

LABOR MARKET CRISIS AT MID-LIFE?

A Report of the Employment Prospects of People Aged 40–49

Wing Suen

May Tam

Hong Kong Institute of Economics and Business Strategy
The University of Hong Kong

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EXECUTIVE SUMMARY

Background

- Conventional wisdom holds that the prime of one's working life is near the age of forty. However, the pace of technological change at the turn of the new century seems to be faster than what we have experienced in the past several decades. Associated with this wave of new technology is a rapid transformation of the structure of the economy. Accelerated obsolescence of labor market skills and the use of new and knowledge-intensive methods of production may arguably have changed the relationship between age and productivity. These developments have led to mounting concerns about a decline in the employment prospects of middle-aged people.
- In 1999 there were 911,000 middle-aged (i.e., aged between 40 and 49) people who were economically active. They made up one quarter of the Hong Kong labor force. Over half of them have low educational attainment (i.e., an education at the lower secondary level or below). They were over-represented in manufacturing industries and in craft, production, or elementary occupations. These industrial and occupational sectors have been at jeopardy as Hong Kong shifts to a knowledge-intensive and service economy. Most of these workers have a family to support. The social implications of any decline in their employment prospects cannot be overlooked.
- Extant evidence on the employment problems of middle-aged people is mainly derived from anecdotes, which are likely to be imprecise and piecemeal. A systematic assessment of these problems is needed. This report makes use of comprehensive and territory-wide data to examine the labor market prospects of the middle-aged. Particular attention is paid to middle-aged people who are less educated, that is, those with an education at the lower secondary level (Form 3) or below. This study draws on the following types of data:

- ◇ records of the General Household Survey for every quarter in the period 1985–1999;
- ◇ the 1986, 1991, and 1996 population census and by-census records;
- ◇ a special survey of a representative sample of employers conducted in May–June, 2000; and
- ◇ in-depth interviews with a number of employer organizations.

Assessment of the employment prospects of the middle-aged

1. Middle-aged people generally fare no worse than people in other age groups in terms of the main indicators of employment prospects.

- We use a time-series technique in business cycle research to decompose the quarterly unemployment rate into a trend (i.e., long term) component and a transitory (i.e., temporary) component. Between 1985 and 1999, middle-aged men and women had a trend unemployment rate which was 0.7 or 0.8 percentage point below that of the general population. Moreover there is no evidence that this advantage has eroded in recent years despite structural changes in the economy.
- Transitory unemployment among the middle-aged is less volatile compared to that among the general population, which indicates that middle-aged workers on average are less vulnerable to business cycles than are other workers. People who are particularly hard hit by the rise in unemployment in Hong Kong since 1990 are those in the 15–24 age group.
- The labor force participation rate of all middle-aged men has remained relatively stable at an average of 98 percent in the period 1985–1999. For middle-aged women, the average rate was at 53 percent, which was five percentage points higher than that of all women aged 15 or above.
- Middle-aged workers tend to have higher earnings than do workers in other age groups. Middle-aged workers with low educational attainment fare no worse than do other workers with low education in terms of earnings or earnings growth.

2. *Among middle-aged people, those who are less-educated face deteriorating labor market prospects. This is due to their low education level rather than to their age.*

- Since 1990, less-educated men and women in all age groups were increasingly more likely to be unemployed, compared to the overall male and female population. In tandem with this development, the trend increase in unemployment among middle-aged people with low educational attainment has been faster than that for the general population. The relative deterioration in the employment prospects of this group of individuals is attributable to their low education rather than to their age. Rising demand for educated workers in Hong Kong has produced a bifurcation in the employment outcomes between skilled labor and less-skilled labor.
- Between 1985 and 1999, the trend labor force participation rate of less-educated middle-aged women decreased from 52 percent to 46 percent, while the overall female labor participation rate remained stable at 49 percent. However, the drop in labor force participation among less-educated middle-aged women was not more pronounced than the drop in labor force participation among all less-educated women.
- In the same period, the trend labor force participation rate of less-educated middle-aged men decreased from 97 percent to 95 percent. Again, low educational attainment rather than age is the main culprit behind such decrease. The fall in labor force participation rate for all less-educated men is higher than that for less-educated men in the 40–49 age group.

3. *Our study does not give middle-aged workers a completely clean bill of health. There are two potential problem areas that are of concern.*

- Middle-aged workers (especially men) with low educational attainment are more likely to be in production-related and low-skill occupations than are other workers. Moreover they seem to have difficulty moving away from these declining occupations. Because of their specific human capital, these workers are not the first to suffer as the demand for low-skill jobs falls. However, they do not face a bright prospect if the trend of stagnating wages in low-skill jobs does not improve.

- Although the absolute number of middle-aged people who are unemployed for six months or more is still small, these individuals make up an increasing fraction of unemployed middle-aged persons. Moreover their difficulties in finding new jobs are partly due to the age factor.

4. *Less-educated middle-aged employees are unlikely to receive formal training from their employers. These employees are deemed to lack specific work skills and knowledge.*

- A majority of Hong Kong companies do not provide their employees with formal job training. The incidence rate is particularly low in small establishments, which lack the capability to offer formal job training. Even when training is provided, less-educated middle-aged employees are not particularly likely to be recipients. Employers seem to rely primarily on informal job training instead of formal training.
- Employers believe that the relocation of manufacturing production to mainland China and China's entry into the World Trade Organization will increase the need for the management and marketing skills of middle-aged employees who are in line or middle management. For middle-aged employees in low level jobs, the perceived financial returns from investing in formal training are low. Employers also doubt the motivation of middle-aged employees to attend regular formal training sessions. They generally prefer training younger workers to training middle-aged workers.
- Employers do recognize that less-educated middle-aged employees lack specific work skills and knowledge and would like to see improvements if they do not have to bear the full cost. Computer skills are generally preferred by employers. Other skills such as occupational safety, sales and customer relations, and interpersonal communication skills at work are also in demand.
- In terms of the preference for government assistance in training provision, the overall orientation of employers is minimal involvement on their side and least disruption to the normal functioning of their business. Pecuniary training costs are of secondary importance.

How the government can help

1. *The scale of the problem calls for prudent and focused policy measures.*

- Our assessment of the employment prospects of middle-aged people indicates that the scale of the problem is smaller than a labor market crisis as suggested by anecdotal evidence. Prudent and focused policy responses are, therefore, more appropriate than across-the-board drastic remedial actions.
- Remedial policies which substantially raise the cost of doing business will only do more harm than good. We do not favor providing currently employed workers with direct training subsidies or offering wage subsidies to new recruits because they are not cost effective.
- Our assessment identifies two problem areas: (1) middle-aged workers who have difficulty in switching away from low-skill occupations; and (2) the long-term unemployed among the middle-aged. The existing employees retraining program, which targets at helping these people, should continue to be supported and strengthened. Unemployed middle-aged persons have low opportunity costs of time and have a high risk of suffering from prolonged unemployment. Focusing government resources on helping this group of individuals is more effective than a diffused effort to help all middle-aged persons.

2. *A few positive and focused measures can be adopted to alleviate pockets of potential problem areas for the middle-aged.*

- Vocational learning certification system for the unemployed
 - ◇ The existing employees retraining program can be strengthened by introducing a system of vocational learning certification. This will provide employers with credible and relevant information about labor quality. It will also raise the incentive of the middle-aged people to acquire training. The certificates should be competence based rather than attendance based.
 - ◇ Active participation by employers in the design of the certification system is

of paramount importance. Inputs should be obtained from the Education and Manpower Bureau, the Employees Retraining Board, the Vocational Training Council, established training bodies, and human resources professionals. Close monitoring of training bodies and standardized training materials are needed to ensure uniformity and quality.

- ◇ In the initial stage, the certification system can center on four main types of skills preferred by employers: (1) use of computer systems and software; (2) occupational safety and health; (3) sales and customer relations skills; and (4) interpersonal communication skills at work.
- Annual training leave for the currently employed
 - ◇ The government can encourage or require employers to provide employees with two to three days of annual training leave. This will relieve the time constraints of employees and lower the cost of training borne by them. These training leaves should not be based on age lest employers would substitute away from middle-aged workers.
 - ◇ The training can be conducted in a modular approach. Training leaves can only be used toward attaining qualifications under the proposed vocational learning certification system. Each module should last for two to three days so as to encourage attendance.
- Publicity campaign to raise awareness for self-improvement
 - ◇ The government needs to promote the proposed training leave and certification system through a publicity campaign. This will help to make workers aware of labor market developments, the need to learn new skills and knowledge, the virtues of saving for adversity, and the importance of continuous self-improvement. When these policy measures are implemented as a set, they will gradually overcome the reluctance of middle-aged workers to acquire training for their own betterment.

3. *Expanding education opportunities is the long-term solution.*

- Tackling the employment problems of middle-aged workers is a task that requires prudence and patience. Our diagnosis indicates that many of the labor market problems of the middle-aged stem from their inadequate education. Expanding education opportunities and improving the quality of education are the generic and long-term solution to these problems.

中年人的就業出現危機？

40-49 歲人士就業前景報告

孫永泉、譚若梅

香港大學香港經濟與商業策略研究所

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摘要

背景

- 以往，40 歲左右是一個人一生中的事業黃金時期。但新世紀來臨後，科技發展得比過去幾十年都要快，並帶動經濟結構急速轉型，導致個人的勞動技能迅速過時，加上新的生產方式改用知識密集，這一切都改變了年齡和生產力的關係，令人擔心中年人士的就業前景將不如前。
- 香港去年有 911,000 名從事經濟活動的(economically active)「中年人士」(指年齡介乎 40-49 歲者)，佔整體勞動力四分之一。但其中逾半屬「低教育程度」(指中三或以下程度者)，而且偏重於製造業，工種方面偏重於工藝、生產和非技術職業。但隨著香港的經濟轉為知識密集型和服務業為主，這些行業和職業日趨式微。中年人士大都需要養家，他們就業前景惡化的社會後果不容忽視。
- 目前，有關中年人士就業困難的例證大都基於傳聞，支離破碎，有欠準確。故此，有需要對有關問題作有系統的評估。本報告分析全面的全港數據，試圖有系統及全面地了解中年人士的勞動市場前景，尤其是低教育程度人士的困難。所採用的數據包括：
 - ◇ 1985 年至 1999 年各季度的《綜合住戶統計調查》；
 - ◇ 1986 年、1991 年和 1996 年的人口統計和中期人口統計(by-census)；
 - ◇ 2000 年 5 月至 6 月間一項對全港僱主進行的抽樣調查；以及
 - ◇ 對一批僱主組織的深入訪問。

對中年人士就業前景的評估

1. 就各種主要的就業前景指標來說，中年人士的情況一般並不比其他年齡的人士差。

本報告以商業週期研究中常用的「時序數列」(time series)方法，分析各季度的失業率，分解箇中的長期趨勢(trend，亦即長線關係)和過渡性變化(亦即臨時關係)。從1985年至1999年，中年人士的長期趨勢失業率較整體人口平均值低0.7-0.8個百分點。雖然近年經濟出現結構性的變化，但並無證據顯示，中年人士的這項優勢有所削弱。

中年人士的過渡性失業率亦不若整體人口起落大，這顯示與其他年齡的人士相比，中年勞動人口平均來說受商業週期的影響較小。事實上，自1990年起，每當失業率上升時，影響最大的是以15-24歲的人口。

1985年至1999年間，中年男性的勞動參與率(labor force participation rate)相對穩定，平均值維持在98%。中年女性同期內的平均值為53%，較全港年滿15歲女性的平均值高5個百分點。

中年勞動者的收入也高於其他年齡組合。無論就收入水平或收入增長率來說，低教育程度中年勞動者的情況並不比其他年齡的低教育程度勞動者為差。

2. 就中年人士來說，低教育程度者的就業前景有惡化的趨勢。但原因是他們的教育程度低，與年齡無關。

1990年以來，不管是那個年齡，低教育程度人士的失業可能性都有所上升。與此並行的是，低教育程度中年人士的長期失業趨勢較整體人口上升得快。中年人口的就業前景惡化，原因在於教育程度低而不於年齡。由於市場需要較高教育水平的工人，技能水平高和沒有技能的工人就有着截然不同的就業情況。

1985年至1999年間，女性的勞動力參與率穩定於49%的水平。低教育程度中年女性的長期趨勢勞動力參與率由52%下降到46%；但中年女性的參與率跌幅並不比其他年齡的女性為大。同期，低教育程度的中年男性的長期趨勢勞動參與率由97%下降到95%。與女性的情況相同，下跌的主要是因為教育程度低而非年齡。事實上，所有低教育程度男性的勞動參與率跌幅反而高於40到49歲低教育程度人士。

3. 但本研究發現，中年勞動者的就業前景並非一片光明。有兩個問題是值得關注：

與其他年齡的勞動者相比，低教育程度的中年人士（尤其是男性）較多從事生產性或低技能職業。而且，這類低教育程度的中年男性似乎較難離開衰退的行業。由於低教育程度的中年男性具有某種特定的人力資本，即使在低技能職位的需求減少時，但他們未必即時失業。但若低技能職位的工資長期呆滯，低教育水平的中年男性的就業前景堪虞。

失業半年或以上的中年人士為數不多，但他們佔整體失業中年人士中的比例日漸上升。而且，他們轉業時遇到困難的原因與他們的年齡相關。

4. 低教育程度的中年僱員能從僱主獲得正規的培訓的機會很微。另一方面，僱主認為他們缺

乏某些工作技能和知識。

香港大多數企業沒有為僱員提供正規的職業訓練。其中以小企業為甚，因為他們根本沒有能力這樣做。而僱主即使提供培訓，也不一定提供給受教育程度較低的中年僱員。僱主似乎主要依靠非正規而不是正規的在職訓練。

香港僱主認為，隨著製造業北移到內地、以及中國加入「世界貿易組織」(WTO)，將會需要更多有管理和開發市場技能的僱員，對於中層管理的中年僱員需求會有所增加。至於為處於低級職位的中年僱員提供正規培訓，一方面投資於他們身上，可見的回報偏低。另一方面，僱主亦懷疑這類中年僱員參予正規培訓課程的動力，故此，一般選擇培訓較年輕的僱員。

僱主認為，教育程度較低的中年僱員缺乏某些技能和知識，故只要不須負擔培訓的全部費用，僱主會希望僱員能改善他們的技能及知識，特別是電腦技術、職業安全、銷售、與顧客的關係和在工作場合與別人溝通的技能。

對於由政府協助提供培訓，僱主總的來說有以下的考慮：盡量少麻煩僱主；盡量不影響公司的正常運作。是否由政府來分擔培訓的費用反屬次要。

政府可以如何幫忙中年人仕

1. 由於問題的規模，政策措施須慎重周密、目標明確。

本報告的評估顯示，中年人士的就業前景尚未如傳聞般陷入「勞動力市場危機」。故此，在制定政策時，應採取慎重周密、目標明確的方法，而非一刀切(across-the board)的大動作。有關政策以不會大幅度增加經營成本為宜，否則將弊多於利。由於直接津貼接受培訓的現有僱員或對新聘僱員提供工資津貼並不符合成本效益，故此本報告並不推薦。

本報告發現有兩類人仕的就業問題較嚴重：(1)從事低技能職業的中年勞動者轉行有困難；及(2)一些長期失業的中年人士。政府現有的職業再培訓計劃以這兩類人仕為對象，故此該計劃有需要進一步加強，以協助這兩類人仕。這些中年失業者有較低的時間機會成本，他們亦有可能長期失業。因此，若能集中資源協助這兩類人仕，收效會比分散資源，協助所有中年人士為佳。

2. 可同時採取以下積極和目標明確的措施，舒緩中年人仕其他遭遇到的就業問題。

為失業人士設立職業進修證書制度

● 設立職業進修證書制度以加強現有的再培訓計劃

這制度可為僱主對有關求職者的質素，提供可信和適用的資訊，同時，亦會誘發中年人仕接受培訓。但頒授證書應按照接受培訓者的能力，而不應取決於出席率。

制訂證書制度時，務必鼓勵僱主積極參與，並徵求教育及人力統籌局、僱員再培訓局、職業訓練局、往績良好的培訓組織、以及人力資源專家的意見。同時密切監察各培訓組織和標準的培訓教材，確保水準劃一、質素良好。

證書制度初期宜集中提供以下四種僱主認為僱員欠缺的技能：(1)電腦系統和軟件的應用；(2)職業安全和健康；(3)銷售及顧客關係技能；及(4)工作場所的人際溝通技能。

每年為現有僱員提供培訓薪假

政府應鼓勵或規定僱主，每年為僱員提供兩、三天的培訓有薪假期，以免僱員因為上班而不能接受培訓，同時降低培訓對僱員構成的成本。培訓薪假不應與年齡掛鉤，以免僱主藉機辭退中年僱員。

有薪培訓可採用模塊方式推行，但只適用於上文建議的職業進修證書制度內的幾種資格。每個模塊為期兩、三天，以鼓勵僱員選修。

發動宣傳，提高市民對自我完善的認識

政府宜發動宣傳，推廣上文建議的培訓薪假和證書制度，讓市民了解勞動市場的進展、掌握新技能和知識的需求、以及不斷自我改善的重要性。當以上措施能一整套地實施，可望逐漸消除中年勞動人口對接受培訓才能自我完善的猶疑。

3.增加教育機會方為長遠解決之道

解決中年勞動力的就業問題需要慎密的考慮和耐心。本報告的分析顯示，不少中年人士就業有困難，主要的原因是他們的教育程度不足，故此擴大接受教育的機會，改善教育質素是治根及長遠之計。

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LABOR MARKET CRISIS AT MID-LIFE?

