between the developmental workers and the

developmental state. Together, the six belief dimensions provide a better understanding of the comments made by interviewees in the previous chapter. Now we can appreciate the mixed feeling such as the one expressed by interviewee 7 in the previous chapter, that:

" ... Singapore is a good place to be a base. Security is good. ... There is a trade off. We do not completely dislike the government despite what westerners think. We feel that we could do with less pressure. Pressure could get to you. They said the growth is 10%. But unless you can enjoy the fruit of it, you do not see it. National achievements is the most proud thing for us - producing something from nothing ..., but you pay a price for it."

(Interviewee 7)

With the six dimensions of workers' collective beliefs, it is possible to explore further aspects of the developmental worker model. The analysis may be able to examine issues such as the sharing of collective beliefs. In other words, is it possible that collective beliefs may be 'weakened' or 'not shared' because of age? Perhaps a differential may exist between those workers with responsibilities and those without. However, it must be emphasised that the above questions are just suppositions as Durkheim's concept of collective beliefs implies that most, if not all, workers should share these beliefs, irrespective of their personal characteristics. Therefore, the theoretical expectation of the collective beliefs is that there will be no structural differentiation across age, gender, race and so on. This is the focus of the next section of analysis.

The Sharing of Collective Beliefs

This study has identified six dimensions for the developmental worker's collective beliefs. These are:

- Dimension 1: Continuing learning and worker effectiveness (CLWE)
- Dimension 2: Economic survival (ES)

- Dimension 3: Getting involved/worker participation (WP)
- Dimension 4: Believing in the benefits of education (BE)
- Dimension 5: Symbiotic relationship with the authority (SR)
- Dimension 6: Need for continuing support (NS)

Given the previous discussion, we would expect that the developmental worker would have a fairly 'uniform' or high degree of agreement on these dimensions of collective beliefs: that they 'share' these beliefs because these are what are expected of them as citizens and workers and, on balance, these beliefs will lead to appropriate course of action in order to make progress in the Singaporean society.

This is a somewhat ironic situation in a statistical exercise because the normal statistical modelling work would be looking for substantial impact in the structural variables on the dependent variable (in this case, collective beliefs). For example, whether age is a significant factor in influencing the variations in the collective beliefs. Our analysis so far suggests that the workers' interpretive understanding process has driven the workers to subscribe to these beliefs, 'collectively', irrespective of their personal characteristics. Hence, contrary to the normal statistical exercise, we would expect that these structural variables (e.g. gender, age, race, occupation and so on) do not explain variations in the collective beliefs. Instead, what explains the variations of the collective beliefs is the interpretive understanding process. However, it is impossible to capture this interpretive understanding process through measurements, let alone entering this variable into a quantitative exercise. And the only hints as to how the interpretive process works are embedded in the narrative evidence provided in Chapter Seven.

However, in order to test our 'no effects' hypotheses, we should still go through the normal procedures and discuss why and how some of these structural variables might be significant, should that turn out to be the case.

The following statistical analysis will employ a multiple regression approach to model possible sources of variation in the collective beliefs. In the following section, I will model the six dimensions of collective beliefs as a linear function of three groups of explanatory variables:

1) Personal characteristics:

Gender, marital status, age, level of education and ethnic group.

2) Economic characteristics:

Housing type (a proxy for social class), occupation, industrial sector.

3) Other characteristics:

Trade union membership.

I now discuss the rationale behind the inclusion of the various explanatory variables and what might be the likely sources of variation in the collective beliefs as a result of the effects of the explanatory variables.

There is little in the literature to establish *a priori* assumptions about whether gender makes a difference in terms of the sharing of the collective beliefs of the developmental workers. Despite a wide range of social engineering efforts by the PAP government in the last ten years – e.g. the Women Charter (1997) to protect women’s rights in the family, the ‘pro-working mothers’ policy to establish heavily subsidised childcare facilities and the ‘anti-singles’ policy for single women aged 30-49 – gender has not had a great presence in the worker-state discussion (Lim, 2000). Judging from the discussion on the role of the workers, no differentiation has been made between the sexes. Therefore, as *a priori*, I do not expect much gender difference in the estimation.

With marital status, the interview data in Chapter Seven seem to suggest that workers with families may be more likely to share the collective beliefs. This may be due to their

perception about the problems of not being in employment and the consequences that unemployment have on their own and their family's well-being. The real issue may not be the marital status, *per se*. Rather, it is the presence of 'responsibilities' through the workers' obligations towards their family.

The age variable may have an historical significance in the developmental worker model. A lot of the interview data seem to suggest that older workers are more likely to subscribe to the collective beliefs as they have gone through the 'hard times' with the PAP government in the 1960s and 1970s, and have seen the 'fruit' of the effort of the developmental worker. They are more able to make contrasts between poverty and affluence, and what 'survival' really means, in an historical context. The interview data also show that it is the younger interviewees who find their individual aspirations constrained by the collective nature of PAP policy. As a result, one may expect that the younger age groups in the WVBS data (i.e. under 26 and 26-34) are less likely to share the collective beliefs. In other words, the remaining two age groups in the WVBS data are more likely to share the collective beliefs and will possibly have a higher than average score compared with other age groups. There is only one reservation in making this theoretical expectation, and that is, despite younger workers' dissatisfaction, the interview data show that a lot of the young Singaporeans are just as proud of Singapore's achievements as the older generations. In recent times, there is also a strong sense of 'being' Singaporean. This sense of belonging is particularly strong among the young who do not have the 'migrant sentiment' that their parents might have. For the new generation of Singaporeans, Singapore is home and all they know (Zainul and Mahizhnan, 1990).

In addition, young Singaporeans may have to maintain a 'symbiotic' relationship with the developmental state for the same practical reasons as the older Singaporeans, e.g. maintaining regular employment so that there are regular payments into the CPF account. As a result, older and younger Singaporeans may share the collective beliefs, even though the basis on which this sharing takes place may differ between the old and the young.

One implication from the Goh Report (Goh, 1979) is that certain groups of citizens may be more likely to be influenced by Western individualistic values. Chiew's study (1990) also found that better- and English-educated workers are more likely to consider emigration. Therefore, the regression will allow for the influence of education levels. The higher the education, the less likely may be the worker's ability to share the collective beliefs.

As the collective beliefs were meant to unite the developmental workers, we should not expect the ethnicity variable to be significant in influencing the worker's ability to share the collective beliefs. However, it remains important to examine whether 'sub-national' cultures – i.e. Chinese, Malay and Indian cultures – relate to the collective beliefs. Lian (1997) pointed out that despite the momentum of nation-building within a multi-racial society, it is possible to identify ethnic identities and how “... ethnic boundaries and identities constantly are being negotiated, and their limits are tested and realigned” within the parameters of nation-building (Lian, 1997: 5).

The developmental worker model has identified a special relationship between experiencing economic hardship and the likelihood of cooperating with the developmental state. I would therefore expect 'wealth' to influence the extent of a worker's ability to share collective beliefs. In the WVBS exercise, it was difficult to collect 'wealth' information, e.g. incomes and assets. Hence, I adopt housing type as a rough proxy for wealth and social class. Around 86 per cent of the population live in HDB housing (9 out of 10 residents owning their flats) with the majority of the remaining 14 per cent living in the much more expensive private sectors (Singapore, 2000).

The occupation variable in the WVBS data differs from other surveys. The developmental worker model suggests that workers with greater work responsibilities may be more likely to share the collective beliefs. Therefore, the WVBS occupation variable has been constructed to capture this particular information. At the top end, the variable includes categories similar to other surveys – e.g. professional, managerial and

so on. However, at the bottom end, employees below the managerial category are divided into just two categories: with and without supervisory responsibilities.

I am not aware of any literature that discusses the possible impact of industrial sector on the sharing of collective beliefs. However, judging from the previous discussion on Western influences, one might expect the workers in the private sector, and especially in the multinational corporations, to share the collective beliefs to a different extent from workers in the public sector. The latter is clearly developmental state-led. The same logics and expectations apply to the effect of trade union membership on collective beliefs. NTUC members may be more likely to embrace collective beliefs of the developmental workers¹⁵.

Assuming a linear multiple regression framework, the dependent variable (i.e. collective beliefs) and the explanatory variables (as discussed above) will have the following relationship¹⁶:

$$Y = \beta_1 + \beta_2 X_2 + \beta_2 X_2 + \dots + \beta_k X_k + U \quad (2)$$

In equation 2, Y is the collective belief and b_j are the unknown coefficients (effects) of the explanatory variables to be estimated¹⁷. X_i are the actual values of the explanatory

¹⁵ Although information on union membership is available from the WVBS data, it is not included in the subsequent multiple regression as the initial diagnosis shows that union membership is heavily correlated with the public sector. This causes the problem of *multicollinearity* and therefore is dropped from the regression model.

¹⁶ Owing to *multicollinearity* problems, the (up to) secondary education variable is to be excluded from the regression. Therefore, the appropriate contrast in the regression model is between higher education and below.

¹⁷ Y is the combined score of the value statements that form the dimension. To obtain Y , the procedure has to first calculate the 'factor score coefficients', B . To obtain B , we have to multiply the factor loading matrix by the inverse of the original correlation matrix – these are all by-products of the SPSS output. B

variables. i is the index ranges from 1 to the number of explanatory variables used, k , i.e. $i = 1 \dots k$. U is the error term¹⁸.