A Report of the Employment Prospects of People Aged 40–49

Chapter 1

Introduction

Conventional wisdom has it that the prime of one's work life is near the age of forty. At that point in the life cycle, physical conditions and the state of the intellect are still well suited for productive work, while the maturity and the skills accumulated from prior work experience bear their fruits in the labor market. This conventional view is supported by casual observation as well as by a massive amount of data. Economists and other social scientists have produced literally thousands of studies that investigate the relationship between age and market wage or earnings. These studies cover many different countries—large and small, rich and poor. They span many different time periods—from the nineteenth century to the end of the twentieth century. The uniformity of their conclusion is striking. Almost invariably, they find that labor market earnings rise steadily with age for the first twenty years after a person leaves school, and begin to decline gradually after a person reaches age fifty. The age-earnings profile reaches a plateau around age forty. Is there reason to believe that this pattern will change at the dawn of the new century? Will there be a labor market crisis looming over workers in their forties, who are supposed to be at the peak of their productive life?

Concern over the employment prospects of workers in their forties is not completely unwarranted. The pace of technological change at the turn of the new century seems to be faster than what we have experienced in the past several decades. Associated with this wave of new technology is a rapid transformation of the structure of economy. It is now fashionable to argue that we are entering a “new economy,” in which the conventional wisdom of economists is no longer sacred. Some of the claims made about the new economy are just hype, but some others cannot be simply dismissed.

Accelerated obsolescence of labor market skills and the use of new and knowledge-intensive methods of production may arguably have changed the relationship between

age and productivity. Ten years ago, a chief executive officer younger than fifty was a rarity. The average chief executive officer of a major U.S. corporation was 56 or 58 years old.¹ Today, in some quarters of the internet business, it is difficult to find anyone older than forty in the executive board room. At the middle management level and below, the concept of lifetime employment has given way to corporate down-sizing and restructuring. Long tenure in a firm is no longer a guarantee for job security. In the United States, there is evidence that workers' subjective beliefs about their job security have turned more pessimistic,² although the evidence is mixed on whether job stability has actually deteriorated or not.³

At the lower end of the skills spectrum, structural changes in the economy can potentially have devastating effects on middle-aged workers. These workers may have accumulated some human capital specific to their current employment. But when the industries for whom they work are in decline, or when the type of jobs they do are replaced by different ones, the human capital they possess will no longer be so valuable. Moreover, economist Theodore Schultz points out that formal education helps make a person more adaptable and more capable of dealing with temporary dislocation.⁴ Since a significant fraction of these low skill workers have little schooling, they may not be well equipped to face the possibility of a labor market crisis in mid-life.

Any deterioration in the employment prospects of people in their forties can have a major impact on the Hong Kong economy. In 1999, there were 911,000 people aged between 40 and 49 who were economically active. They make up over a quarter of

¹ Sunita Wadekar Bhargava, "Portrait of a CEO: What's the Typical Boss Like? Here are the Vital Statistics," *Business Week*, October 11, 1993, p. 64; Michael J. McCarthy, "A CEO's Life: Money, Security and Meetings," *Wall Street Journal*, July 7, 1987, p. 27.

² Stefanie R. Schmidt, "Long-Run Trends in Workers' Beliefs about Their Own Job Security: Evidence from the General Social Survey," *Journal of Labor Economics*, 17, October 1999, Part 2, pp. S127–S141.

³ Henry S. Farber, "The Changing Face of Job Loss in the United States, 1981–1995," *Brookings Papers on Economic Activity: Microeconomics*, 1997, pp. 55–128; David Neumark, Daniel Polsky, and Daniel Hansen, "Has Job Stability Declined Yet? New Evidence for the 1990s," *Journal of Labor Economics*, 17, October 1999, Part 2, pp. S29–S64; Robert G. Valletta, "Declining Job Security," *Journal of Labor Economics*, 17, October 1999, Part 2, pp. S170–S197.

⁴ Theodore W. Schultz, "The Value of the Ability to Deal with Disequilibria," *Journal of Economic Literature*, 13, September 1975, pp. 827–846.

the Hong Kong labor force. Of these 911,000 individuals, over half—or 477,000—have an education at the lower secondary level or below. These 40–49 year-old workers with relatively low levels of education are over-represented in manufacturing industries, which have shown a long term trend of decline in Hong Kong. They are also more likely than the average worker to be working in crafts, production, or elementary occupations, which have come under stress as the economy shifts toward more knowledge-intensive modes of operation. The mere size of this group of middle-aged low-skilled workers suffices to call the attention of policy makers. Furthermore, most of these workers have a family to support. The social implications of any decline in their employment prospects cannot be overlooked.

1.1 Scope of the Study

This report examines the labor market prospects of people aged between 40 and 49. For convenience they are referred to as “middle-aged workers,” even though not all of them are currently employed. Particular attention will be focused on middle-aged workers with low levels of education, i.e., those at the lower secondary level (Form 3) or below.

The employment prospects of middle-aged workers is a subject of much speculation. Anecdotes abound but systematic evidence is not so common. This study makes use of records from the General Household Survey for every quarter in the period 1985–1999. The General Household Survey is a regular survey conducted by the Census and Statistics Department based on a random sample of households covering over 70,000 individuals in Hong Kong. It provides a comprehensive database for evaluating the labor market problems faced by middle-aged workers. Occasionally this database is supplemented by the 1986, 1991, and 1996 population census and by-census records. In contrast to other surveys and studies of individual industries or occupations, these two sources of information are much larger in scale and are representative of the territory as a whole. And because the General Household Survey follows a consistent protocol over time, labor market trends can be discerned more easily using information from this survey than using other sporadic sources of information.

Whereas the General Household Survey and the population censuses contain exten-

sive information about the characteristics of employees, they reveal almost nothing about the firms. To obtain a more balanced view from both sides of the labor market, a special survey of firms was conducted in April–July 2000 for the purpose of this study. This survey was carried out with logistical support from the Census and Statistics Department. It covers a representative sample of all employers in Hong Kong. In addition to factual information about their employment practices, the survey also solicits employers' views on their needs and preferences regarding training provisions to middle-aged workers with low levels of education. This structured survey is supplemented by in-depth interview with a number of employer organizations. The views collected form an important input in the formulation and evaluation of public policy options.

1.2 Outline of the Report

We begin this study by taking a quantitative examination of the labor market situation of middle-aged workers based on records from the General Household Surveys for the period 1985–1999. Chapter 2 looks at two important labor market outcomes: labor force participation and the incidence of unemployment. We use time series techniques to isolate the temporary fluctuations from the more permanent trends so as to arrive at a prognosis of the employment prospects of middle-aged workers. We pay particular attention to separating the effects of age and educational attainment on employment and unemployment.

Chapter 3 continues to examine other labor market outcomes for the middle-aged. Labor earnings is a more permanent determinant of the standard of living than is unemployment. Therefore we focus on the structure of labor earnings and its changes over time. The second half of this chapter tries to identify particular problem areas by specifically looking at unemployed middle-aged workers and middle-aged workers who are in manufacturing industries and low-skilled occupations.

After the quantitative study of labor market trends, we turn to a qualitative study of these trends in Chapter 4. Employers are intimately knowledgeable about business conditions, which shape their demand for labor. They also provide training to employees, which affect their employment prospects. Chapter 4 reports the results of our intensive

interviews with representatives of employers' associations. They provide useful insights into the skills adequacy of middle-aged workers and the problems of training provision.

The qualitative interviews with employers are supplemented by a more structured questionnaire survey conducted with the help of the Census and Statistics Department. Details of the survey results are discussed in Chapter 5.

The final chapter of this report draws on the results from the earlier chapters to inform the choice of public policies. Specific policy recommendations are made with the objective of helping middle-aged workers. The limitations and constraints on effective intervention are also pointed out.

Chapter 2

Employment and Unemployment among the Middle-Aged

2.1 Analysis of General Household Survey Records

The General Household Survey provides a consistent and comprehensive database for assessing the employment situation in Hong Kong. Official statistics such as the unemployment rate and the size of the labor force are compiled from the results of this survey, which is conducted at quarterly intervals on a random sample of some 20,000 households. This report uses data from the General Household Survey for the period 1985–1999.

For each quarter in the period 1985–1999, relevant employment statistics are extracted from the General Household Survey files. The time series thus constructed are rather volatile. Sampling error, temporary fluctuations, seasonal effects, and cyclical factors introduce considerable short term variability to the data series. In order to distinguish the longer term movements from the short term variability, each time series is treated by a statistical method known as the Hodrick-Prescott filter.¹

The Hodrick-Prescott filter is the most commonly used technique in business cycle research to separate trend movements from transitory fluctuations. Its use is illustrated in Figure 2.1, which plots the time series data when the Hodrick-Prescott filter is applied to the unemployment rate. The dotted line is the trend component of unemployment, and the dashed line is the transitory component. These two components add up to the original time series, shown in solid line of the figure.

Focusing on the trend component of the time series has two advantages for the purpose of this study. First, the trend component is smoother than the original series. This makes the visual identification of data patterns much easier. Second, because

¹ Robert Hodrick and Edward Prescott, “Postwar U.S. Business Cycles: An Empirical Investigation,” *Journal of Money, Credit, and Banking*, 29, February 1997, pp. 1–16.

of policy lags, labor market policies should be made to address structural problems. Transitory fluctuations in the labor market due to business cycles or other short term factors should not influence the formulation of public policies toward the structure of the labor market. In what follows, most of the time series data used in this report are the trend components of the original series extracted by using the Hodrick-Prescott filter, although some attention will also be given to transitory labor market movements.

2.2 Age and the Incidence of Unemployment

Unemployment in Hong Kong stood at an all time high of 6.2 percent in 1999. The burden of unemployment is not distributed evenly across the population. Teenagers and the unskilled typically have higher unemployment rates than other groups. While middle-aged workers tend to have relatively low unemployment rates, the costs of unemployment can be particularly high for this group. These workers often have worked in the same company for a long period. Being suddenly thrown out of work can be a traumatic experience, both economically and psychologically. The difficulties are compounded if

alternative employment opportunities are few and far between.

To investigate the relationship between age and the incidence of unemployment, we extract the trend components of the overall unemployment rate and of the unemployment rate for the 40–49 age group. For comparison, we also extract the trend unemployment rate for the 15–24 year-olds. Since men and women tend to exhibit different labor market behavior, they are analyzed separately. Figure 2.2 shows the pattern for men.

A close examination of Figure 2.2 leads to the following conclusions:

- Unemployment among 40–49 year-old men is consistently lower than overall male unemployment by approximately 0.7 percentage point. In contrast, men in the 15–24 age group experience an unemployment rate which is on average 3.6 percentage points higher than overall male unemployment.
- The three unemployment series all show an upward trend since 1990. We have also looked at the unemployment rates for men in other age groups, and they exhibit

the same pattern. This suggests that the rise in unemployment since 1990 is an economy-wide problem rather than an age-related problem.

- The gap between the dotted line (aged 15–24) and the solid line (aged 15+) has widened since 1990. In 1990Q1, trend unemployment among men aged 15–24 was 2.3 percentage points higher than overall male unemployment. By 1999Q4, the difference has risen to 8.2 percentage points. On the other hand, the gap between the dashed line (aged 40–49) and the solid line (aged 15+) has remained more or less constant throughout the period. The group that are particularly hard hit by the rise in unemployment since 1990 are young people in the 15–24 age group, not middle-aged people in the 40–49 age group.

In Figure 2.3, we plot the transitory components of unemployment rate for men in different age groups. The figure shows that transitory unemployment among 40–49 year-old men (dashed line) follows the overall pattern (solid line) very closely. In contrast, transitory unemployment among 15–24 year-olds (dotted line) is much more volatile than the overall pattern. During a transitory upswing of the economy, business can expand rapidly by absorbing young workers. But when the economy is in a down-swing, these young workers are also the first to go. Employer-employee attachments tend to be stronger for middle-aged workers than for young workers. For most long-serving employees, both employers and the employees themselves typically have invested in building up firm-specific human capital. If employers lay off these workers in a temporary downturn, they will lose the opportunity to reap the benefits from their human capital investments when business picks up again. This explains why we observe in Figure 2.3 that the 40–49 age group enjoy greater employment stability than the 15–24 age group.

In Figures 2.4 and 2.5, we plot the trend and transitory unemployment rates for different groups of women. The patterns shown in these two figures are almost identical to the patterns we have observed for men. Unemployment rate among middle-aged women is lower and more stable compared to younger women. Figure 2.4 shows that middle-aged women has a trend unemployment rate which is 0.8 percentage point below the overall female trend unemployment rate in 1990Q1. Although this advantage has

narrowed somewhat to 0.6 percentage point in 1999Q4, the magnitude of the change is not significant enough to cause serious concern.

The preliminary evidence presented in Figures 2.2 to 2.5 suggests that conventional wisdom is well and alive: middle-aged people are less prone to unemployment risks than are people in other age groups. They have a lower unemployment rate than the population average. Moreover, notwithstanding the structural changes taking place in the Hong Kong economy, this advantage has not significantly diminished over time. If there is any reason to focus on the age factor as a possible problem in the labor market, it is the 15–24 year-olds who deserve more attention.

2.3 Labor Force Participation

The lack of gainful employment does not necessarily show up in unemployment statistics, because people who do not actively look for work are not counted as part of the labor force. To arrive at a more complete picture of the employment situation, it is useful

to study labor force participation rates as well as unemployment rates. Although the decision to join the labor force is often regarded as a supply response on the part of the workers, we believe that this decision is affected by demand conditions too.² After all, being out of the labor force and being unemployed are not really so distinct empirically.³ This section is devoted to examining labor participation trends for people of different age groups.

Figure 2.6 plots the trend labor force participation rates for all men aged 15 or above (solid line) and for men in the 40–49 age group (dashed line). It can be seen that male labor force participation is trending steadily downward from 81 percent in the beginning of the sample period to about 75 percent toward the end of 1999. The primary reasons for this decline are the increase in schooling among the young and earlier retirement among the old. Among 40–49 year-old men, labor force participation has remained relatively stable at about 98 percent: almost all men in this age group are economically active.

A more careful look at Figure 2.6 reveals that the labor force participation rate of 40–49 year-old men has dropped slightly relative to that of 25–39 year-old men (shown in dotted line) since 1992. However, the magnitude of this drop is very small. The difference between these two series never exceeds 2 percentage points. There is no evidence of a substantial decline in labor participation among middle-aged men.

Women exhibit very different labor participation trends compared to men. In Figure 2.7, female labor force participation rate (solid line) averages to 48 percent during the 1985–1999 period. Labor force participation rate for women in the 40–49 age group (dashed line) is higher, at 53 percent, during the same period. While these two series are trending up in recent years, there is no noticeable upward or downward trend over the entire sample period. Moreover, the gap between these two series has not widened or narrowed.

² Chuihui Juhn, “Decline of Male Labor Market Participation: The Role of Declining Market Opportunities,” *Quarterly Journal of Economics*, 107, February 1992, pp. 79–121.

³ James M. Poterba and Lawrence H. Summers, “Reporting Errors and Labor Market Dynamics,” *Econometrica*, 54, November 1986, pp. 1319–1338

The most striking feature of Figure 2.7, however, is the secular increase in female labor participation among the 25–39 age group (dotted line). The labor force participation rate among this group has risen by 13 percentage points over the past 15 years, from 59 percent in 1985 to 72 percent in 1999. Why didn't 40–49 year-old women experience the same rapid increase in labor participation? In the next two sections, we will argue that the reason has more to do with education than with age.

2.4 *The Rising Demand for Educated Workers*

The evidence presented so far suggests that it is a mistake to believe that middle-aged workers are disadvantaged in the labor market: they have a lower than average unemployment rate and a higher than average labor force participation rate. By virtue of their age and therefore their years of accumulated experience in the labor market, these workers are relatively well-endowed with human capital. On-the-job training and more subtle learning-by-doing give them an advantage over younger and less experienced workers.

Human capital accumulated through training and learning-by-doing, however, is not the same as human capital acquired through formal education. The current 40–49 year-olds were born between 1951 and 1960, a time when education opportunities were less plentiful than they are now. For example, these individuals were past their school age when free and compulsory nine-year education was introduced in Hong Kong in 1978. In general, middle-aged people in Hong Kong are less well educated compared to younger generations or compared to the overall population. This is illustrated in Figure 2.8, which shows the percentage distribution of educational attainment for the 40–49 age group (light bars). The distribution of educational attainment for the general population aged 15 or above is also shown (dark bars) for comparison. In 1999, 48 percent of the Hong Kong population aged 15 or above had no more than nine years of education (i.e., lower secondary education or below). Among people aged between 40 and 49, on the other hand, as many as 57 percent had no more than nine years of schooling. More detailed figures are shown in Table 2.1.

There is growing evidence that technological changes in the past two decades have

Table 2.1
Number of Persons by Educational Attainment, 1999

	Population		Labor Force	
	aged 15+	aged 40–49	aged 15+	aged 40–49
no schooling/kindergarten	471,850	34,990	59,950	17,860
primary (P1–P3)	1,270,720	388,680	605,480	261,600
lower secondary (S1–S3)	933,400	256,520	634,570	197,570
upper secondary (S4–47)	1,942,090	357,140	1,398,350	292,740
tertiary (non-degree)	383,630	61,590	307,880	56,560
tertiary (degree)	594,450	91,980	470,330	84,940

been “skill-biased” in the sense that they raised the productivity of skilled workers relative to that of unskilled workers. This is manifested in increasing returns to education, stagnant wage growth for unskilled workers, and a trend of rising wage disparity.⁴

⁴ Lawrence F. Katz and Kevin M. Murphy, “Changes in Relative Wages, 1963–1987: Supply and Demand Factor,” *Quarterly Journal of Economics*, 107, February 1992, pp. 35–78; John Bound and George Johnson, “Changes in the Structure of Wages in the 1980’s: An Evaluation of Alternative

Table 2.2
Number of Unemployed Persons among Various Groups

	all individuals	aged 40–49	aged 40–49 & education \leq F.3
1985	83,620 (3.2%)	8,760 (2.3%)	6,450 (2.5%)
1990	36,550 (1.3%)	3,850 (0.8%)	2,430 (0.8%)
1995	95,630 (3.2%)	18,080 (2.7%)	14,430 (3.8%)
1999	217,060 (6.2%)	49,090 (5.4%)	34,140 (7.2%)

Lawrence Katz and Kevin Murphy have documented that people with less than high school education in the United States have experienced a 6.6 percent fall in real wages in the period 1979–1987. In contrast, people with college education or above have experienced a 7.7 percent wage gain during that period. Chinhui Juhn has shown that the decline in male labor force participation in the United States from 1967 to 1987 was much greater among high school dropouts than among college graduates. Formal education has become increasingly important in today’s labor market.