Table 8-5 reports the results of the multiple regression. Two striking features of the results are immediately worth noting. Firstly, most of the equations have ‘poor fit’. The low adjusted R^2 figures suggest that most equations can explain a very small percentage of the variance in the dimensions of the collective beliefs. In other words, all those variables which the analysis has included, - age, wealth, race etc. - have only managed to explain relatively little variance in the six collective beliefs dimensions. In other words, workers subscribe to those dimensions of collective beliefs more or less irrespective of those factors that I put forward for testing in the multiple regression. Secondly, the F statistics of all equations are significant¹⁹. These mean that a few of the variables in the equations are significant in explaining a small amount of variance in those dimensions. These overall results confirm our *priori* that, generally speaking, variations in the collective beliefs, if any, are not due to structural variables, but something else (not measured by the model).

will then be imputed into a regression, given the workers’ responses to those value statements, to arrive at a combined score for each of the dimension for each worker. For details, see Field, 2000, p. 429-431.

¹⁸ Detailed explanation of the linear multiple regression model can be found in Maddala (1992) and Gujarati (1995).

¹⁹ The purpose of the F – test is to test whether all the coefficients, $\beta_1, \beta_2, \dots, \beta_k$ are simultaneously ‘zero’, having no effects on the collective beliefs.

Table 8-5: Multiple Regression on the Dimensions of Collective Beliefs

Collective belief dimensions	β					
	CLWE	ES	WP	BE	SR	NS
(Constant)						
Female (Baseline: male)	-.086**	-.008	.132***	-.021	-.069	-.122***
Married	.030	-.054	.032	-.027	-.051	-.030
Other Marital status (Baseline: 'single')	.026	-.124***	.020	.040	.020	-.039
Chinese	-.081	.056	-.020	.125**	.086	-.014
Indian	-.060	.080	-.030	-.007	-.003	.017
Other races (Baseline: Malay)	-.064	.092**	-.020	.049	-.001	.013
Private housing (Baseline: HDB)	-.047	-.007	.015	.019	.006	.044
Higher education (Baseline: below this level)	.003	-.075	-.053	.237***	.143***	-.028
Prof or manager	-.041	-.055	-.047	-.032	.044	-.012
Other jobs with responsibility (Baseline: no responsibility)	.098**	-.027	.009	-.051	.018	-.011
Public sector	-.128***	-.056	.040	-.096**	.081**	-.043
Other sector (Baseline: private sector)	.008	.051	-.021	.070	-.046	.125***
Aged 26-34	.028	.053	-.103	.057	.066	-.010
Aged 35 or over (Baseline: 25 or younger)	.078	-.068	-.190***	.089	-.075	.111
N	662	662	662	662	662	662
Adjusted R ²	0.03	0.03	0.02	0.10	0.08	0.02
Prob. > F	0.005***	0.002***	0.022**	0.000***	0.000***	0.012**

Notes: Levels of significance: ** p<0.05; *** p<0.01; β = standardised coefficients; the original questionnaire uses 1 for 'strongly agree' and 5 for 'strongly disagree' (i.e. reverse order). Hence, a minus sign in the coefficient will imply a positive effect on the belief dimension.

In order to complete the results, some interpretation of the ‘significant’ variables is required. However, the very low R^2 values such as 0.02 mean that the entire equation would only explain 2 per cent of the variance in the collective belief. This is a very tiny fraction of the total variance in the collective beliefs. And this is worth remembering when we consider some of the so-called ‘significant’ variables in the results. We should not interpret significance in the literal sense.

The female variable is significant in 3 of the equations – CLWE, WP and NS. In both CLWE and NS, female workers appear to be more likely to subscribe to the beliefs than male workers²⁰. However, in WP, female workers have a lower level of sharing in that belief. It is not entirely clear why this is the case other than by looking at the individual items of WP, some of the items could be described as ‘masculine’ in orientation – e.g. I have a good understanding on issues of national importance.

Marital (in most cases) status does not make any difference. Only in the ES equation, the ‘other category’ (mostly widowed and divorced) tends to have higher scores in this belief compared with the single workers (the base group). One possible explanation may be that the economic and survival issues appear to be greater among this group of workers.

Ethnic groups do not seem to affect the sharing of beliefs in most of the equations. In the ES equation, the ‘other’ race group (mostly Eurasians), tends to have a lower level of sharing of this belief compared with the Malays (the base group). In the BE equation, Chinese tend to have a lower level of belief compared with the Malays. Within the six equations, only 2 out of 18 contrasts (6 x 3) in which ethnicity is significant. On balance, it appears that ethnicity is not important in affecting the extent of the sharing of worker beliefs.