The large concentration of the middle-aged in Hong Kong with little formal education is a cause for concern. While we have argued that the 40-49 year-olds are generally not a disadvantaged group in the labor market by virtue of their age, a significant fraction of these individuals may indeed be disadvantaged by virtue of their low educational attainment. We therefore need to break down the analysis by education as well as by age. Table 2.2 shows the number of unemployed persons and the unemployment rate (in parentheses) for various groups. As before, we find it more illuminating to perform an analysis of trends by using the Hodrick-Prescott filtering technique. Such an analysis is depicted in Figures 2.9 and 2.10, which show the trend unemployment rates for various demographic groups.

Explanations,” *American Economic Review*, 82, June 1992, pp. 371–392.

Figure 2.9 displays the unemployment trends for men and Figure 2.10 displays the unemployment trends for women. The visual patterns shown in these two figures for the 1990–1999 period are almost identical, so we can save some space by focusing on Figure 2.9 only. This figure reveals the following patterns:

- Men with an educational attainment of Form 3 or below (shown in dashed line) tend to have a higher unemployment rate than do the overall male population (thick solid line). The difference between these two groups' unemployment rates was negligible, at about 0.1 percentage point, before 1990. The gap had widened substantially since then. By 1999, unemployment among the less well educated was 2.1 percentage points higher than that among the general population.
- A similar deterioration in unemployment for the less well educated can be detected within the age group 40–49. Before 1990, middle-aged men with an educational attainment of Form 3 or below (thin solid line) were only marginally more likely to be unemployed than all middle-aged men (dotted line). By the end of the sample period, however, the difference between their unemployment rates had grown to 1.9 percentage points.
- Middle-aged men with low educational attainment (thin solid line), however, have lower unemployment when compared to all men with low educational attainment (dashed line). The gap between the trend unemployment rates for these two groups is fairly stable at about 0.6 percentage point. This suggests that the rise in unemployment for middle-aged men with low educational attainment is not attributable to the age factor.
- Between 1985 and 1990, being less well educated had only a negligible effect on raising unemployment while being middle-aged would lower unemployment risks by 0.6 percentage point. Thus, middle-aged men with low educational attainment had a lower unemployment rate than the general male population. The thin solid line lies below the thick solid line during this period. Since 1990, being less well educated becomes increasingly a handicap in the labor market, while the advantage from being middle-aged remains unchanged. As a result, middle-aged men with low educational

attainment face a more rapid rise in unemployment rate when compared to the male population as a whole. The thin solid line starts from a position below the thick solid line and eventually rises above it. By the end of 1999, middle-aged men with low educational attainment had an unemployment rate which was 0.9 percentage point higher than the overall male unemployment rate.

In sum, our analysis suggests that unemployment risks are indeed deteriorating for middle-aged men and women with low levels of education. This deterioration in their labor market prospects, however, is largely attributable to their education rather than to their age. For the past ten years people with low educational attainment, regardless of their age, have been facing a worsening unemployment trend relative to the general population.

2.5 *Declining Labor Participation among the Less Educated*

In addition to the relationship between education and unemployment trends, we have performed a similar analysis to investigate the relationship between education and labor participation trends. Figure 2.11 plots the trend components of the labor force participation rates for various groups of men. It can be seen that men with low educational attainment (shown in dashed line) have a greater drop in labor force participation rate compared to all men (thick solid line). A large part of this is due to the fact that the former group is over-represented by elderly people. Since earlier retirement among elderly people is a major factor behind the drop in male labor force participation rate in Hong Kong, the divergence between the dashed line and the solid line can be readily understood.⁵

Once age composition is held fixed, the effect of education on labor participation is much less pronounced. Among men in the 40–49 age group, for example, those with low educational attainment (thin solid line in Figure 2.11) have a labor force participation rate which is only marginally below that of all middle-aged men (dotted line). Thus, middle-aged men with low educational attainment still have an average labor force

⁵ Wing Suen, “Retirement Patterns in Hong Kong: A Censored Regression Analysis,” *Journal of Population Economics*, 10, October 1997, pp. 443–461.

participation rate of 97 percent in this period.

The labor force participation rate for this group of middle-aged men with low educational attainment did fall slightly in recent years, to 95 percent in 1999. Their employment has dropped relative to all middle-aged men (thin solid line versus dotted line). Relative to all men with low educational attainment, however, their employment has risen (thin solid line versus dashed line). One may conclude that any decline in the employment prospects of this group is more due to their education than to their age.

The labor force participation trends described here are even more evident for women than for men. Figure 2.12 shows the smoothed labor force participation rates for different groups of women. If we compare the thin solid line in this figure with the dotted line, it can be observed that middle-aged women with low educational attainment had significantly reduced their labor participation relative to all middle-aged women. The difference in their trend labor force participation rates grew from 1.3 percentage points to 8.5 percentage points. If we compare the thin solid line with the dashed line, on the

other hand, it can be observed that the same group of women did not reduce their labor participation relative to all women with low educational attainment.

However, the labor force participation rate for women with low educational attainment (dashed line in Figure 2.12) has declined rapidly relative to the general population (thick solid line), with the gap widening from 7 percentage points in the beginning of the sample period to 20 percentage points toward the end. Thus, even though middle-aged women with low educational attainment did not have a significant drop in labor force participation relative to all women with low educational attainment, they did have a significant drop in labor force participation relative to the overall female population. Again, such a drop is attributable to the education factor than to the age factor.

2.6 *Multivariate Statistical Analysis*

To disentangle the effects of age and education on employment outcomes, we perform multivariate statistical analysis using the individual records from the General Household

Survey. Such an analysis will give a more precise estimate of the effects of various determinants of employment outcomes than is afforded by a visual inspection of data trends.

Since unemployment is a binary (“unemployed” or “not unemployed”) outcome, it can be modeled by a probit regression. We assume that the probability that a person is unemployed depends on his or her education (six categories), marital status (three categories), the quarter of the survey (four categories), and age. To build flexibility in modeling the effects of age, we enter age as a polynomial of degree four. Furthermore, this polynomial is interacted with a dummy variable indicating low educational attainment (Form 3 or below) so as to capture the different effects of age on the well educated and on the less well educated. The probit regressions are performed separately for men and women aged between 15 and 59 for the years 1985, 1990, 1995, and 1999.

The results of the probit regression estimates could be presented numerically, but they would be difficult to interpret. To better understand these results, we plot the predicted unemployment probability against age based on the regression models. Figure 2.13 shows two such plots for men and women for the year 1999. In both panels, the solid line represents people with primary education and the dotted line represents people with upper secondary education or matriculation. For men, unemployment risk declines rapidly with age until around age 30, after which unemployment risk rises slowly with age. Men with lower educational attainment are more likely to be unemployed than men with higher educational attainment. For women, the patterns are very similar, except that the rise in unemployment risk after age 30 is slower than that for men. The difference in unemployment risks between well educated women and less well educated women is also smaller than that for men.

Take a 35 year old married man with upper secondary education who was surveyed in the fourth quarter of 1999 as the benchmark for comparison. According to the probit model, his probability of being unemployed was 2.9 percent. Holding education constant while increasing the age to 45 raises the unemployment probability by 1.1 percentage points. Holding age constant while lowering the education to primary level raises the

unemployment probability by 4.4 percentage points. Finally, increasing the age to 45 while lowering the education to primary level raises the unemployment probability by 5.2 percentage points. These calculations are displayed in Table 2.3 for the years 1985, 1990, 1995, and 1999.

Rows (A2) and (B2) of Table 2.3 illustrate the effect of age on unemployment. One can see that raising the age from 35 to 45 raises the probability of unemployment, but the size of this effect is relatively modest—typically less than one percentage point. The effect of education on unemployment is shown in rows (A3) and (B3). A person with primary education is more likely to be unemployed than is a person with upper secondary education. Moreover, the gap between the well educated and the less well educated has grown considerably, reaching 4.4 percentage points for men and 1.9 percentage points for women in 1999.

Row (A4) of Table 2.3 shows the increase in unemployment probability for men when age is increased from 35 to 45 and education is lowered from upper secondary level to

Table 2.3
Unemployment Probabilities Relative to Benchmark

	1985	1990	1995	1999
(A) Men				
(A1) aged 35 and S4–S7 education (benchmark)	1.1%	0.3%	1.1%	2.9%
(A2) aged 45 and S4–S7 education LESS (A1)	+0.6%	+0.3%	+0.4%	+1.1%
(A3) aged 35 and P1–P6 education LESS (A1)	+0.9%	+0.3%	+2.1%	+4.4%
(A4) aged 45 and P1–P6 education LESS (A1)	+1.9%	+0.6%	+2.7%	+5.2%
(B) Women				
(B1) aged 35 and S4–S7 education (benchmark)	0.6%	0.1%	0.9%	2.1%
(B2) aged 45 and S4–S7 education LESS (B1)	+0.3%	+0.1%	+0.3%	+0.6%
(B3) aged 35 and P1–P6 education LESS (B1)	+0.8%	+0.4%	+2.1%	+1.9%
(B4) aged 45 and P1–P6 education LESS (B1)	+0.6%	+0.2%	+2.2%	+2.7%

primary level. If the effect of being middle-aged and the effect of being less-educated do not compound together to produce a large adverse effect on unemployment, row (A4) should be approximately the same as the sum of rows (A2) and (A3). Table 2.3 shows that this is indeed the case. For the year 1995, the sum of the age effect and the education effect (2.5 percent) was less than the predicted excess unemployment for middle-aged men with primary education (2.7 percent) relative to the benchmark. For the year 1999, the reverse is true: the sum of the age effect and the education effect (5.5 percent) was greater than the predicted excess unemployment for middle-aged men with primary education (5.2 percent) relative to the benchmark. In both years, the difference between these predicted values are fairly small. A similar point can be made for women. With the exception of year 1999, row (B4) is less than the sum of rows (B2) and (B3). Our observation implies that the adverse effect on unemployment of being middle-aged is not more pronounced among people with low educational attainment than among the well educated. It also means that the adverse effect on unemployment of having low educational attainment is not more pronounced among the middle-aged than among 35 year-olds.

2.7 *Probit Model of Labor Participation*

We have also estimated probit models for the labor force participation decision. The independent variables used are the same as those used in the probit models for unemployment. Figure 2.14 gives a graphical representation of the estimated relationship between age and labor force participation for the year 1999.

Panel (A) of Figure 2.14 indicates that, beyond age 30, male labor force participation declines gradually with age among people with primary education. No such decline is observed among men with upper secondary education. For women, panel (B) of the figure shows that labor participation declines with age among the highly educated, while there is a double-peaked pattern among women with lower educational attainment. The depression between the two peaks can be explained by women's withdrawal from the labor force due to child-bearing and child-rearing.

Table 2.4 provides some illustrative comparisons of labor force participation rates. For men, labor force participation among people aged 35 and with upper secondary

Table 2.4
Participation Probabilities Relative to Benchmark

	1985	1990	1995	1999
(A) Men				
(A1) aged 35 and S4–S7 education (benchmark)	99.8%	99.9%	99.9%	99.8%
(A2) aged 45 and S4–S7 education LESS (A1)	–0.6%	–0.4%	–0.5%	–1.1%
(A3) aged 35 and P1–P6 education LESS (A1)	–0.8%	–0.5%	–0.7%	–2.3%
(A4) aged 45 and P1–P6 education LESS (A1)	–2.5%	–2.2%	–2.4%	–7.0%
(B) Women				
(B1) aged 35 and S4–S7 education (benchmark)	57.6%	62.7%	68.9%	71.5%
(B2) aged 45 and S4–S7 education LESS (B1)	–3.9%	–3.8%	–11.1%	–16.0%
(B3) aged 35 and P1–P6 education LESS (B1)	–15.4%	–24.0%	–33.0%	–32.5%
(B4) aged 45 and P1–P6 education LESS (B1)	–14.1%	–19.2%	–30.0%	–25.9%

education stayed constant at close to 100 percent throughout the period. Compared to this benchmark group, people who are ten years older have a slightly lower labor participation rate, as shown in row (A2) of the table. Similarly, people who have primary education instead of upper secondary education also have lower labor participation rates, as shown in row (A3).

The most noteworthy feature of Table 2.4 is that the effect of age and education on male labor force participation has increased in recent years. For example, row (A4) shows that before 1995 middle-aged men with low educational attainment had a labor force participation rate which was only about 2 percentage points lower than the benchmark group. In 1999, however, the gap widened substantially to 7 percentage points.

Figure 2.15 plots the estimated relationship between age and labor participation for men with low educational attainment. The age-participation profiles are almost identical for the years 1985, 1990, and 1995. Moreover the slope of the profiles are almost flat between age 25 and age 50. In the year 1999, however, the age-participation profile has shifted down somewhat, and there is a perceptible negative slope between age 25 and age 50. This figure suggests that there is a deterioration in the employment prospects

of middle-aged men with low educational attainment relative to men who are younger and more educated.

For women, the most striking trend that may be observed from Table 2.4 is the rapid rise in labor participation among those aged 35 with upper secondary education (the benchmark group). In contrast, the labor participation rate among those aged 45 with primary education has fluctuated within narrow bands. For the latter group of women, there is no absolute decline in their employment prospects, but there is a relative deterioration nonetheless. At a time when labor participation is rapidly rising among educated women, middle-aged women with low educational attainment have failed to catch up.

2.8 *Summary and Implications*

The main findings presented in this chapter can be briefly summarized:

- Middle-aged men and women have a lower unemployment rate and a higher labor

force participation than do the general population. Moreover there is no evidence that their advantages have substantially narrowed in recent years.

- Since 1990 the trend increase in unemployment among middle-aged people with low educational attainment has been faster than that for the general population. They have also experienced a decline in labor force participation relative to the 35 year-olds. The relative deterioration in the employment prospects of this group of individuals is attributable to their education rather than to their age.

When middle-aged people with low educational attainment is thrown into unemployment, does it really matter whether it is because of their age or it is because of their education? From a public policy standpoint, separating the age factor from the education factor is important. Although the 40–49 age group consists of a high concentration of people with low educational attainment, there are a large number of individuals with little education in other age groups as well. Given that there is a general fall in demand for workers with little education, it is not clear why those who belong to the 40–49 age group should deserve special treatment. Indeed middle-aged workers with low educational attainment are less disadvantaged in the labor market compared to all workers with low educational attainment.

There is even less reason to have a public policy that targets the 40–49 age group if we take a longer term perspective. Currently, about 57 percent of people in this age group have nine years of schooling or less. Ten years from now, this fraction will drop to 32 percent. In twenty years' time, this fraction will further drop to 18 percent. The heavy concentration of less well educated people in the 40–49 age group is the result of historical development in Hong Kong that is not expected to persist. If inadequate formal education is the main culprit for deteriorating employment prospects among the current group of middle-aged workers, employment prospects should be considerably brighter for middle-aged workers ten or twenty years from now.

To be sure, policies that help people with low education are more difficult to implement than policies that help people in a certain age group. Age is a relatively unambiguous criterion; a quick check on the identity card will establish a person's age

conclusively. Educational attainment is a lot harder to verify. While it may be difficult to fake credentials that one does not have, it is not difficult at all to conceal the credentials that one possesses. This does not mean public policies should therefore focus exclusively on age. It does mean that public policies that are designed to help those with little education should device methods to prevent people from taking advantage of the system.

Chapter 3

Analysis of Other Employment Outcomes

3.1 *The Structure of Labor Earnings*

Spells of unemployment can pose acute problems for the livelihood of those who are suddenly out of work with no past savings to count on. But a more permanent determinant of the standard of living is the level of labor market earnings. Keeping a job is little consolation to a worker if the job pays very low wages. Our analysis of the employment prospects of middle-aged workers is not complete without a discussion of the structure of labor earnings in Hong Kong.

Unfortunately, the General Household Survey earnings data given to us do not provide information on actual earnings. Actual earnings figures are coarsened into broad earnings brackets, which makes a detailed analysis difficult. We therefore have to reconstruct estimates of actual earnings from the coarsened figures. This is achieved by assuming that labor earnings are log-normally distributed, and estimating the parameters of the distribution by maximum likelihood techniques. Once the parameters are estimated, the conditional mean earnings in each earnings brackets can be computed. These conditional means are then used as our estimates of actual earnings.

To study the effects of age and education on employment earnings, we estimate a standard human capital earnings regression using 1999 General Household Survey data.¹ We use the logarithm of our estimated earnings figures as the dependent variable. The independent variables include the person's age, education (six categories), marital status (three categories), and the quarter of the survey (four categories). To build flexibility in modeling the effects of age, age is entered as a polynomial of degree four. Furthermore, this polynomial is interacted with a dummy variable indicating low educational attain-

¹ Jacob Mincer, *Schooling, Experience, and Earnings*, New York, National Bureau of Economic Research, 1974; Kevin M. Murphy and Finis Welch, "Empirical Age-Earnings Profiles," *Journal of Labor Economics*, 8, April 1990, pp. 202-229.

ment (Form 3 or below) so as to capture the different effects of age on the well educated and on the less well educated. The regressions are performed separately for men and women aged between 15 and 59.