²⁰ For convenience, all dimensions are represented by acronyms in the discussion: Continuing learning and worker effectiveness (CLWE); Economic survival (ES); Getting involved/worker participation (WP); Believing in the benefits of education (BE); Symbiotic relationship with the authority (SR); Need for continuing support (NS)

The housing type proxy for wealth is not significant. Hence, there is no evidence to support that wealth (at least as proxied by housing type from the WVBS data) can affect collective beliefs.

The effect of education seems to lend some support to Chiew's finding that the more educated workers are more likely to have individualistic views. On two of the dimensions – BE and SR – those with higher education qualification tend not to share the content when compared with workers with lower qualifications.

Occupational effects are negligible as well. Compared with workers without supervisory responsibility at work, workers with supervisory responsibility tend not to subscribe to the CLWE dimension. However, workers in the managerial and professional categories do not have any different extent of subscribing to any of the six dimensions of collective beliefs, compared with workers with no responsibility. In general, this seems to suggest that from top to bottom, most workers share similar patterns of collective beliefs.

It was expected that the public sector might have a higher level of subscribing to the collective beliefs compared with the private sector because of the work environment. This turns out to be the case only in three of the dimensions. In CLWE and BE, public sector workers tend to share the belief at a level greater than private sector workers. In the SR dimension, the effect is the opposite. This is somewhat a spurious result as, *a priori*, we would expect all public sector results to increase the likelihood to share the belief. Upon checking the *t* – statistic, however, this variable only just makes the 5% level of significance and its statistical significance is therefore very marginal (one cannot be sure that it stays significant if another sample was drawn).

The results of the age variables are of particular theoretical interest. We mentioned that one might expect older workers to be more likely to share the collective beliefs than younger workers. The results show that only in one dimension, WP, older workers (aged 35 or over) tend to subscribe to this dimension more than younger ones. However, the

age variable is not significant anywhere else. This result suggests that despite our earlier hypothesis that the younger workers may not share the collective beliefs with other age groups, the age differential is not substantiated by the WVBS data. In general, age does not affect the collective beliefs of Singaporean workers.

The overall purpose of the above exercise is to see if any structural variables are important in influencing the extent to which sharing collective beliefs are shared by the workers. However, the general picture is that the WVBS data seem to show little difference in the collective beliefs across gender, age, occupation, education, race and other structural variables²¹. The general conclusion is that given those six dimensions of collective beliefs, variance in the collective beliefs (if any) is mostly caused by other factors, and only an extremely small amount of the variance can be attributed to the workers' characteristics that the analysis has tested, and that collective beliefs are generally shared.

²¹ In the statistical jargons, the majority of the results show that we cannot reject the Null Hypothesis where $H_0 : \beta_i = 0$ (i.e. no effect).

Chapter IX: The Conclusions

In applying the developmental worker model to the Singaporean experience of economic growth, I would like to draw two broad areas of conclusion. The first area concerns the policy implications for workforce development as a result of useful lessons learnt from the Singaporean experience. The second concerns the theoretical implications of the developmental worker model.

The Policy Implications of the Developmental Worker Model

On Singapore's National Day in August 2001, the Prime Minister, Goh Chok Tong, used his National Day rally speech to remind citizens that despite the financial crisis of 1997, Singapore had grown faster in the 1990s than the 1980s (7.7 per cent, as against 7.3 per cent). In addition, Singapore had achieved the 1984 Swiss standard of living in 2000 – one year later than the target that Singapore set for itself in 1984. More importantly, however, Goh emphasised that it was necessary for the fruits of economic progress to be distributed in the following way:

“... The Government distributed back to Singaporeans a good part of the wealth generated from this strong economic growth. We shared close to \$14 billion through asset-enhancement programmes and endowment funds. We invested in better healthcare, housing and education. Singaporeans' standard of living went up considerably ... The new economic strategy will enable us to develop new bases of growth. The new social compact - an understanding among all Singaporeans, and between the Government and people.”

(Goh, 2001)

By 'social compact', Goh means the strengthening of the Singaporean form of stakeholder society so that it is 'cohesive and stable', and strong enough to take on the next stage of economic growth. Goh went on to explain how to create this 'social compact':

“... First, we will continue to subsidise heavily the three basic services of housing, education and healthcare. No Singaporean will be deprived of these three services no matter how poor he is. Secondly, in years of good economic growth, we will distribute part of the budget surpluses back to Singaporeans, to enhance their assets as well as to help them defray essential expenses, such as their S&C and utility charges. Thirdly, we will pay particular attention to the needs of lower-income Singaporeans. This is already being done for subsidies for basic services such as healthcare and housing. Also, last year, when we topped up your CPF, we gave lower-income Singaporeans more.”

(Goh, 2001)

The above statements serve to reflect the basis on which the Singaporean ‘economic miracle’ has been created. The basis is not so much about the advantageous position of the developmental state, the horrific memories of the racial riots, the appalling conditions of poverty or the high regards for education and meritocracy; the ‘miracle’ is derived from having a set of macro-social conditions whereby state and citizens can take on whatever policy that state and citizens have to embark upon in order to gain economic success and social cohesion.

The developmental worker model of Singapore therefore lends one general lesson to workforce development policies – that economic growth and the continuous up-skilling necessarily involve the workers on a long-term basis. Policy success is therefore about matching the needs of those who are involved. This focus, as such, on the workers’ needs means that policy makers have to ask the following important questions – how do workers ‘internalise’ the policy so designed? What meanings do workers attach to the policy? Why should they embrace the policy? These questions are particularly important if the policy concerned is about building a partnership between the state and the citizens over a period of time.

The experience of Singapore is therefore about how the continuous up-skilling process of the workers balances with a stake-holding society that the developmental state purposely constructed together. The stake-holding element forms a tangible reward for the continuous participation of the developmental workers.

This balance between participation and stake-holding is a crucial point, and one which is frequently overlooked by casual observers who believe that the developmental state is about an authoritarian approach imposing upon the workers the various state-led systems and designs. The dominance of the state in Singaporean society is unequivocal. However, my analysis of the developmental state and developmental worker models suggests that the collective effort between the workers and the state needs a durable, long-term, two-way relationship, albeit a difficult relationship that requires constant negotiation and maintenance. However, this relationship is frequently overlooked when considering how similar policies and approaches can be replicated elsewhere. It is this relationship that is central to the success of the Singaporean state's approach to policy and economic development and is key to our understanding of the Singaporean economic 'miracle'.

The Theoretical Implications of the Developmental Worker Model

The case of Singapore clearly demonstrates a number of important theoretical implications. The first and foremost feature of the developmental worker model is the prominence of the 'people' component within the economic growth process. For that reason, I have argued that the process of economic growth is essentially a 'worker/people' phenomenon for, without their long-term participation and commitment, the growth process cannot be *driven* forward. The effort and the quality of that effort *drive* economic achievements¹.

The prominence of the workers in the growth process means that all of the major theories in the last fifty years have overlooked one important piece of the 'jigsaw

¹ In its different manifestations, the developmental worker model may be applied to other developmental state countries such as Taiwan, South Korea and Japan. They can all be seen to derive their growth efforts from a series of progressive and interlocking worker-state interactions throughout the 'miracle' period.

puzzle'. The neo-classical theories emphasise economic factors and seek to find the 'law' of economic growth in which labour (not workers) is regarded as an 'input', much in the same way as 'capital'. The neo-statist theories focus firmly on the role and coordinating capacity of the state. The role of the workers is 'implied' within the up-skilling discussion. The developmental worker model tackles *how* workers participate head on; it seeks to address the process of worker participation, directly.

However, the developmental worker model does not replace other theories. Far from replacing other theories, the developmental worker model complements and enhances the understanding of the economic growth process. By examining worker participation within a contextual framework, the developmental worker model renders the developmental state model more complete and operational. At the same time, the developmental worker model does not deny the importance of economic elements such as investment, trade and production. Within the developmental state and developmental worker framework, economic elements are 'system tools' to be made use of in the growth process. But the developmental worker model goes on to fill some of the gaps left behind by the neo-classical theories. For example, the worker element and how it interacts with state policy explains why many countries, which have borrowed elements of the developmental state system, failed. These failures occurred because they have not taken account of the fact that the worker-state match leads to differential and qualitative outcomes in the use of the same set of 'system tools'. In other words, elements such as investment, production and so on might be important factors in the growth process, but they do not guarantee success.

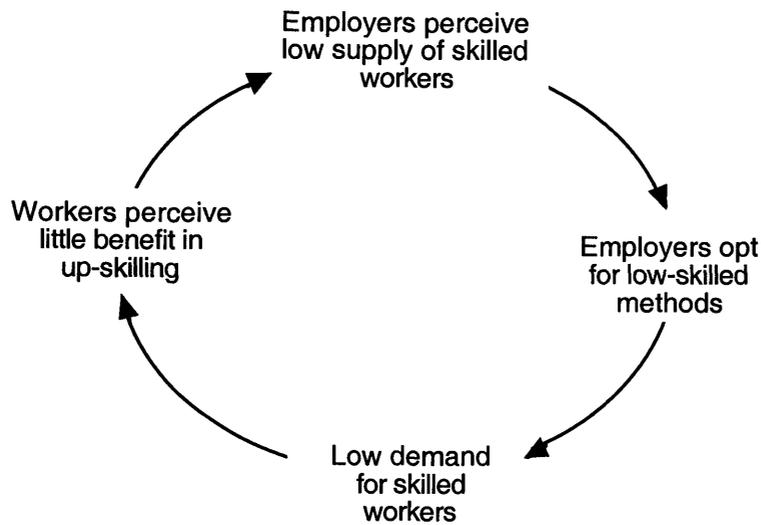
The developmental worker model also takes the worker analysis away from the conventional 'employer-worker' focus which dates back to the analysis of Marx and Weber. This conventional framework has the worker responding to the 'employer-worker' relationship, often in a competing manner, and the worker's responses, as such, have provoked a wealth of research on class, social institutions, industrial relations and work culture. One may argue that the 'employer-worker' focus is essentially a 'Western' or even an 'Anglo-Saxon' model which may be ill-suited to the analysis of other