A visual presentation of the regression results is shown in Figure 3.1.² This figure shows the predicted relationship between age and earnings for a married person interviewed in the fourth quarter of 1999. Since the vertical axis is in logarithmic scale, differences in earnings can be interpreted as percentage differences. Several conclusions can be drawn from this figure:

- Empirical age-earnings profiles in Hong Kong have a concave shape. Labor earnings rise very rapidly until age 30, then flattens out between age 30 and age 50, and declines slightly beyond age 50.

² The R^2 of the male earnings regression is 0.32 and that of the female earnings regression is 0.25. The goodness-of-fit of these regressions is comparable to that of similar earnings regressions reported in the literature.

- Beyond age 20, people with higher educational attainment (upper secondary) earn more than people with lower educational attainment (primary). Moreover, the gap between these two groups widens with age until about age 50. For example, the earnings premium from upper secondary education relative to primary education is approximately 22 percent for men at age 25, and grows to about 56 percent at age 45. This widening gap is due to a rapid rise in earnings with age for the highly educated than to a deterioration in earnings with age for the less well educated.
- Middle-aged workers with low educational attainment earns more than workers in other age groups who also have low educational attainment. For example, the predicted earnings for married men with primary education are 16 percent higher at age 45 than at age 25, and they are 15 percent higher at age 45 than at age 55.

Indeed the estimated age-earnings profiles for Hong Kong are little different from those commonly found in the labor economics literature. The fact that earnings rise with age results from fundamental economic forces governing investments in human capital.³ The data we have analyzed indicate that these economic forces continue to operate despite structural changes in the economy of Hong Kong. Investments in education, on-the-job training, and learning-by-doing are still the main avenues to acquire human capital. Middle-aged workers tend to have less formal education than other workers, but this is partially made up by their accumulated work experience. In 1999, the average earnings of middle-aged male workers was \$23,229, compared to an average earnings of \$19,469 for all male workers. For women, the average earnings of middle-aged workers was \$13,795 while the average earnings of all workers was \$13,385. Clearly, middle-aged workers as a group are by no means disadvantaged in the labor market. It is true that middle-aged workers with low educational attainment earn less than the average worker, but their earnings are higher than workers with low educational attainment in other age groups. For middle-aged workers with low educational attainment, the primary factor contributing to their low earnings is their inadequate education, not their age.

³ Gary S. Becker, *Human Capital*, New York, National Bureau of Economic Research, 1964; Jacob Mincer, *Schooling, Experience, and Earnings*, New York, National Bureau of Economic Research, 1974.

3.2 *Changes in the Earnings Structure*

The preceding section takes a snapshot of the structure of labor earnings in 1999. In this section, we analyze how the earnings structure has changed over the years. Owing to limited sample size, the General Household Surveys do not provide figures for actual monthly employment earnings. We therefore have to rely on data from the 1986, 1991, and 1996 population censuses for analysis. The advantage of using census files instead of the General Household Survey records provided to us is that census files contain direct information on actual labor market earnings rather than broad earnings brackets, so that earnings data do not have to be imputed.

Since we are interested in identifying workers with potential labor market problems, special attention should be given to the lower end of the earnings distribution. We start by estimating human capital earnings equations for men and women for each of the three census years. However, instead of estimating these equations by the usual ordinary least squares method, we employ a statistical method known as quantile regression.⁴ Ordinary least squares regressions can be used to model how the mean of the earnings distribution changes with age, education, and other factors, whereas quantile regressions can be used to model how various quantiles of the earnings distribution changes with these factors. In particular, we use quantile regressions to model the median and the lower quartile of employment earnings.

From the results of the quantile regression estimation, we calculate the predicted earnings of workers with various characteristics. Table 3.1 shows how these predicted earnings change over time.

Row (A4) of Table 3.1 shows that real median earnings for middle-aged men with primary education increased 28 percent from 1986 to 1996. Although this earnings growth is lower than that for middle-aged men with upper secondary education (A2), it is roughly the same as that for 35 year-old workers with primary (A3) or upper secondary education (A1). The pattern for women is quite similar. In general, there is no evidence

⁴ R. Koenker and G. Bassett, Jr., "Robust Tests for Heteroscedasticity Based on Regression Quantiles," *Econometrica*, 50, January 1982, pp. 43–61.

Table 3.1
Growth in Real Labor Earnings, 1986–1996

	Median		Lower Quartile	
	1986–91	1986–96	1986–91	1986–96
(A) Men				
(A1) aged 35 and S4–S7 education	23%	25%	24%	25%
(A2) aged 45 and S4–S7 education	26%	45%	28%	44%
(A3) aged 35 and P1–P6 education	25%	27%	24%	23%
(A4) aged 45 and P1–P6 education	21%	28%	24%	28%
(B) Women				
(B1) aged 35 and S4–S7 education	19%	29%	25%	37%
(B2) aged 45 and S4–S7 education	22%	51%	21%	38%
(B3) aged 35 and P1–P6 education	24%	34%	45%	48%
(B4) aged 45 and P1–P6 education	21%	33%	40%	46%

that middle-aged workers with low educational attainment had experienced a severe deterioration in earnings relative to other groups.

The last two columns of Table 3.1 show changes in the lower quartiles of the earnings distributions for various groups. By definition, a worker at the lower quartile of the earnings distribution earns less than the median worker. However, comparing the second and third columns with the last two columns of Table 3.1, we observe that the growth rates in their earnings are not that different. Lower quartile earnings for middle-aged men with primary education increased 28 percent from 1986 to 1996, which is the same as the growth rate of median earnings. Lower quartile earnings for middle-aged women with primary education grew 46 percent, which is higher than the 33 percent growth in median earnings during this period. Thus, the evidence does not suggest that workers at the lower end of the earnings distribution are lagging behind other workers in terms of their earnings growth.

3.3 *Distribution of Employment by Industries*

One of the key changes in the structure of the Hong Kong economy that has prompted concern over the employment prospects of middle-aged workers is the decline in local-

based manufacturing production. As is well known, many of the manufacturing companies in Hong Kong have shifted their production operations to mainland China and to other southeast Asian countries. We expect this trend to continue, though possibly at a less hectic pace.

The impact of de-industrialization on the employment prospects of industrial workers depends on how easily these workers can be absorbed into other expanding sectors of the economy. If mobility across sectors is easy, then shifts in the sectoral composition of the economy will pose little long term employment problems for workers. In an earlier study, it was found that a small drop in wage is sufficient to induce workers in declining sectors to move to other sectors, indicating a high degree of worker mobility across different sectors of the economy.⁵ The earlier study, however, was not designed to focus on any specific group of workers. It is possible, for example, that the type of inter-sectoral mobility inferred in that study was prevalent only among young and well educated workers, while middle-aged workers with low educational attainment were stuck in declining sectors with few alternative employment possibilities. It is therefore useful to have a closer look at the pattern of exit from manufacturing industries among the latter group of workers.

Figure 3.2 plots the percentage of middle-aged workers with low educational attainment who were employed in manufacturing industries in various years. The data have been smoothed using the Hodrick-Prescott filter as described in Chapter 2. Panel (A) shows the pattern for men and panel (B) shows the pattern for women. The solid line in both panels confirm the general decline in manufacturing employment in Hong Kong, falling from 31 percent of total male employment in 1985 to 12 percent in 1999, and from 47 percent to 10 percent for women. The dotted lines, which refer to middle-aged workers with low educational attainment, show a similar decline.

Middle-aged workers with low educational attainment are more likely to be employed in manufacturing industries than are other workers, as can be seen from the fact that the

⁵ Wing Suen, "Sectoral Shifts: Impact on Hong Kong Workers," *Journal of International Trade and Economic Development*, 4, July 1995, pp. 135–152.

dotted lines lie above the solid lines in Figure 3.2. The high concentration of this group of workers in manufacturing industries means that they are particularly vulnerable to the impact of de-industrialization. However Figure 3.2 also reveals that the rate of exit from manufacturing industries is not especially slow among this group of workers, since the dotted line and the solid line decline at a similar rate. Between 1985 and 1999, the proportion of less-educated middle-aged men engaged in manufacturing industries has declined from 35 percent to 14 percent. This represents an absolute drop of 21 percentage points or a relative drop of 60 percent. For all men, the comparable figures are an absolute drop of 19 percentage points or a relative drop of 61 percent.⁶ In other words, although middle-aged workers with low educational attainment are indeed over-represented in manufacturing industries, there is no evidence that they face greater

⁶ The mere fact that the the exit rates are more or less the same does not imply that the middle-aged group do not face greater difficulties in leaving the manufacturing sector than do other workers. For example, middle-aged workers may find it more difficult to obtain another job or may have to take a bigger pay cut. However, our previous analysis shows that these possibilities were not actually the case in Hong Kong. Middle-aged workers were not particularly disadvantaged in terms of employment or earnings compared to other workers.

difficulties in leaving the manufacturing sector relative to other workers.

3.4 Occupational Changes

In addition to changes in the sectoral composition of the economy, we have seen fundamental changes in the occupational mix of the Hong Kong workforce as well. As Hong Kong emerges as one of the major centers for servicing business in the region, production-related occupations are replaced by service oriented occupations. The changing structure of the economy has also led to an increase in demand for workers in high skill occupations and a fall in demand for workers in low skill occupations. How well do middle-aged workers with low educational attainment adapt to the changing demands of the economy?

We classify as production-related or low-skill workers all those whose occupation is given a code of 6, 7, or 8 in the General Household Survey files. These include craft and related workers, plant and machine operators and assemblers, and people in elementary occupations. This set of occupational classification was adopted since 1993, so the data only cover the period 1993–1999. Figure 3.3 shows the percentage of workers in production-related or low-skill occupations among various groups of workers. Several trends are evident in this figure:

- The proportion of people working in production-related or low-skill occupations have fallen in recent years, dropping from 48 percent in 1993Q1 to 43 percent in 1999Q4 for men, and from 32 percent to 29 percent for women in the same period. This is consistent with a decrease in demand for unskilled workers.
- Middle-aged workers with low educational attainment are much more likely to be in production-related or low-skill jobs than are other workers. In 1999Q4, for example, 72 percent of middle-aged men with low educational attainment were engaged in these occupations, compared to 43 percent for all men.
- Middle-aged women with low educational attainment have left production-related and low-skill occupations at a fairly rapid rate, with the proportion engaged in such occupations dropping from 72 percent to 60 percent during the period. However,

middle-aged men with low educational attainment seem to have greater difficulties moving to other occupations. The proportion engaged in production-related and low-skill occupations remained fairly constant at 72 percent, even though there has been an overall decrease in demand for unskilled workers.

The last point above is worth emphasizing. Although middle-aged workers have little difficulty moving away from the manufacturing sector, they do have problems moving away from low-skill occupations. Middle-aged manufacturing workers seeking alternative careers often have to compete for low level jobs in other sectors because of their lack of relevant communication and professional skills. As is argued by William Chan and Wing Suen and by Chang-Tai Hsieh and Keong Woo, the mobility of workers across sectors in their adaptation to sectoral shifts does not extend to mobility across occupations.⁷ The

⁷ William Chan and Wing Suen, "The Market at Work: Labour Market Adjustments to the Changing Environment in Hong Kong," in *Hong Kong Management and Labour: Change and Continuity*, edited by Patricia Fosh, *et al.*, London, Routledge, 1999, pp. 61–80; Chang-Tai Hsieh and Keong T. Woo, "Impact of Outsourcing to China on Hong Kong's Labor Market," Working paper, Department of Economics, Princeton University, Princeton, July 1999.

latter often requires more investments in skills re-training and up-grading than does the former.

With a falling demand for unskilled labor in general, middle-aged workers who are stuck in unskilled occupations do not face a bright prospect. Figure 3.4 plots the real wage indices for craftsmen and operatives (solid line), supervisory, technical, clerical and miscellaneous non-production workers (dotted line), and managerial and professional employees (dashed line). These wage indices are compiled by the Wages and Labour Costs Section of the Census and Statistics Department and are published in the *Hong Kong Annual Digest of Statistics*. It is clear from the figure that real wages for these relatively low-skill jobs have remained stagnant since 1993, whereas wages for the other two types of higher level jobs have risen by about 8 percent. This growing wage disparity between unskilled labor and skilled labor is a reflection of the shift toward a more knowledge-intensive economic structure.

Note, however, that the wage indices plotted in Figure 3.4 do not specifically refer to

Table 3.2
Average Monthly Employment Earnings by Occupation, 1996

Occupation	all workers	middle-aged workers with low education
managers and administrators	\$29,619	\$18,873
professionals	\$34,270	\$24,117
associate professionals	\$17,669	\$16,497
clerks	\$10,008	\$8,043
service workers and shop sales workers	\$10,128	\$9,594
skilled agricultural and fishery workers	\$7,583	\$12,026
craft and related workers	\$9,469	\$9,746
plant and machine operators and assemblers	\$9,321	\$9,376
elementary occupations	\$6,114	\$6,671

middle-aged workers with low educational attainment. To focus on the latter group of workers, we use 1996 population census records to tabulate their employment earnings by occupation. The results are displayed in Table 3.2.

On the one hand, the first five rows of this table show that middle-aged workers with low educational attainment have below average earnings among workers in the higher level occupations.⁸ On the other hand, the last three rows of Table 3.2 show that middle-aged workers with low educational attainment have higher than average earnings among workers in production-related and low-skill occupations.⁹ This reflects that fact that accumulated work experience is relatively more important than is formal education in determining labor earnings at low-skill jobs. Thus, the wage prospects of middle-aged workers in these low level occupations are not as grim as the aggregate wage indices in Figure 3.4 would suggest.

3.5 Long Term Unemployment

Unemployment is particularly costly when its duration is long. Most people can cope with two or three months of unemployment without a significant drop in their living

⁸ The earnings figures for middle-aged workers with low education in the occupational groups of “professionals” and “associate professionals” are based on small number of observations.

⁹ Note, however, that the advantages of less-educated middle-aged workers in these low level occupations are quite marginal. For instance, for craft and related workers, monthly earnings of middle-aged workers with low educational attainment was only three percent higher than the overall average.

standard. Past savings or family support, however, may be insufficient to deal with unemployment of longer duration. A long spell of unemployment is therefore typically associated with a real fall in living standard. Furthermore, people who are unemployed for a long period of time may be stigmatized or discouraged and therefore have greater difficulty in finding new jobs.¹⁰ For these reasons, long term unemployment often brings about welfare dependence, which is a waste of human resources and a drain on the public purse.

At the conceptual level, long term unemployment should be distinguished clearly from structural unemployment. The hallmark of structural unemployment is its insensitivity to business cycles. When a person is structurally unemployed, this person cannot, or does not, find a job despite a general economic expansion. Structural unemployment is often attributed to labor market rigidities, the incentives arising from the welfare system, or the changing mix of skills requirements of the economy. One manifestation of structural unemployment is the long duration of the unemployment spell. However, cyclical factors can also contribute to long unemployment spells, since it takes more time for people to find jobs during an economic contraction. In other words, structural unemployment is typically of long duration, but long duration unemployment is not necessarily structural.

For convenience, we define a person as being long term unemployed if this person has been unemployed for at least six months at the time of the survey. There are other ways of measuring long term unemployment such as measuring the mean or median duration of unemployment spells. In practice, these alternative measures make little difference to the analysis.

Using quarterly data from the General Household Survey, we find that the percentage of unemployed people who are long term unemployed is closely related to the overall unemployment rate, with a correlation coefficient of 0.76. When business conditions

¹⁰ Elazar Berkovitch, "A Stigma Theory of Unemployment Duration," in *Search Unemployment: Theory and Measurement*, edited by Yoram Weiss and Gideon Fishelson, London, Macmillan, 1990, pp. 20–56; Tara Vishwanath, "Job Search, Stigma Effect, and Escape Rate from Unemployment," *Journal of Labor Economics*, 7 (October 1989), pp. 487–502.

Table 3.3

Number of Long Term Unemployed Persons among Various Groups

	all individuals	aged 40–49	aged 40–49 & education \leq F.3
1985	15,820 (18.9%) [0.6%]	1,630 (18.6%) [0.4%]	1,140 (17.7%) [0.4%]
1990	4,770 (13.1%) [0.2%]	710 (18.4%) [0.1%]	390 (16.0%) [0.1%]
1995	18,950 (19.8%) [0.6%]	5,140 (28.4%) [0.8%]	3,920 (27.2%) [1.0%]
1999	64,840 (29.9%) [1.9%]	16,660 (33.9%) [1.8%]	11,710 (34.3%) [2.5%]

Note: Figures in parentheses show the percentage of long term unemployed persons as a fraction of the unemployed population. Figures in square brackets show the percentage of long term unemployed persons as a fraction of the labor force.

are favorable and general unemployment is low, relatively few of the unemployed have experienced long spells. When business conditions are less favorable and general unemployment is high, relatively more of the unemployed have experienced long spells. The percentage of long term unemployed is not insensitive to cyclical factors.

Table 3.3 shows the number of long term unemployed persons among various groups in various years. As is explained in Chapter 2, we find it more illuminating to treat the data with the Hodrick-Prescott filter in order to isolate the trend components of the time series. Figure 3.5 plots the resulting trend component of the fraction of different groups of unemployed men who were long term unemployed for the period 1985–1999.

The solid line in Figure 3.5 shows the percentage of long term unemployed among all unemployed men. This line shows the same trend pattern as the graph of overall trend unemployment rate shown in Figure 2.1 in the previous chapter. The percentage of long term unemployed showed a downward trend between 1985 and 1990, a period when the overall unemployment rate was falling. Since 1990, when overall unemployment has

been on the rise, the percentage of long term unemployed has also shown an upward trend. If this percentage continues to rise when the economy fully recovers from the deep recession brought by the Asian financial crisis, there is reason to be concerned about the structural nature of the unemployment problem. At this point, it is too early to tell whether the recent rise in long term unemployment is a structural or a cyclical problem.