economies where the state takes on greater involvement. Thus, the developmental worker model has demonstrated that workers' social actions in the Singapore context are a result of interactions between the state and workers, rather than interactions solely between the workers and employers.

The developmental state and developmental worker framework subsumes the position of the employer within the developmental state and developmental worker relationship in the sense that whatever relationship that exists between the state and the employers, it is compatible with the state-worker relationship. In the preceding analysis, it is evident that the state builds a *direct* relationship with the workers in Singapore. The employers represent a necessary element through which the state-worker relationship manifests itself into concrete outcomes (as defined by Singapore's developmental goals). This explains some striking features in the local research literature in Singapore. For example, there is an absence of work culture literature based upon the employer-worker relationship. Equally, industrial relations research focuses on the state instead of the employers, and there is a complete absence of discussion of issues such as class.

Although it could be argued that the developmental state and developmental worker models belong to a separate class of analytical framework which has been useful in explaining the Singaporean experience, it is also possible that insights derived from these models are increasingly becoming relevant to the analysis of the West. Primarily, this is due to the increasing recognition of a need for state intervention in the labour market in terms of education and training. It has been perceived by many Western states that a combination of 'market failure' and 'government failure' may lead to the economy being 'trapped' in a low-skills equilibrium (Streeck, 1992; Finegold, 1999). For example, the UK government is currently concerned with the possibility of workers not meeting the skills demand of the emerging knowledge economy due to the 'low-skills' spiral (PIU, 2001: 22-3).

Diagram 9-1: The Low-skills Spiral



Source: Adapted from PIU, 2001: 24

Diagram 9-1 depicts the UK Cabinet Office's analysis of a vicious cycle of low demand for skills leading to low rewards and less workers taking on up-skilling, with the result that even less skilled workers become available, encouraging employers to seek low-skill solutions. The cycle goes on. To break the cycle, the PIU report suggests that:

"... This reinforces the need for a holistic approach to be adopted combining improved business strategies, support for innovation and expansion, and strong leadership and management with training and development to escape the low skills trap."

(PIU, 2001: 24)

This statement reflects the same sentiment that the developmental state has been concerned with throughout the entire industrialisation process. I would argue that despite the presence of this sentiment and increasing awareness of the distinctive approach of the developmental state, existing cultural, political and institutional factors in the West remain major barriers for Western governments to draw lessons from the developmental

state and developmental worker models. As a result, the developmental state and developmental worker models are likely to remain an intellectual stimulus in the West, and a reality in Singapore.

Appendices

Appendix A: Variable Names for Workers' Values and Beliefs

Values and Beliefs	Variable Names
Education qualifications tend to reflect the ability of an individual	ED_ABITY
Strong emphasis on examinations is useful in ensuring high standards of education	EXAM_STD
Lifelong learning is important for employability	LLG_EMP
Strong emphasis on examinations is useful in encouraging creativity and problem solving	EXAM_CRE
The education system is designed to support national economic competitiveness	ED_COMPE
The education system has been useful for my own development	ED_OWDEV
Continuing education for workers through public schemes (e.g. WISE, BEST etc.) has been important for promoting further learning	SCH_LEAR
Education qualifications provide better job opportunities	EDQU_JOB
I have a good understanding on issues of national importance	UND_ISSU
The most important purpose of education is for self-development or personal growth	ED_SELF
It is important that trade unions work with employers and the government towards national economic objectives	TUEMP_WK
A good worker should be able to adapt to new skills	GDWK_SKI
We are part of a national team constantly improving and supporting our national competitiveness	NAT_TEAM
Financial support by employers or by the government could influence my decision to undergo training and re-training	FIN_TRNG
Encouragement (e.g. time-off or flexi hours) by employers could influence my decision to undergo training and re-training	ENC_TRNG
Employers are equally concerned with workers' welfare	EMP_WELF
Lifelong learning is important for national economic objectives	LLG_NAOB
Education qualifications are important in promoting self-development	EDQU_SEF
Vocational training (e.g. ITE) is designed to support national economic competitiveness	VOC_NAOB
The National Wage Council is effective in protecting workers' interests	NWC_INT
Economic development has benefited me	DEV_ME
My basic needs are more than just an HDB flat, food and basic education for my children (if any)	NEEDS
Most economic policies take time to bring results	POL_TIME

(Cont. P.T.O.)