At the beginning of the sample period, approximately 22 percent of middle-aged unemployed men had unemployment spells of six months or more. This proportion is only slightly above that for all unemployed men. Since 1985, however, the percentage of long term unemployed among middle-aged unemployed men (dotted line in Figure 3.5) and that among all unemployed men (solid line) have diverged. By 1999, close to 30 percent of middle-aged unemployed men were long term unemployed, while the comparable figure for all unemployed men was 26 percent. Figure 3.5 therefore indicates that, among the unemployed, being middle-aged is indeed a handicap: middle-aged unemployed men are more likely to experience long spells of unemployment compared to the

average unemployed man. Indeed this pattern of positive dependence of unemployment duration on age is also observed in more rigorous studies based on British data.¹¹ What is worrying is not so much that there is a handicap for the middle-aged in this respect, but that the handicap has grown in recent years.

Some caution, however, is required in interpreting these numbers. Although middle-aged unemployed men are more likely to be long term unemployed than the average unemployed man, middle-aged men are less likely to be unemployed than the average man, as is established in Chapter 2. Among middle-aged men who were economically active in 1999Q4, 5.6 percent were unemployed, of whom 30.0 percent had experienced unemployment spells of six months or more. Thus the number of long term unemployed as a fraction of the number of economically active was 1.7 percent for the 40–49 age group. Among all economically active men, 6.6 percent were unemployed in 1999Q4, of whom 26.3 percent were long term unemployed. Thus the fraction of long term unemployed in the general male labor force was also 1.7 percent. The long term unemployed as a fraction of the economically active is not higher among the 40–49 age group than among all age groups.

The dashed line in Figure 3.5 shows the percentage of long term unemployed among middle-aged unemployed men with not more than nine years of schooling. This percentage is lower than the percentage of long term unemployed among all middle-aged unemployed men (dotted line), which indicates that long term unemployment is not a problem confined to people with low educational attainment. Typically, people in their forties have accumulated considerable human capital. That is why they are less likely to be unemployed than are other workers. However, the human capital they possess may not be easily transferable to other jobs. Once they are displaced from their jobs, therefore, it may take considerable time for them to find alternative employment opportunities that are equally attractive as their previous ones. Indeed, we find that the mean duration of unemployment spells among the unemployed is an increasing function

¹¹ Tony Lancaster, “Econometric Methods for the Duration of Unemployment,” *Econometrica*, 47, July 1979, pp. 939–956; Stephen J. Nickell, “Estimating the Probability of Leaving Unemployment,” *Econometrica*, 47, September 1979, pp. 1249–1266.

of age. In 1999Q4, for example, the mean duration of unemployment at the time the unemployed were surveyed was 5.4 months for men in the 15–24 age group, 5.5 months for men in the 25–39 age group, 6.2 months for men in the 40–49 age group, and 7.1 months for men in the 50–59 age group.

We next analyze the situation of women. Figure 3.6 shows the percentage of long term unemployed among all unemployed women (solid line) and among middle-aged unemployed women (dotted line). The pattern shown in this figure is quite similar to the pattern for men. In the beginning of the sample period, these two lines tracked one another closely. Since 1990, the dotted line began to rise at a faster rate than the solid line. Thus middle-aged unemployed women were more likely to experience long unemployment spells compared to all unemployment, and this difference has grown in recent years.

The dashed line in Figure 3.6 represents the percentage of long term unemployed among middle-aged unemployed women with low educational attainment. Because of

the small number of individuals in the General Household Survey who fall into this category, the percentages are computed by combining quarterly data into half-yearly data. Still the numbers are infested by large sampling errors and should be interpreted with caution. Comparing the dashed line with the dotted line shows that middle-aged unemployed women with low educational attainment are not particularly at risk of long term unemployment relative to middle-aged unemployed women in general. This finding is consistent with the finding for men. As far as the duration of unemployment is concerned, the major factor contributing to long unemployment spells is age rather than education.

3.6 Summary of Findings

The employment outcomes examined in this and the preceding chapter indicate that the prospects for a looming crisis for middle-aged workers are probably exaggerated. In Chapter 2, we find that people in the 40–49 age group are less likely to be unemployed than are people in other age groups. In this chapter, we find that among the employed workers, people in the 40–49 age group tend to earn more than comparable workers in other age groups. Middle-aged workers with low educational attainment do not fare as well in the labor market as other middle-aged workers do, but they fare no worse than other workers with low education do in terms of earnings or earnings growth.

The examination in this chapter, however, do not give middle-aged workers a completely clean bill of health. In particular, there are two potential problem areas. First, middle-aged workers (especially men) with low educational attainment seem to have difficulty moving away from production-related and low-skill occupations, even though the Hong Kong economy is shifting away from these occupations in general. Because specific human capital accumulated through work experience is often more important than is formal education in these occupations, middle-aged workers in low-skill jobs are not the first to suffer as the demand for low-skill jobs falls. However, these workers do not face a bright prospect if the trend of stagnating wages in low-skill occupations do not improve.

The second potential problem area lies in the rising incidence of long term unem-

ployment. Although the absolute number of middle-aged persons who are unemployed for six months or more is still small, these individuals make up an increasing fraction of unemployed middle-aged workers. Moreover their difficulties in finding new jobs are partly due to their age. At present we cannot determine whether the problem of long term unemployment is structural or cyclical. If it is structural, it is definitely a problem that public policies should seriously address.

Chapter 4

The Views of Employers

4.1 *Interviews with Employers' Associations*

In the previous two chapters, data from the General Household Surveys and from the population censuses are used to study the employment prospects of those between 40 and 49 years of age. These two sources of data contain rich and systematic information about employee characteristics and their labor market outcomes. In this chapter, we use another type of information to examine the employment prospects of the middle-aged. In particular, we shall draw on results from intensive interviews with representatives of employers' associations.

For two general reasons, employers have considerable influence over the employment prospects of their employees. First, the business conditions of employers shape their demand for labor. Second, job training (formal and informal) provided by employers is one of the three main sources of an individual's human capital which, in turn, affects his or her employment prospects.¹ Interviews with employers' association, therefore, provide important information about the buyers' side of the labor market. These interviews also offer qualitative insights that complement the quantitative analyses in the previous two chapters.

Our interviews with employers' associations did not follow a rigid questionnaire structure. Nevertheless the discussions were focused around four main issues:

- the general employment prospects of the middle-aged group;
- the skills and knowledge adequacy of these employees as perceived by employers;
- the existing arrangements and problems of training provision for employees; and

¹ The other two sources are formal schooling (before and after joining the labor market) and general work experience.

- the preference of employers in the appropriate content and mode of training to be offered to these employees.

A remark needs to be made at the outset. While this study focuses on the middle-aged group, interviewees pointed out that in managing their workforce, employers use job and occupational position rather than age as the main differentiation criterion. Thus some of the interview results are applicable to middle-aged workers as well as to employees in other age groups. Levels of job position are closely associated with educational attainment and length of work experience. Education and occupational category have been noted in Chapters 2 and 3 as the more important factors than the age factor in shaping the employment prospects of the middle-aged. We shall see in this chapter that education and job position continue to be the two main factors that affect the labor market outcomes and the training opportunities of the middle-aged.

4.2 *The Conduct of the Interviews*

From late March to early April, 2000, letters (in both English and Chinese) were sent to employers groups and associations requesting an interview with their representatives. The letter explained the overall purpose of the study, listed the issues that would be discussed, and gave the expected time duration of the interview. Follow-up telephone calls were made to make arrangements with those who agreed to be interviewed. In early May, a second batch of letters were mailed out. This letter suggested telephone interviews to non-respondents if face-to-face interview presented problems to them.

The process of arranging the interviews was sequential. By early June (the scheduled completion timeline for the interview part of the present study), it was deemed that accomplished interview results gave a reasonably good picture of the situation and a greater number of interviews might not add new information. Contacts with associations over follow-up phone calls indicated that refusals and non-response were due to various reasons: a lack of interest, office-bearers were out of town, or they were too busy.²

A total of 18 interviews (15 face-to-face and three over the phone) were conducted.

² One person remarked on the phone that his association members would rather spend their spare time playing mahjong than organize job training for employees.

Each interview took an average of 40 minutes. The membership size of the associations which participated in the interview varies from eight to 6,200. Table 4.1 indicates that these associations cover a broad range of industrial sectors: manufacturing industries, transport, real estate, retail and entertainment services.

Notes were taken during the interview, and all the interview notes were subsequently transcribed. In the following sections, interview results will be presented mainly in a summary form rather than individually.

4.3 Employers' Evaluation of the Prospects for Middle-Aged Workers

While age groupings may seem to be a natural way of classifying workers to a social scientist or a government administrator, interviewees pointed out that few employers consider middle-aged workers as a collective group that call for special attention because of their age. People in the 40–49 age group face a diverse set of labor market conditions that by far mask their commonality in age. For this reason, employers find it crucial to differentiate middle-aged workers by their job positions when discussing their employment prospects. Generally, interviewees identified two major job positions into which the middle-aged fall: middle to upper management and junior or low skilled positions. They expect these two types of employees to face very different medium to long term prospects in the labor market.

Interviewees noted that it is unlikely for employees in middle to upper management rank to face a sudden and serious downturn of their employment prospects. The primary reason for their optimism is the stock of accumulated human capital possessed by these workers. These employees tend to be long-serving employees who reach their managerial or supervisory position through internal promotion. It is unlikely that employers would replace these experienced insiders with inexperienced outsiders. In economists' jargon, employers' investment in specific human capital would be lost if these employees are let go.

The second reason for employers' optimism in the employment prospects of middle-aged managerial workers is specific to the manufacturing sector. With the relocation

Table 4.1
Interviews with Employers Associations

Interview date:	March 28
Association:	Hong Kong Cargo-vessel Traders' Association Limited
Interviewee:	Mak Kan (vice chairperson)
Membership size*:	647
Interview date:	April 6
Association:	Graphic Arts Association of Hong Kong
Interviewee:	John K.E. Ng (chairperson)
Membership size:	3,000
Interview date:	April 6
Association:	The Chinese General Chamber of Commerce
Interviewee:	Ho Sai-chu (vice chairperson)
Membership size:	6,200
Interview date:	April 6
Association:	Federation of Hong Kong Garment Manufacturers
Interviewee:	Choi Hin-to (chairperson)
Membership size:	200
Interview date:	April 7
Association:	Hong Kong and Kowloon Plastic Products Merchants
Interviewee:	Herbert Ip (vice chairperson)
Membership size:	500
Interview date:	April 11
Association:	Hong Kong, Kowloon and New Territories Motion Picture Industry Association
Interviewee:	Catherine Chiu (executive manager)
Membership size:	191
Interview date:	April 11
Association:	Hong Kong and Kowloon Electro-plating Trade Merchants Association
Interviewee:	Thomas Au Wai-ming (chairperson)
Membership size:	120
Interview date:	April 13
Association:	Hong Kong Association of Freight Forwarding Agents Limited
Interviewees:	Raymond Lam (executive committee member); Alice Lui (manager)
Membership size:	268
Interview date:	April 20
Association:	Employers' Federation of Hong Kong
Interviewee:	Herman S.M. Hu (Council member, chairperson of the Manpower and Training Committee)
Membership size:	425

Table 4.1 (Continued)

Interview date:	May 9
Association:	Tobacco Institute of Hong Kong Limited
Interviewee:	Albert Chan (executive director)
Membership size:	8
Interview date:	May 15
Association:	The Hong Kong Corrugated Paper Manufacturers' Association Limited
Interviewee:	Chan Kam-hung (chairperson)
Membership size:	162
Interview date:	May 19
Association:	Hong Kong Optical Manufacturing Association Limited
Interviewee:	Hui Leung-wah (president)
Membership size:	114
Interview date:	May 22
Association:	Hong Kong Chinese Medicine Merchants Association Limited
Interviewee:	Tong Lam (chairperson)
Membership size:	360
Interview date:	May 30
Association:	Hong Kong Real Estate Agencies Association
Interviewee:	Luen Chi-yim (chairperson)
Membership size:	1,450
Interview date:	June 2
Association:	The Hong Kong International Courier Association
Interviewee:	Teresa Li (secretary to chairperson)
Membership size:	8
Interview date:	May 6 (by phone)
Association:	Hong Kong Hide and Leather Trader's Association
Interviewee:	Wong Chi-kwan (secretary)
Membership size:	118
Interview date:	May 22 (by phone)
Association:	The Hong Kong Cereals and Oils Traders' Association Limited
Interviewee:	Kwan Sze-chun (executive committee member)
Membership size:	49
Interview date:	May 25 (by phone)
Association:	Hong Kong Metal Merchants Association
Interviewee:	Lau Chi-wai (executive committee member)
Membership size:	327

* Source: *Directory of Hong Kong Trade and Industrial Organisations, 1999*. Hong Kong: Industry Department, Government of the Hong Kong Special Administrative Region, 1999.

of Hong Kong factories into China, middle-aged Hong Kong employees who are long-serving employees are valuable assets to their Hong Kong employers in their business and production operations in China. Interviewees commented that Hong Kong line supervisors or middle managers share the same work style and standard requirements with their Hong Kong bosses. Their common culture facilitates efficient communication which is difficult to attain between mainland employees and Hong Kong employers. Furthermore, mainland subordinates are more docile when managed by a Hong Kong supervisor rather than by a mainland supervisor.³

Thirdly, interviewees suggested that middle-aged employees in middle and upper management have a mentality that well-prepares them to face changes in the labor market. These employees are generally more well-educated. They are, therefore, more adaptive to changes and are highly motivated to seek their own development and learning opportunities. One interviewee pointed out that this type of middle-aged employees have received elite education before compulsory and mass education system was in place. They are capable of thinking and planning ahead to hedge themselves against possible decline of job prospects and to capture new job opportunities that arise from technological and economic changes.

The general optimism among employers about their long-serving employees notwithstanding, some interviewees remarked that if outsiders are more competent, more educated, younger, and willing to accept a lower wage, employers would also consider replacing middle-aged employees with new hires. An interviewee pointed out that when younger, more professional and knowledgeable mainland employees adapt to the Hong Kong work culture and can be employed at a much lower wage level, Hong Kong middle management employees will eventually lose their competitive edge. This will especially be the case when several developments will make the business environment of the manufacturing sector uncertain. These developments will be listed in the ensuing discussion of the less educated middle-aged employees.

³ One interviewee pointed out that a western manager or supervisor is even better in managing mainland employees.

Middle-aged employees who are less educated and who are in low skilled or unskilled job positions are at greater risk to face sudden downturns of their employment prospects. Interviewees gave the following reasons for their assessment (some of which also apply to employees in middle management):

- The entry of China into the World Trade Organization may lead to a decline in business in the re-export sector. The entry could lead to more intense competition that may be disadvantageous to business in Hong Kong. Competitors from Taiwan, who speak the same language as mainland Chinese do, have advantages over Hong Kong businessmen. Hong Kong employers may, therefore, consider laying off employees as a means to cut costs. Less-educated middle-aged employees who are in dispensable menial job positions may be the first ones to face the axe.
- General technological upgrade could lead to obsolescence and mismatch of the skills of these employees. For example, printing and the making of spectacle frames and lenses used to be handicrafts requiring years of training and learning. Now employers start to invest in computerized process of production involving advanced machines and modern design and packaging. To reap returns on these costly investments, employers would demand new skills and knowledge which are largely defined by formal education credentials. Specialized skills gained through the more traditional on-the-job learning and mentoring process are less valuable than before. Middle-aged employees may not have the relevant credentials to meet these new demands.
- For some industries or trades, the nature of their business has not changed drastically despite general technological change. Among the employers' associations we have interviewed, for example, those in hide and leather products, cereal and oil trade, and real estates service expressed that they do not need or use new technology. Middle-aged employees in these trades who work at low level job positions are unlikely to have employment advancement. Their employment security would decline as the industry or the trade declines, and when employers recruit younger employees who are willing to take a lower wage. This is especially so when the general supply of manpower is greater than the demand. However, some interviewees remarked that

since the wages of these middle-aged employees are not particularly high, employers may, for paternalistic reasons, keep them until they retire as they tend to be long-serving employees.

Consistent with what we find in the earlier two chapters, these risk factors mentioned by employers are not confined to workers in the 40–49 age group. They are generic to all less-educated workers with low labor market skills. The results again point to education rather than age as the key to predicting a worker's employment prospects.

4.4 Skills Adequacy and Knowledge Needs

Adequate and up-to-date skills and knowledge are the basis for an individual's job competence and, hence, job performance. They are also crucial for maintaining job security and enhancing job opportunities. Our interviewees remarked that well-educated middle-aged employees are usually in middle and upper management positions. They are less susceptible to a decline in their employment prospects and are well aware of the need to constantly update their knowledge and hence are more motivated to seek learning opportunities.

While middle-aged workers are usually experienced insiders, new developments make new demands on their knowledge and skills. Hong Kong middle-aged employees who are in middle management need to acquire sales and marketing skills and knowledge to find market niches when China's entry into the World Trade Organization intensifies competition. The use of advanced technology in production means middle-aged employees may need more formal and systematic job training to maintain their competence. Interviewees also identify the need for training in Putonghua and in written Chinese.

Middle-aged employees who are in the production side of the manufacturing sector generally have been working either in the same firm or the same industry sector for an average of twenty or more years. They often started their career as apprentices. They were offered informal coaching and mentoring instead of formal induction or on-going job training programs. Through accumulation of on-the-job work experience, they move to higher-ranking positions such as merchandising, line supervision, or middle management.

Some become self-employed or start their own business. Interviewees noted that the training these employees have received is mainly informal job training. Whether they need more formal training depends on the nature and level of technology in use. For example, industries that have adopted the ISO certifying system may have a greater demand for formal training.

Naturally, employers are more concerned with skills and knowledge that are directly relevant to their trades. After all, they are more interested in enhancing employees' job performance in their current jobs than in enhancing their marketability in alternative occupations. Nevertheless, the interviewee from the Cargo-vessel Transport Traders' Association remarked that his industry requires good physique. Middle-aged employees are at a disadvantage when compared to younger employees. This interviewee suggested that middle-aged employees in his trade be trained with simple English reading and writing skills, or skills related to construction work, so that they can change to jobs like office messengers when their physique declines with age.

4.5 Training for Middle-Aged Employees: Provision and Problems

Interviewees at employers' associations identified three sources of formal job training provision: employers, external institutes (which include private and government-subsidized and statutory bodies), and the employers' associations themselves. Training organized by the associations themselves are typically one-off or irregular sessions which are for exchange of information about the trade. These include overseas study tours, exhibitions, and luncheon talks. They are mostly attended by management and employers themselves rather than by their juniors.

Formal job training is also provided in the form of regular sessions or courses provided by government-subsidized or statutory bodies such as the Hong Kong Productivity Council. Some of these sessions are to provide essential and basic knowledge, for example, training in the handling of dangerous goods (Hong Kong Association of Freight Forwarding Agents Limited); others are for updating latest technological development in specific manufacturing sectors (Hong Kong Optical Manufacturing Association Limited). We did not hear interviewees mention the Employees Retraining Board very often,

possibly because most of the courses run by the Board are attended by the unemployed or by employees at their own initiatives.

With respect to in-house formal job training provided by employers, it is not surprising to find that large corporations have greater capability than do small ones. The interviewees from Employers' Federation of Hong Kong and from Hong Kong International Courier Association pointed out that their company members are mainly large companies. They generally have elaborate and well-structured in-house training programs for different job positions. Interviewees at other associations, whose members are typically small enterprises, painted a very different picture. There is a general absence of employer-provided formal job training for middle-aged employees of their member companies. They gave the following reasons for the lack of enthusiasm among employers:

- The small scale of operation (usually with less than ten employees or paid or unpaid family workers) means that employers are not capable of providing formal training.
- Mentoring and on-the-job learning are perceived as adequate for small business and back-office work.
- During times of business downturn, employers are likely to cut back unimportant items such as employee welfare, including training.
- The basic concern of small employers is to minimize production costs and survival rather than employee development and training.
- Middle-aged employees who do menial tasks do not need formal training.
- Computerized technology used in office work involve simple applications. One-off demonstration sessions conducted by software suppliers free of charge are adequate.
- The use of more advanced production technology are the task domains of younger employees who have more formal schooling. Middle-aged employees are not assigned to such tasks.

Chapters 2 and 3 have identified that middle-aged employees who are less well-educated and who are in low occupational positions have relatively poor employment prospects. When it comes to this group of middle-aged workers, employers are even more

reluctant to offer formal job training. Interviewees generally cited financial difficulty as the reason for their reluctance, though we would interpret it to mean low financial return. Interviewees mentioned that these employees are engaged in low skill jobs, involving simple menial work-tasks which have little to do with new technology. The need for formal training is therefore minimal. Moreover, replacing them with younger employees is made easy by the abundant supply in the labour market.

We also asked interviewees about the participation of middle-aged employees in formal training programs, and found a general reluctance to participate on the receiving side of job training as well. Regarding the attendance of middle-aged employees in training sessions, motivation is the main problem. Apart from training which is a pre-requisite for working in a certain industry, interviewees found that middle-aged employees are less interested in attending training sessions compared to younger ones. Some middle-aged employees do not find the time to attend training sessions. For example, for employees who work in factories in mainland China, attending training sessions is only feasible on weekends; yet they prefer to spend their time with their families.

According to the interviewees, the lack of enthusiasm for formal training among middle-aged employees is rooted in their past experience. Many of these employees deem that previous work experience accumulated over the years through mentoring and on-the-job learning is adequate. Formal training tends to turn implicit knowledge into codified knowledge. These employees believe that such a change would affect their job security, because their younger colleagues would have a comparative advantage in absorbing codified skills. Interviewees also pointed out that middle-aged employees who are in their late forties are close to retirement. They are less willing to change their ways of working or to undertake training to take up new technology.⁴

4.6 Preferences for Government Assistance

In the course of the interviews, we did not detect a strong desire on the part of the

⁴ However, the interviewee from the Chinese General Chamber of Commerce pointed out that employees who are in their early forties are not yet close to retirement. Their concern for job security will motivate them to take up training in language (especially Putonghua) skills, in the use of office computer applications, and in new modes of operation when market competition is heightened.

employers' associations for government assistance in the provision of training to middle-aged employees. Interviewees seldom brought up the idea of government assistance unprompted. This is understandable, as we can see from the previous section that there is a general lack of enthusiasm in formal training among both employers and middle-aged employees. Indeed interviewees from the manufacturing sector suggested subsidies and policies to strengthen the manufacturing sector as a whole rather than targeting at manpower training. They remarked that government assistance to manufacturing industries will enhance business, which will naturally improve employment security and prospects of their middle-aged employees.

When we explicitly asked interviewees what their preferences are for government assistance in providing employees with formal job training, interviewees still expressed a reluctance to offer formal training by themselves. Some suggested tax concessions to employers to cover the cost of training provision. This involves minimal administrative work on the employer side—only accounting and auditing are needed. They suggested that the government can monitor and validate training institutes and courses that are eligible to such tax concessions.

Some interviewees advocated setting up new or expanding the current formal credential systems. This may involve setting up formal degree or diploma courses in tertiary or post-secondary institutes. It may also involve certifying different levels and types of skill competencies through recognized examinations. Interviewees believed that such a system of government sponsored credentials would help raise the professional status of workers in particular sectors. Still another suggested mode of government assistance is to have the Hong Kong Productivity Council undertake more research and development and then organize seminars and training sessions for industries.

In addition to expressing their preferred mode of government assistance, interviewees also offered a number of more specific suggestions. Some suggested scheduling the training in such way that minimizes disruption to business operations, for example, during lunch-hour or after work. Some suggested organizing training programs in mainland China for Hong Kong employees. Finally, it was pointed out by a few interviewees that

some form evaluation is essential to assessing the effectiveness of government sponsored training.

4.7 Summary of Interview Results

The employers' associations that we contacted vary greatly in their membership size. The companies they represent operate in different environments and are of very different scales. The views that we gathered through interviews with employers' associations therefore cannot be summarized easily. Nevertheless there are a few commonalities in their assessment of the employment prospects for middle-aged employees.

First, the perceived soundness of the business environment in different economic sectors vary greatly. This together with the demand-supply conditions in the labour market, the job position of employees, and their education level shape the employment prospects of the middle-aged. Except for their length of service in the company (which in general is a positive factor), age alone is not a major consideration that hinders their labor market prospects.

Second, skills and knowledge required of middle-aged employees vary with the nature and level of technology in use and with their job-position. The relocation of manufacturing production into China leads to the need for management and marketing skills and knowledge by middle-aged employees who are in line or middle management. Middle-aged employees who are in low-level job positions received mainly mentoring and on-the-job informal training. The perceived financial returns from investing in formal training for the latter group are low.

Third, the capability of employers to provide formal employee training varies with the size and scale of operation of the business. The motivation of middle-aged employees to attend regular formal training sessions provided by employers' associations and government-subsvented or statutory bodies is an issue of concern.

Finally, as far as government assistance in formal job training provision is concerned, the modes of subsidy that employers prefer are ones that involve them minimally. Suggestions made include tax concessions to employers to cover the cost of providing em-

ployees with training, formal education in tertiary education institutes, and more short term industry-specific training sessions run by existing government-subsidized or statutory bodies.

Chapter 5

Training Provision: Employers' Preferences and Concerns

5.1 *The Survey on Manpower Training and Job Skills Requirements*

In the previous chapter, the labour market prospects of middle-aged people were examined by means of in-depth interviews with representatives from employers' associations. While intensive interviews provide rich qualitative data, they need to be complemented by quantitative data to give a more representative and comprehensive picture of employers' views. For this reason, an establishment survey was conducted for this study. The purposes of the survey are as follows:

- to examine the incidence of formal job training provision;
- to identify the skills and knowledge adequacy of middle-aged employees as perceived by employers; and
- to gauge employers' preferences and concerns regarding three hypothetical forms of government assistance in helping them provide employees with formal job training.

The establishment data discussed in the ensuing sections are from the Survey on Manpower Training and Job Skills Requirements. The Survey was undertaken by the Census and Statistics Department. We designed the questions related to middle-aged workers in consultation with the Education and Manpower Bureau. The finalized questions then formed one of the two parts of the Survey instrument. The questionnaire was piloted and was reviewed by local scholars in different social sciences disciplines and by trade associations in March, 2000. Based on the pilot experience and opinions of the reviewers, the questions were revised and the Survey was fielded between April and July.

The Survey was conducted by post and covered establishments in the private business sector, although some sectors (e.g., agriculture and fishing; mining and quarrying; construction establishments with number of persons engaged being less than 10; taxis;

public light buses; education services; medical services; religious organizations) are not included. For large establishments with 100 or more employees,¹ the questionnaires were addressed specifically to the human resources managers. Smaller firms were not given this specification and it was up to these firms to nominate a member of the management staff as the respondent. Field staff were sent out to visit firms in person to encourage participation and to assist respondents in completing the questionnaire. By mid-July when preliminary data were available, the response rate was around 90 percent. This is an exceptionally high rate, in view of the fact that the survey is a voluntary one.²

A few constraints related to the design and analysis of the Survey need to be made at the outset. To encourage participation, we minimized the number of questions included in the Survey. For confidentiality reasons, we were not given the raw data to conduct our own micro-analysis. These constraints limit the depth of the analysis that can be accomplished. Nevertheless, in view of the large number of respondent establishments and the high response rate, the Survey provides information that cannot be gathered through intensive interviews.

The Survey covered the business nature and size of the respondent establishments as background information. The establishments were classified into seven broad industrial groups according to the nature of their business: manufacturing; electricity and gas; construction (with 10 or more employees); wholesale, retail and import/export trades, restaurants and hotels; transport, storage and communications; financing, insurance, real estate and business services; and community, social and personal services. Size refers to the number of permanent and non-permanent, full-time and part-time employees. Respondent establishments are divided into three size categories: small (less than

¹ The Survey used the concept of “persons engaged” (i.e., employees, working proprietors, active partners and unpaid family workers) to measure establishment size. The term “employees” is used loosely here and in similar contexts to mean “persons engaged.”

² Some local and foreign examples are useful to put this response rate into perspective. The Hong Kong Institute of Human Resource Management conducted a postal survey in 1994. The survey included questions on employee training provision and practices. Out of the 1,200 companies approached by the Institute, 213 completed and returned the questionnaire, giving a response rate of 17.8 percent. In the United States, the 1995 Survey of Employer-Provided Training had a response rate of 74 percent. See Harley Frazis, *et al.*, “Correlates of Training: An Analysis Using Both Employer and Employee Characteristics,” *Industrial and Labor Relations Review*, 53, April 2000, pp. 443–462.

Table 5.1

Distribution of Respondent Establishments by Industry and by Size

Establishment type	Percent
(A) By Industry	
Manufacturing	7.7%
Electricity and gas	0.007%
Construction (with 10 or more employees)	1.2%
Trades, restaurants and hotels	65.8%
Transport, storage and communications	6.9%
Financing, insurance, real estate, and business services	16.7%
Community, social and personal services	1.6%
All Establishments	100%
(B) By Size	
Small	86.9%
Medium	11.5%
Large	1.6%
All Establishments	100%

10 employees), medium (10–99 employees for manufacturing establishments; 10–49 employees for non-manufacturing establishments), and large (100 or more employees for manufacturing establishments; 50 or more employees for non-manufacturing establishments).

The distribution of respondent establishments by industry groups and by size is uneven, as is shown in Table 5.1. These establishments are mostly in wholesale, retail and import/export trades, restaurants and hotels, followed by financing, insurance, real estate and business service, and then by transport, storage and communications industries. Since the electricity and gas industry make up less than one percent of the respondent establishments, this group will not be discussed in the ensuing analysis. A majority of the respondent establishments are small in size with less than 10 employees. In each of the following sections, the overall response pattern to the survey questions is presented first. Where relevant, disaggregated analyses by industry groups and by establishment size are also presented.

5.2 *The Incidence of Formal Training Provision*

Establishments were asked whether they had provided employees (irrespective of their age) with any formal training in the last twelve months. Formal training was specified to mean training sessions which are (1) organized by the company; (2) provided by external training bodies hired by the company; or (3) taken up by employees and funded fully or partly by the company. Our focus is on formal training, that is, training that is structured and planned in advance. This can include training offered at the establishment or at another location, within or outside working hours. Training costs can be covered wholly or partially by the employer. This definition, therefore, covers a wide range of training activities such as evening courses which employees attend after work but paid for by employers, in-house training sessions organized by the firm, or sub-contracted training sessions conducted on or off premise.³

Our survey result shows that only eight percent of the establishments had provided employees with any formal training in the previous year. This rate is much lower than those obtained from nationally representative samples of establishments in the United States (93 percent), the United Kingdom (83 percent), and Australia (68 percent). The incident rate of training provision varies considerably between different industrial sectors. Manufacturing firms had the lowest incident rate: only seven percent of all manufacturing establishments had provided employees with formal job training. The construction sector had the highest rate, followed by financing, insurance, real estate, and business service.⁴ Figure 5.1 gives the incident rate for all respondent establishments and for

³ We do not deal with informal on-the-job training in the survey. Nor do we examine the difference between employees in different job categories. Informal training usually involves the coaching of inexperienced employees by experienced ones or by supervisors. To canvass this type of training through a survey requires a very elaborate survey instrument. Similarly, to examine training provision to employees in different job categories requires a much longer questionnaire than the one used in this study. These two methods are beyond the scope of the present study. National surveys of establishments in Australia (e.g., the 1995 Australian Workplace Industrial Relations Survey) and in Britain (e.g., the 1998 Workplace Employee Relations Survey) also limit their coverage to formal training. An example of a study which examines informal training through a survey is the 1995 Survey on Employer-Provided Training in the United States.

⁴ The Census and Statistics Department recently conducted a special household survey to gauge the employment concerns and training needs of the economically active population. The results show that training related to job-specific skills was the most common type of training provided by employers to craft and related workers and to those in elementary occupations.

each of the six industry groups.

The incident rate of training provision also varies between small, medium and large establishment. Small establishments are generally not as resourceful and capable as large firms are to provide employees with job training. Moreover large firms are more likely to enjoy economies of scale in training provision. Therefore the propensity to provide training is positively related to establishment size. In our sample, while 49 percent of large establishments had provided employees with formal training, only 25 percent of medium establishments and five percent of small establishments had similar provisions. These results are in line with findings from recent establishment surveys conducted in the United States, Britain, and Australia.

Establishments which provided training were further asked whether the 40–49 year-old employees with lower secondary education or below received the training offered by the firm. Among establishments which had provided formal training to their employees, 50 percent had no middle-aged workers with low educational attainment. Of

the remaining establishments, 49 percent had offered formal training for their middle-aged employees with low educational attainment. Figure 5.2 gives the incidence rate for training provision to middle-aged, less-educated workers among establishments which had offered training and which had employed such employees. In terms of the chance of receiving formal training, less educated middle-aged employees fared best in construction and in manufacturing; and they fared worst in financing, insurance, real estates and business service and in transport, storage and communications.

Establishments which did not provide less educated middle-aged employees with training were further asked to nominate from a list of pre-coded answers their reason for non-provision. Table 5.2 gives the distributions of responses for all establishments taken together, and for establishments in the manufacturing, transport, and finance industry groups. The results for all establishments show that the two most frequently cited reasons for non-provision are: (1) these workers are already experienced; and (2) informal training is adequate. The third most frequently chosen reason was that the

Table 5.2
Reasons for Not Training the Less Educated Middle-Aged Workers

	ALL	manufacturing	transport	finance
The workers are already experienced	13.9%	26.9%	8.9%	6.7%
We have financial difficulty	6.5%	4.4%	1.1%	18.7%
There is no spare time	5.1%	13.1%	27.5%	3.2%
Informal training is adequate (includes learning-by-doing and coaching by supervisors)	52.5%	14.3%	42.1%	32.1%
We are not capable of organizing formal training	1.1%	11.9%	1.2%	0.0%
We cannot find suitable training	6.4%	10.5%	4.0%	11.7%
They do not want formal training	2.8%	9.2%	3.2%	2.1%
We plan to downsize our staff	0.9%	0.9%	0.6%	2.0%
We plan to replace these workers with younger and more capable staff	8.2%	4.0%	6.9%	20.5%
Their jobs do not require training	1.2%	0.9%	4.4%	2.8%
The training provided is not suitable to them	0.1%	0.9%	0.0%	0.1%
Training may not improve their performance	0.2%	2.0%	0.0%	0.0%
No reason given	0.1%	1.1%	0.0%	0.1%
Total	100%	100%	100%	100%

firm plans to replace these employees with younger and more capable staff. Another noticeable point is that a sizeable proportion of establishments nominated “financial difficulty” and “problems in finding suitable training for employees” as reasons for not providing training.

Among manufacturing and transport establishments, the most frequently cited reasons for non-provision are related to employers’ perception of employees’ training needs: employees’ working experience and informal on-the-job training were considered adequate, and training was considered unnecessary for their job duties. However, it is worth noting in the manufacturing sector, reasons related to difficulty in organizing or finding training for employees were chosen by a sizeable proportion of the establishments. These results suggest that while a majority of the manufacturing employers saw

little need to train their middle-aged, less-educated workers, some employers did face limitations in arranging job training for these employees.