Values and Beliefs	Variable Names
I believe that it is important for workers to be involved in national workforce development decisions	DECI_INV
CPF is important for meeting future needs	CPF_NEED
We are part of a national team constantly ensuring the survival of the Singaporean nation	TEAM_SUR
Economic development has benefited my family	DEV_FAM
Having a view of your own is an important quality of a good worker	VIEW_GD
Continuing education for workers through public schemes (e.g. WISE, BEST etc.) can improve workforce effectiveness	SCH_EFF
It is important for workers to be loyal to the employers	LOYALTY
National security stability is the foundation of economic success	SECURITY
Lifelong learning is important for personal development	LLG_PERS
National economic survival is more important than personal achievement	SURV_IMP

Appendix B: The Workers' Values and Beliefs Survey (WVBS) Questionnaire

Workforce Values & Beliefs Questionnaire

*** This questionnaire should only be filled in by Singaporeans or Singaporean Citizens

The questionnaire is a research project conducted by the Centre for Labour Market Studies (University of Leicester). The aim is to study a set of work-related values in relation to education and training issues among Singaporean workers.

In order for the information to be useful, it is important that you fill in the questionnaire fully.

Your Views and Beliefs (Please circle the appropriate number)

	1	2	3	4	5
	Strongly agree	Agree	Neutral*	Disagree	Strongly disagree
1. Education qualifications tend to reflect the ability of an individual.	1	2	3	4	5
2. Strong emphasis on examinations is useful in ensuring high standards of education.	1	2	3	4	5
3. Lifelong learning is important for employability.	1	2	3	4	5
4. Strong emphasis on examinations is useful in encouraging creativity and problem solving.	1	2	3	4	5
5. The education system is designed to support national economic competitiveness.	1	2	3	4	5
6. The education system has been useful for my own development.	1	2	3	4	5
7. Continuing education for workers through public schemes (e.g. WISE, BEST etc.) has been important for promoting further learning.	1	2	3	4	5
8. Education qualifications provide better job opportunities.	1	2	3	4	5
9. I have a good understanding on issues of national importance.	1	2	3	4	5
10. The most important purpose of education is for self-development or personal growth.	1	2	3	4	5
11. It is important that trade unions work with employers and the government towards national economic objectives.	1	2	3	4	5
12. A good worker should be able to adapt to new skills.	1	2	3	4	5
13. We are part of a national team constantly improving and supporting our national competitiveness.	1	2	3	4	5
14. Financial support by employers or by the government could influence my decision to undergo training and re-training.	1	2	3	4	5
15. Encouragement (e.g. time-off or flexi hours) by employers could influence my decision to undergo training and re-training.	1	2	3	4	5
16. Employers are equally concerned with workers' welfare.	1	2	3	4	5

	1	2	3	4	5
	Strongly agree	Agree	Neutral*	Disagree	Strongly disagree
17. Lifelong learning is important for national economic objectives.	1	2	3	4	5
18. Education qualifications are important in promoting self-development.	1	2	3	4	5
19. Vocational training (e.g. ITE) is designed to support national economic competitiveness.	1	2	3	4	5
20. The National Wage Council is effective in protecting workers' interests.	1	2	3	4	5
21. Economic development has benefited me.	1	2	3	4	5
22. My basic needs are more than just an HDB flat, food and basic education for my children (if any).	1	2	3	4	5
23. Most economic policies take time to bring results.	1	2	3	4	5
24. I believe that it is important for workers to be involved in national workforce development decisions.	1	2	3	4	5
25. CPF is important for meeting future needs.	1	2	3	4	5
26. We are part of a national team constantly ensuring the survival of the Singaporean nation.	1	2	3	4	5
27. Economic development has benefited my family.	1	2	3	4	5
28. Having a view of your own is an important quality of a good worker.	1	2	3	4	5
29. Continuing education for workers through public schemes (e.g. WISE, BEST etc.) can improve workforce effectiveness.	1	2	3	4	5
30. It is important for workers to be loyal to the employers.	1	2	3	4	5
31. National security stability is the foundation of economic success.	1	2	3	4	5
32. Lifelong learning is important for personal development.	1	2	3	4	5
33. National economic survival is more important than personal achievement.	1	2	3	4	5

Basic Information (Please tick the appropriate boxes unless otherwise stated)

Gender: Male [] Female []

Marital Status: Single [] Married [] Other []

Race: Malay [] Chinese [] Indian [] Other []

Housing: HDB flat [] Private [] Other []