In the finance sector, the two most common reasons for non-provision are adequacy of informal training and the existence of plans to replace middle-aged, less-educated employees with younger and more capable workers. The replacement plan may well be related to the higher education requirements at the job-entry level in the finance industry, the computerization of business operations, and the poorer labour market conditions faced by young people who are unlikely to ask for relatively high wage. Under these conditions, it is in the interests of employers to recruit younger, more well-educated people, compared to training or re-training middle-aged, less-educated employees. Promoting the awareness of middle-aged employees for self-development will help change employers' perception of these employees' employability.

We have also analyzed the responses by establishment size. Perceived adequacy of informal on-the-job training and work experience of the employees and were the two most common reasons nominated by establishments in all three size categories for non-provision. The results also show that financial difficulty is a greater problem to small establishments than to medium and large establishment: 17 percent of small establishments nominated this reason, compared to one percent of all medium establishments and 0.2 percent of all large establishments.

The above results altogether suggest that generally, it is employers' perception of employees' training needs that underlie the non-provision of job training to middle-aged, less-educated employees. Employers generally rely on informal training and self-learning and the employees' own work experience to meet their need for human capital. They do not see there is a need to invest their employees with formal training as a means to augment their human capital stock. Instead, they seem to rely on the supply in the external labor market to provide them with a more well-educated and younger workforce.

5.3 Skills and Knowledge Adequacy of Less Educated Middle-Aged Employees

Establishments which had provided their workers with training in the previous year, and

which had middle-aged less educated employees in their payroll were asked to nominate from a list the kind of skills and knowledge that they most preferred these workers to improve on. We find that production or construction related skills are the most frequently nominated item (chosen by 22 percent of all establishments). This is followed by computer skills and knowledge (15 percent), occupational safety and health (15 percent), sales and customers relations skills (14 percent), and interpersonal communication skills at work (nine percent).

The category “production and construction related skills” encompasses a wide range of diverse job-specific skills which cannot be delineated clearly. Computerization of the workplace has been a very widespread phenomenon in recent years. Furthermore, since the product life cycles of computer software and systems are short, employees need to constantly update their computer skills. Middle-aged, less well-educated employees grew up in a period when computers were not very popular and affordable, and when there were not that many advanced software and systems available in the market. Thus, employers would like these employees to improve on their computer knowledge and skills.

As a majority of the respondent establishments are in the wholesale, retail and import/export trades, restaurants and hotels industry group, it is not surprising that skills and knowledge in sales and customer relations are the fourth most preferred skills which employers would like their middle-aged, less educated employees to improve on. This may well be related to the fact that in recent years, the public generally has been calling for better and more customer-oriented service, especially in the retail sector.

The results for specific industry groups show a pattern which is similar to the overall picture. In manufacturing industries, production-related skills ranked first (nominated by 51 percent of the respondent establishments), followed by computer skills (17 percent of establishments). This is in line with the findings reported in Chapter 4. We note from interviews with representatives of employers in manufacturing industries that computerization of the production process has been very common. Employees needed to have more updated and advanced skills to handle the production process. A considerable number of employers in trades, restaurants and hotels, in finance and business services,

and in community, social and personal services preferred their employees to improve their computer skills and knowledge. In the construction industry and in the transport, storage and communications industry, occupational safety and health is the most preferred type of knowledge. It was nominated by 47 percent of all valid respondents among the former group and by 30 percent of the respondents in the latter group.

5.4 Employers' Preferences and Concerns about Government Subsidy

The third purpose of our survey is to gauge employers' opinions and preferences regarding three hypothetical modes of government subsidy that may help them provide training. Specifically, we asked respondents their concerns and support regarding the following three modes of job training and government subsidy for middle-aged, less educated employees:

- training programs paid wholly by the employees themselves;
- government subsidy to employers to hire replacement workers to allow these employees to undertake training within working hours; and
- training organized for these employees by employers and subsidized by the government.

A majority of the respondent establishments (90 percent) were positive about their employees taking up self-financed formal training outside working hours. The response distributions do not differ much in terms of establishment sizes and industry groups. More than 80 percent of the establishments in each size category and in each of the six industry group supported this kind of training. The overwhelming positive response is not surprising as self-financed training outside working hours bears almost no cost on employers in terms of money, administrative work, and working time. Nevertheless, among those respondents who did not favor this mode of job training (two percent of all respondent establishments), the most commonly cited reason was that the training might not suit the company's needs.

We next asked respondents to consider a hypothetical mode of government assistance: the government offers employers subsidy to hire temporary replacement workers

so that middle-aged employees can attend off-premise training within working hours. Unlike the response to the first mode of training, support for this mode was lukewarm: while 43 percent of the respondent establishments said they would take up the subsidy if it was offered, 16 percent would not and 41 percent were undecided. The extent of support varies in terms of establishment size. Small establishments are generally more supportive, compared to medium and large establishments.

When we probed the respondents' concerns about this mode of subsidy, the ease of hiring replacement workers was nominated by the greatest proportion of all respondent establishments as their primary concern. This is followed by whether the company's overall operation would be affected, and by whether training would improve employees' performance. Unexpectedly, the amount of subsidy offered to hire replacement workers was the primary concern of only four percent of all respondent establishments. Duration of training was also not considered important, it was nominated by only three percent of all respondent establishments. The response patterns are nearly the same when the data are analyzed in terms of industry group and establishment size.

The concerns of supporters, non-supporters, and undecided respondents are different, as indicated in Table 5.3. Supporters and the undecided respondents are more concerned with whether it is easy to hire replacements; non-supporters are more concerned with whether the company's overall operation would be affected. Common to all three groups of respondents is the relative unimportance of the amount of subsidy that would be offered to help them hire replacement workers; less than 10 percent in each group nominated this as their primary concern.

The second hypothetical mode we asked respondents to consider was direct subsidy from the government to help them provide employees with on-premise training within working hours. Similar to the first mode, positive support for this mode is not as overwhelming as one expects: 45 percent of the respondent establishments said they would take up this kind of subsidy if the government offered it, 24 percent said they would not and 31 percent were undecided. Again, small establishments are in general more supportive of this mode compared to other establishments.

Table 5.3

Employers' Concerns Regarding Subsidy to Hire Replacement Workers

	supporters	non-supporters	undecided
whether it is easy to hire replacements	40.9%	17.4%	46.3%
the amount of the subsidy	7.9%	0.0%	0.6%
the type of training	4.5%	4.4%	9.7%
the duration of training	2.6%	12.0%	1.6%
whether employees would remain satisfied with the company after the training	5.5%	5.5%	5.7%
whether training improves employees' performance	22.5%	12.5%	18.9%
whether the company's operations will be affected	16.0%	47.9%	16.9%
whether employees need the training	0.0%	0.0%	0.3%
whether employees want to be trained	0.0%	0.2%	0.0%
Total	100%	100%	100%

We also asked respondents what their concerns were about this mode of subsidy. Whether the company's overall operation would be affected was the most common primary concern (chosen by 44 percent of all respondent establishments), followed by whether the training would improve employee performance (27 percent). Similar to the findings for the first hypothetical mode of subsidy, pecuniary considerations were not of great concern to employers. Only seven percent of the establishments nominated "whether the amount of subsidy can cover the full cost of training" as their primary concern.

Table 5.4 lists the percentage distribution of primary concerns among respondents who supported, did not support, or were undecided about direct government subsidy to employers for training provision. Supporters care mostly about whether the company's operations would be affected and whether employees would leave the company after the training. Non-supporters are concerned with whether the training would improve the employees' performance and whether the company's overall operation would be affected. The undecided respondents are most concerned with the company's overall operations.

Table 5.4
Concerns Regarding Direct Training Subsidy to Employers

	supporters	non-supporters	undecided
whether employees would leave the company after the training	32.6%	3.2%	14.6%
whether employees would ask for pay raise or promotion after the training	0.0%	0.1%	2.0%
whether training improves employees' performance	16.2%	68.5%	11.8%
whether the company's operations will be affected	35.2%	27.8%	70.6%
whether the amount of subsidy can cover the full training cost	14.2%	0.3%	0.6%
whether employees need the training	0.1%	0.0%	0.3%
the content and duration of training	1.6%	0.0%	0.1%
whether employees want to be trained	0.0%	0.1%	0.0%
Total	100%	100%	100%

Pecuniary considerations in terms of the amount of subsidy offered was not of prime concern to the non-supporters and the undecided respondents.

Supporters and the undecided respondents were further asked which provision methods they would adopt if the subsidy was offered and they took it up. A greater proportion favored external training than in-house training programs organized by themselves. Forty-three percent said they would ask employees to choose their own training, and another 28 percent said they would bring in external trainers. Only 28 percent would organize their own training programs. These findings are in line with the previous discussion. Effects on the company's operation was the greatest concern to employers regarding direct government subsidy for training provision. With government subsidy, contracting out the training provision by purchasing services from external vendors would involve minimal administrative work and the least disruption to the functioning of the company.⁵

After probing the respondents' preferences and concerns about alternative modes of

⁵ For a discussion of the determinants of employers' choice between making or buying job training, see David Knoke and Lisa Janowiec-Kurle, "Make or Buy? The Externalisation of Company Job Training," *Research in the Sociology of Organisations*, 16, 1999, pp. 85–106.

government subsidy, we asked them to make an exclusive choice between three hypothetical modes of government subsidy regarding formal training for employees:

- Subsidize middle-aged, less educated employees to take up training outside working hours.
- Subsidize employers to provide these employees with on-premise training within working hours.
- Subsidize employers to hire replacement workers.

A majority of the respondent establishments (80 percent) opted for the first mode, 16 percent chose the second mode, and only four percent chose the third mode. The response distributions in terms of establishment size and industry groups were very similar to the overall distribution. Over 70 percent of the establishments in each size category and each industry group opted for the first mode (except for community, social and personal services, which had 65 percent of the establishments choosing the first mode).

To gauge employers' preferences for training employees of different age, we asked which age group they preferred to train if they were offered government subsidy. The results show that employees between 25 and 39 years old were the most preferred group. Only 16 percent of all establishments chose the 40–49 years old group. This pattern of age preference does not differ much in terms of establishment size and industry groups. Younger employees are likely to be more trainable and the returns to employers' training investments may well be greater due to their longer working life and capability, compared to middle-aged employees.⁶

Summing up the above results about employers' preferences and concerns for government subsidy to help them provide middle-aged, less-educated employees with formal

⁶ Findings from establishment and household surveys in other countries repeatedly show that younger and more educated employees are more likely to receive training from their employers, compared to older and less educated employees. See, for example, Harley Frazis, *et al.*, "Correlates of Training: An Analysis Using Both Employers and Employees Characteristics," *Industrial and Labor Relations Review*, 53, April 2000, pp. 443–462; Jerry A. Jacobs, *et al.*, "Organisational, Job and Individual Determinants of Workplace Training: Evidence from the National Organisational Survey," *Social Science Quarterly*, 77, March 1996, pp. 159–176.

job training, the following points are noticeable:

- Whatever the mode of subsidy, employers favor minimal disruption to their business operation.
- Pecuniary consideration is generally of secondary importance to employers in considering potential government subsidy.
- Employers have a definite preference for younger employees in their training provision.

5.5 *Summary of Survey Results*

A majority of Hong Kong employers do not provide their employees—young or old—with formal job training. The incident rate is particularly low in small establishments which employ less than 10 persons. Even when employers do provide training, less well-educated, middle-aged employees are not more likely to be training recipients than are other employees. Employers rely primarily on informal on-the-job training, the employees' own work experience, and the external labor market as their sources of human capital. Hence they do not perceive the need to offer training to less educated middle-aged employees.

Employers do recognize that less-educated middle-aged employees lack specific work skills and knowledge and would like to see improvements if they do not have to bear the full cost. Among the types of skills and knowledge examined in our survey, production-related skills and computer knowledge are most preferred by employers. Other skills such as sales and customer relations, occupational safety, and interpersonal communication skills at work are also in demand.

In terms of the preferences for government assistance in training provision, the overall orientation of employers is minimal involvement on their side and least disruption to the normal functioning of their business. Pecuniary training costs are generally of secondary importance. Other minor considerations of employers include employees' turnover and performance as well as the suitability of the training. The implications of these preferences, concerns and orientations on government policy are discussed in Chapter 6.

Chapter 6

How the Government Can Help

6.1 Diagnosing the Labor Market Problems of the Middle-Aged

Designing an appropriate response to the employment problem of the middle-aged relies on a correct diagnosis of the nature and the scale of the problem. Before we discuss how the government can help, it is therefore necessary to recapitulate the lessons drawn from the earlier chapters.

We have seen that middle-aged men and women have a lower unemployment rate and a higher labor force participation rate than do the general population. In terms of labor earnings, the age-earnings profile for Hong Kong workers reaches a plateau between age 30 and age 50. Moreover, there is no evidence that these relative advantages of middle-aged workers have eroded in recent years. To say that middle-aged workers as a group are not disadvantaged is not to deny that some middle-aged workers do face employment problems. But it would be an exaggeration to suggest that their employment problems have reached or will reach crisis proportions.

Perhaps the most consistent finding in this report is the growing gap between skilled and unskilled labor in terms of their employment, unemployment and earnings. The less well-educated middle-aged workers have seen their position decline relative to other workers. Since middle-aged workers in Hong Kong are over-represented by people with low levels of education, they are particularly vulnerable to the economic forces induced by technological change. Their dwindling employment prospects, however, are a generic problem faced by all people with low educational attainment. Among those with lower secondary education or below, the unemployment rate was 7.2 percent for the 40–49 age group in the year 1999, but it was much higher—at 19.4 percent—for the 15–24 age group. Indeed the biggest problem facing the Hong Kong labor market today is unemployment among less-educated youth.

Few people in the 40–49 age group are genuinely “unskilled.” Even those with no formal education and engaged in low skill jobs should have accumulated a fair bit of specific human capital by the time they reach middle age. Learning-by-doing and mere familiarity with work routines give them a slight advantage over workers with less experience. Our establishment survey results reported in Chapter 5 show that employers rely on these forms of human capital rather than on providing employees with formal training. Since firm-specific human capital is also valuable to employers, these employees’ risk of losing their jobs is substantially less than that of comparable workers who are younger in age. The greatest risk for these middle-aged workers is not that their employers would replace them with cheaper substitutes. Rather, the greatest concern is that changes in technology and product demand would force their employers to lay off workers. This concern is borne out by the interview findings we reported in Chapter 4. Interviewees in different manufacturing industries pointed out that technological upgrade may force them to lay off middle-aged employees if they were not competent enough to handle the new technologies.

Middle-aged workers in Hong Kong are over-represented in declining industries and occupations. We have seen in Chapter 3 that middle-aged workers (especially men) with low educational attainment have difficulty moving away from production-related and low-skill occupations, even though the Hong Kong economy is shifting away from these occupations in general. These workers may not be the first to be separated from their firms. But if deteriorating business conditions force a separation, these workers may be the ones who will suffer the most. There is evidence that middle-aged workers who are unemployed have a higher propensity to suffer a prolonged period of unemployment compared to other workers.

6.2 Some Basic Parameters in the Choice of Public Policies

A looming labor market crisis would call for drastic remedial action; labor market problems of a smaller scale would call for a more measured response. According to our diagnosis of the employment prospects of middle-aged workers, there are two potential problem areas: first is their difficulty in moving away from production-related and low-

skill occupations, and second is the high incidence of long term unemployment among the middle-aged unemployed. Hence we recommend focusing government resources on strengthening the current programs in helping unemployed middle-aged workers to re-train themselves. The opportunity costs of training unemployed workers are low, and the potential benefits are large in terms of reducing social ills resulting from prolonged unemployment. For currently employed workers, their immediate risk of losing their jobs is not exceedingly large. However, they would encounter more problems in finding new jobs if their employers fail to remain in business due to changes in economic conditions (e.g., those brought about by China's entry into the World Trade Organization). Consequently, we recommend preventive measures that would facilitate these to stay abreast of labor market developments. Our specific recommendations for these two groups of workers will be detailed in subsequent sections.

The two potential problem areas we have identified obviously are of concern to policy makers, but they do not make a crisis. Given this assessment of the scale of the problem, it would be hard to justify a massive and costly remedial intervention in the labor market. Hence our first policy recommendation:

◇ *Do not introduce policies that would substantially raise the cost of doing business.*

Consider, for example, a policy that would have the government or employers subsidize all employed middle-aged workers with low educational attainment to attend training courses similar to those currently supported by the Employees Retraining Board. The average training expenditure would be approximately \$4,000 per person.¹ Time spent on training means time not spent on work. If the average duration of these training courses is two weeks, the lost wages would amount to about \$6,000 per person.² Ignoring problems resulting from the disruption of normal work schedules, the total cost comes to at least \$10,000 per worker. On an annual basis, this amounts to a six or seven percent increase in labor costs.

¹ In the fiscal year 1998–1999, total expenditure (excluding retraining allowances) of the Employees Retraining Board was \$276,494,529. The total number of retrainees completed retraining was 69,850. The average expenditure per retrainee was therefore \$3,958.

² The average monthly earnings of middle-aged workers with low educational attainment was \$12,943 in 1999.

Given the fact that middle-aged workers with low educational attainment have an unemployment rate which is only marginally above the overall unemployment rate, it is hard to conceive how a two-week training program can substantially reduce their unemployment risk. In 1999, for example, middle-aged workers with years of additional schooling (upper secondary education or above) had an unemployment rate which was only 3.8 percentage points below that for those with less schooling. It would be an extremely effective program indeed if two weeks of additional training can reduce the unemployment rate by more than 0.2 percentage point.

The magnitude of any such benefits is disproportionate to the costs. Employers will certainly resist shouldering the costs of training. Moreover, we noted in Chapter 5 that normal business operations rather than pecuniary considerations is of primary importance to employers in arranging employee training. Some employers may forsake the benefits of government subsidy if it is indeed offered. And at a time of budget stringency, massive government subsidized training eventually translates into higher taxes and higher costs of doing business. In turn, higher costs of doing business will translate into fewer jobs. There is no existing study that reliably estimates the elasticity of labor demand in Hong Kong. Daniel Hamermesh provides an exhaustive survey of the evidence for the United States.³ He suggests that the value of labor demand elasticity is probably between -0.15 and -0.75 , with -0.30 being a good “best guess.” If we take the “best guess” value of -0.30 , then a six percent increase in labor costs will result in a two percent drop in employment. Even if we take the lower bound value of -0.15 , a six percent increase in labor costs will result in a one percent drop in employment. The remedy obviously is worse than the problem.

A second lesson we have learned from this study is that poor employment prospects for the middle-aged are a result of their low educational attainment rather than their age. Indeed numerous studies in other developed economies have found a decline in demand for less educated labor. Skill-biased technical and structural changes are the chief culprit behind the widening gap between well-educated and less well-educated

³ Daniel Hamermesh, *Labor Demand*, Princeton, Princeton University Press, 1993.

workers in Hong Kong. To a lesser extent, the opening of markets and the transfer of production operations to less developed regions also contribute to a reduction in demand for unskilled labor. These forces are not expected to dwindle in the near future. The logical answer to a rise in demand for educated workers is to increase the supply of educated workers. Hence our second policy recommendation:

◇ *Expand education opportunities and improve the quality of education.*

While this recommendation may seem trite and remote, it cannot be over-emphasized that education will be the key to manpower policy for years to come. Twenty years from now, the proportion of people with an educational level of Form 3 or below in the 40–49 age group will have fallen by about a third. But twenty years from now, even Form 5 graduates will probably not be well-educated enough to succeed in the labor market. The standards are rising. Speaking of education, it is never too early to act.

We have seen that youth unemployment has risen at a much faster rate than general unemployment in recent years. In 1999, about one in every five economically active persons in the 15–24 age group with an education level of Form 3 or below is unemployed. This is an extremely disturbing problem. Fortunately young people are more susceptible to the benign influence of education and training than are older people. The sensible policy is to help these young people when help is most effective, rather than wait till they reach middle age when the problem is much more difficult to fix.

6.3 Helping Middle-Aged Unemployed Persons

Policies to improve the labor market skills of the middle-aged have to confront two harsh realities in the economics of human capital. The first is that the return to human capital investment increases with the rate of utilization. Middle-aged workers, who have a relatively short remaining work life to use the skills they learn, tend to have little incentive to acquire training. The second is that the cost of human capital investment rises with the alternative value of time. Taking time away from work to obtain new skills means less time devoted to directly productive activities. Workers with a full time job at the peak of their earnings profile will find training very costly. For these reasons, most

employers correctly perceive that the financial returns from training middle-aged workers are not high. This is borne out by employers' strong preference in training younger rather than older employees which we report in Chapter 5. Indeed many middle-aged workers themselves prefer spending their after hours with their families to acquiring new labor market skills.

Unemployed persons have a much lower value of time than do employed workers. As a major part of the cost of investment in human capital is the opportunity cost time, it is much cheaper—from both the personal and social points of view—to train workers who are unemployed than to train those who are currently employed. Furthermore, we argue in earlier chapters that middle-aged workers are faring relatively well in general with isolated pockets of problem areas. One of these problem areas is the rising incidence of long term unemployment among unemployed middle-aged workers. Concentrating the government's effort to help this targeted group therefore seems to be a more sensible policy than a diffused effort to help all middle-aged persons. In this regard, prevention is *not* more effective than cure. It is more effective (in terms of lower costs and higher benefits) to retrain a middle-aged worker after he or she becomes unemployed than to retrain a middle-aged worker when he or she is still gainfully employed.

We recommend that retraining unemployed workers should remain the policy of choice in dealing with labor market maladjustments to structural change. Currently the government's role in training the unemployed is mostly channeled through the Employees Retraining Board. It should continue to support and strengthen the work of the Employees Retraining Board in helping middle-aged unemployed persons. It is not obvious to us how new initiatives and quick fixes can improve the current state of employees retraining in Hong Kong. Of course, this report is not the place to undertake a comprehensive review of employees retraining. We do, however, have a specific recommendation to make that may improve the functioning of the current system.

◇ *Introduce a system of vocational learning certification for trainees.*

The Employees Retraining Board has been quite successful in organizing training courses that are tailor made for the needs of specific employers or employer groups.

While this type of courses should definitely be encouraged, it should also be recognized that the vast majority of the skills needed in low-level occupations are best acquired on the job, through learning-by-doing and informal mentoring. The best way to train an unemployed person with low educational attainment, therefore, is to put the person back to employment first. However, employers are naturally wary of recruiting unemployed workers who were previously engaged in other industries or occupations. By providing better and more credible information about the quality of retrained workers, introducing a vocational learning certification system is a step toward overcoming this initial reluctance. A certification system will also provide employees the incentives to take up training. Employers remarked in interviews that unless the training is of immediate, practical value, middle-aged employees are less motivated to take up training.

The courses offered by the Employees Retraining Board serve both a training function and a signaling function. The signaling role can be considerably strengthened by a territory-wide certification system. To give employers confidence that trainees with the appropriate certifications are indeed up to the tasks, these certificates should be competence based rather than attendance based. Trainees who do not attain the pre-specified level of competency should not be given a certificate upon completion of the course.

The Education and Manpower Bureau must take the lead in coordinating and promoting this system of vocational learning certification. Such a system obviously requires the input of the Employees Retraining Board, the Vocational Training Council, established training bodies, and human resources professionals. To ensure relevance and to gain wide acceptance by employers, it is critical to involve their active participation in the design, implementation, and control of this system. In the beginning, we envision that the certification system can be centered around four main types of skills: (1) use of computer systems and software; (2) sales and customer relations skills; (3) occupational health and safety; and (4) interpersonal communication skills at work. Our survey of employers shows that these are the types of skills that employers most prefer their employees to improve on.⁴ Each of these four main types of skills can be sub-divided into

⁴ Employers also express a preference for “production or construction-related skills.” However this category actually encompasses a huge variety of diverse job-specific skills that are lumped together for

many standardized modules so that trainees do not have to undergo a prolonged training period to obtain the certification. Instead skill enhancements can be obtained through a series of small steps under the modular approach.

For concrete technical skills such as the use of computer systems and software, common assessments are essential for establishing the credibility of the certification system. Indeed we suggest that certificates for some modules can be obtained either by an assessment after completing the training course or by assessment only. For soft skills such as training in work attitudes, standardized assessments are probably quite difficult to implement. When this is the case, completion of the training course is the only way of acquiring the certificate. To assure a consistent quality, training bodies must be closely monitored. Standardized course materials and training manuals will be useful for establishing uniformity and quality. The central certification body may require training bodies to adopt a rigorous quality assurance program patterned after the ISO system. Only training bodies with the appropriate “quality mark” will be allowed to grant certificates under the proposed system. It should be emphasized again that employers must be involved in the design of assessment methods and teaching materials and in the quality assurance process so the certification system will achieve relevance and credibility.

6.4 *Preventive Measures*

One of the potential problem areas we have found for less-educated middle-aged workers is that they tend to stay in production-related and low-skill occupations when the rest of the labor force are moving away from such occupations. Since middle-aged workers have accumulated some specific human capital in their jobs, it is understandable that they are less mobile than are other workers. Our analysis suggests that their immediate risk of being laid off by their employers is not very large. However, if their employers fail to remain in business due to adverse economic conditions, the costs of unemployment can be particularly high for these middle-aged workers. Most of these workers have a family

the purpose of administering the questionnaire. Having a certification system for these diverse range of production-related skills would be too unwieldy a task to manage at the introduction of the certification system.

to support and they only have a limited amount of past savings to count on. Furthermore, middle-aged unemployed persons tend to suffer a long period of unemployment before finding alternative employment. This is why it would be useful to consider some preventive measures for middle-aged workers who are currently employed.

Another reason to consider preventive measures for these workers is the prospect of stagnant wages. A recent manpower projection exercise by the Education and Manpower Bureau predicts a “surplus” of low skill middle-aged workers. As in any linear manpower model of this kind, such projections ignore the possibility of substitution and wage adjustments. In a flexible labor market such as the one in Hong Kong, the projected “surplus,” assuming that it materializes, is more likely to translate into falling wages than into joblessness. We see in Chapter 3 that wages for unskilled workers have been falling relative to wages for more skilled workers. And indeed this is a worldwide phenomenon that is expected to continue in the near future. Middle-aged workers who wish to pull themselves out of this predicament can benefit from some skill upgrading, even if their current employment is secure.

◇ *Encourage or require employers to provide annual training leave for their employees.*

Long working hours and family chores put a heavy demand on middle-aged workers’ time. Both our interview and establishment survey results highlight this constraint. Relieving the time constraint would be a major step toward encouraging these workers to undergo training. With a vocational learning certification system in place, when time spent on training would be properly recognized, their incentive to acquire training would be even greater.

For workers who are currently employed, a long and intense training course with no follow-up is less effective than periodic training courses of shorter duration. Especially for middle-aged workers, skills are better learned in bits and pieces with periodic reinforcements than swallowed in whole chunks. Moreover employers are also more likely to support modular modes of training of short time durations. The establishment survey reported in Chapter 5 shows that employers are most concerned with smooth and normal company operations. They will prefer short sessions rather than prolonged training

periods. We therefore advocate a modular approach to training these workers, with each module lasting for two or three days. Attainment of each module will be certified under the proposed vocational learning certification system. Workers can keep on accumulating more modules and advancing on the vocational skills ladder over their working life.

Employers should be encouraged or required to grant annual training leave of two or three days to their employees for them to attend accredited training courses. Training leaves that are longer than two or three days would be a lot more disruptive to business and would add substantially to labor costs. Mandating long training leaves is counter-productive because it reduces the capacity for small and medium sized enterprises to generate jobs. Employers should not be allowed to dictate which courses their employees choose, because part of the purpose of these training courses is to equip workers to change jobs if necessary. Our establishment survey in fact show that a majority of employers prefer letting employees choose their own training programs to organizing training for them.

To ensure that training leaves are indeed used productively, the courses catering for such leaves must pass the market test. A major part of the cost of training is the opportunity cost of time. Since employers already bear a significant fraction of the training cost by granting time off to their employees, employees are expected to shoulder part of the cost too. A system in which employees do not have to pay for their own training will encourage the proliferation of training courses that are of dubious value. For employees who may have financial difficulties in paying for their own training (for example, those earning less than \$5,000 a month), some form of partial government subsidy may be needed. To make the proposal revenue neutral, the government may consider removing the deductions for training expenses in the income and salaries tax. Such deductions clutter the tax codes; and they primarily benefit people in higher income brackets, who are less deserving of government subsidy from both the efficiency and equity points of view.

We propose that eligibility for training leaves should not be based on age. Mandating

training leave for only those workers who are aged between 40 and 49 will raise the labor costs of these workers relative to other workers. This will induce employers to substitute away from middle-aged workers—hardly an intended result of our recommendation. If it is deemed too costly to provide training leave for all workers, a compromise would be to make eligibility contingent on length of service with the employer.

We have considered but do not recommend offering tax credit for employers who provide in-house training for their employees. Even if this kind of subsidy is offered, it is doubtful whether employers would take it up and organize their own training programs. Interviews and survey of employers indicate that they prefer minimal involvement in training provision. They would rather use services provided by external training vendors or existing subvented organization. Most small and medium sized enterprises do not have the capability to provide formal training courses. Informal training, on the other hand, is by nature very difficult to verify and hence subject to abuse. Furthermore the types of skills that will enhance a worker's marketability are generally different from the types of skills that will enhance the worker's productivity within the firm. Employers are not expected to have the proper incentives to provide the type of training that will prepare their employees to switch jobs when changing economic conditions make this necessary.

◇ *Increase the public's awareness for the importance of self-improvement.*

When middle-aged people lose their jobs, it is primarily because of adverse business conditions affecting the employers rather than their own personal failings. Because unemployment occurs for factors beyond their control, these workers may not be fully aware of their vulnerability in the labor market. And for those who are aware of their vulnerability, they may not know what can be done to mitigate their risks. The proposed training leave and vocational learning certification system provide avenues for the motivated to improve themselves through small steps that are relatively easy to take and accomplish. The government needs to vigorously promote such avenues through a publicity campaign so that even the less motivated will become aware of the importance of and possibilities for self-improvement. Stay alert of job market developments, be willing to learn new skills, increase savings to prepare for adversity—these are the messages

that needs to be effectively conveyed to middle-aged workers.

6.5 *Is Wage Subsidy a Good Idea?*

Recently various groups have proposed that the government should provide wage subsidies to employers if they hire unemployed workers who are receiving Comprehensive Social Security Allowance, who are aged 20 years or below, who are disabled, or who have an education level of Form 3 or below. The amount of the subsidy is suggested at 50 percent of the monthly wage, up to a maximum of \$2,000 per month for three months. The theory behind wage subsidy is simple: by reducing labor costs, wage subsidy tends to encourage employers to hire workers they would not otherwise hire.

Wage subsidies have been periodically tried in a number of Western countries including the United States. Most studies find a small but positive effect on employment.⁵ The chief problem of wage subsidy, however, is its poor cost-effectiveness.

Jeffrey Perloff and Michael Wachter have undertaken a study of the New Jobs Tax Credit program that was implemented in 1977–1978 in the United States. That program provides a tax credit to employers an amount equal to 25 percent of the additional wage bill resulting from employment expansion, up to a maximum of US\$2,100 per employee in a year. Perloff and Wachter compare the employment growth of firms that know about this program with the employment growth of firms that are not aware of this program. They find that the former group of firms have a three percent higher employment growth than do the latter group of firms. However, since fast-expanding firms have greater incentives to learn about this program than do firms which are contracting or expanding slowly, they suggest that their estimate is likely to be upward biased. Furthermore, the wage subsidy under the New Jobs Tax Credit Program (25 percent subsidy for a year) is more generous than the wage subsidy proposed by various groups in Hong Kong (50 percent subsidy for three months). We therefore expect at most a one percent

⁵ Jeffrey Perloff and Michael Wachter, “The New Jobs Tax Credit—An Evaluation of the 1977–78 Wage Subsidy Program,” *American Economic Review*, 69, May 1979, pp. 173–179; John Bishop, “Employment in Construction and Distribution Industries: The Impact of the New Jobs Tax Credit,” in Sherwin Rosen, ed., *Studies in Labor Markets*, Chicago, University of Chicago Press, 1981, pp. 209–246.

employment effect if such a proposal is adopted in Hong Kong. In 1999, there were 1.2 million workers in Hong Kong with an education of lower secondary level or below. A one percent employment effect would amount to about 12,000 additional jobs.

Such a positive employment effect would come at a heavy cost. Of the 1.2 million workers with low educational attainment in 1999, an educated guess is that approximately 14 percent were newly hired within the past twelve months.⁶ Suppose only new hires are eligible for wage subsidies. Then the number of eligible workers would be 168,000. At \$2,000 per worker for three months, this amounts to an annual outlay of 1 billion dollars, or \$84,000 per job created.

Such a back-of-the-envelope calculation does not take into account the general equilibrium effects. Not only do wage subsidies create distortions in the labor market, they also create distortions in other sectors of the economy by requiring higher taxes. Taking into account the higher taxes (or lower government expenditures) necessitated by the financing of wage subsidies would make the positive employment effect even smaller. Moreover, by restricting wage subsidies to the first three months of employment, the proposal would encourage employers to create more temporary jobs and increase labor turnover. Considering the number and type of jobs that are likely to be created by the proposed wage subsidy, the benefits can hardly justify the enormous costs involved in such a radical intervention in the labor market.

6.6 *Summary of Policy Recommendations*

Our diagnosis of the employment prospects for the middle-aged suggests different measures for different groups of middle-aged people. Rather than spreading government resources too thinly in an attempt to help all middle-aged persons, resources should be concentrated on helping currently unemployed middle-aged persons re-enter the labor market. Obviously the government should continue to support and strengthen the work of the Employees Retraining Board in helping unemployed workers. Introducing a system

⁶ There is no reliable statistics on gross job flows in Hong Kong. According the General Household Survey *Special Topics Report No. 19*, among 602,000 employed workers with primary education, 83,000 had changed jobs during the 12 months prior to the survey. This ratio of 14 percent is consistent with attrition rates of 10 to 20 percent commonly reported by firms.

of vocational learning certification will improve information about labor quality available to employers and hence raise the value-added of the current retraining programs. It will also increase the incentive to acquire training among middle-aged people.

Currently employed middle-aged workers are at a lower risk of losing their job than the average workers. Nevertheless they are not completely immune to the adverse impact of changes brought by structural transformation and by China's imminent accession to the World Trade Organization. Among people who are currently employed, the government should encourage or require employers to provide them with two or three days of annual training leave. Such a policy will significantly lower the cost of training borne by employees. Coupled with a publicity campaign to increase the public's awareness of the importance of self-improvement, the set of policy recommendations will gradually overcome the reluctance of middle-aged workers to acquire training.

Tackling the employment problems of middle-aged workers is a task that requires prudence and patience. Many of their labor market problems stem from inadequate education. The long term solution, therefore, has to lie in expanding education opportunities and improving the quality of education. In the meantime, it is important to bear in mind that remedial policies which substantially raise the cost of doing business will only do more harm than good.