Highest education qualification: Primary education [] Secondary education []
Degree or diploma []

Professional qualification: Yes [] No []

Year entering your first full-time job: _____

Occupation: Professional []
Managerial []
Other category with supervisory responsibility []
Other category without supervisory responsibility []
Other, please state _____

Industrial sector: Private sector [] The Civil Service/public sector []
Govt. linked companies [] Statutory boards []
Non-profit/voluntary bodies [] Other [] Please state _____

Do you belong to a trade union? Yes [] No []

Singaporean []

Singaporean Citizen [] ---> No. of years of residence in this country _____ (number)

Age group: Up to 25 [] 26-34 [] 35-59 [] 60 or over []

Please return the questionnaire to the facilitator or to Mr. Jeff Goh (or Dr. Patrick Loh) at CLMS-DES
(Tel: 336 4889; Fax: 336 4118; Mobile: 968 11585).

-- End of Survey --
Thank You

Appendix C: List of Institutions and Individuals Consulted

National Productivity Board/Productivity and Standard Board
Council for Professional and Technical Education
Singapore Institute of Labour Studies
Ministry of Labour/Ministry of Manpower
Skills Development Fund
Institute of Technical Education
Singapore Institute of Management
National Trade Union Congress
Housing Development Board
Service Quality Centre (SIA service training division)
Ministry of Education
National Reference Library (Archives), Singapore

Edwin Netto, Human Resource Manager, Comfort Transportation Pte. Ltd.
Huam Chak Khoon, Director of Comfort Driving Centre
Prof. Joseph Putti, School of Management, National University of Singapore
Dr. Tan Ern Ser, Depart of Sociology, National University of Singapore
Dr. Linda Low, Depart of Business Policy, National University of Singapore
Philip Lee, Human Resource manager, Micron Electroincs
Hui Ban Yin, Human Resource manager, Matsusita Electrics

Appendix D: List of Institutions and Organisations in the WVBS Survey

Name	Main business/ sector
Addvalue Plc	Wholesales & retailing; private
Apple Centre, Singapore	Retailing; private
B M Nagano	Manufacturing; private
Blue Circle Materials (Sgp) Pte Ltd	Manufacturing; private
Caterpillar, Singapore	Construction equipment; private
Central Narcotic Bureau (Singapore Police)	Discipline forces; public
Chartered Ammunition Industries	GLC; public sector; defence
Chee Soon Agency	Shipping broker; private
Citibank	Banking; private
Coleman Language & Business School	Education; private
Comfort Driving Centre, NTUC	GLC; public sector
Commerze Bank Asset Management	Banking; private
Credential Management Centre	Education services; private
Crimsign Graphics Pte Ltd	Publishing; private
DTM Education Consultants	Education services; private
Electronic Realty Association (ERA)	Property; private
Esmaco Township Management	Property; private
Esteem Consultants	Management services; private
Helen O'Grady Children Drama Centre	Education; private
Housing Development Board (HDB)	Statutory Board; public sector
HSBC	Banking; private
IBM, Singapore	Manufacturing; private
iBox Computers Pte Ltd	Retailing; private
Institute of Public Administration and Management, The	Public sector
Integro Technologies	Manufacturing; private
ISK Singapore	Manufacturing; private
Lam Hong Leong Aluminium Pte Ltd	Manufacturing; private
M1	Telecommunication; private
Marketing Institute of Singapore, The	Management services; private
Micron	Manufacturing; private
MobileOne Singapore (Telco)	Telecommunication; private
MUIS (Islamic Council of Singapore)	Public sector
Nalco Exxon	Petroleum refining; private
National Computer Systems	GLC; public sector
National Parks Board	Statutory Board; public sector
National Trade Union Congress (NTUC)	GLC; Public sector
Nanyang Technical University	Public sector
Nirvana Electronics	Manufacturing; private
Nusantara Support Services Pte Ltd	Logistics; private
Petal Production	Publishing; private
Port Authority of Singapore	GLC; public sector

Name	Main business/ sector
PremiumCare Cleaning Contractor	Cleaning services; private sector
Public Utilities Board	Statutory Board, Public sector
Ritz-Carlton Millennia Hotel	Hotel; private
Sheffield Management Centre	Education services; private
Simmon (SEA) Pte Ltd	Manufacturing; private
Singapore Army	Public sector
Singapore Technologies	GLC; public sector
SunCad	Engineering services; private
Tan Tock Seng Hospital	Health; public sector
Tanglin Trust School	Education; private
Tat Heng Plant Leasing	Industrial equipment; private
Technotrans Technologies Pte Ltd	Manufacturing; private
Toshin Development Pte Ltd	Manufacturing; private
Trans-Island Bus Services	Transport; private
Trust House Centre for Tourism	Education services; private

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