Box 6.1
Labour market adjustments under different economic cycles

The demand for labour is a derived demand, in the sense that firms' demand for labour is driven by the demand for their products. When the economy is expanding, the aggregate demand for labour is expected to rise if output growth is faster than the increase in labour productivity. In contrast, during a recession or a slowdown, the aggregate demand for labour will decline as businesses set to scale back their productions. In face of a reduction in the derived labour demand, some firms may choose to lay off or freeze employees' wages to reduce the payroll expenses. However, many employers recognise that lay off may not be the most cost-effective way of adjustment considering the hiring and firing costs thus entailed, especially at times of still uncertain economic outlook. Some employers, therefore, may offer their workers sabbaticals or slash the amount of overtime, i.e. adjust the latter's hours of work. Exactly how firms would adjust their manpower requirements very much depends on factors like their cost structures and the degree of capital-labour substitutability etc at the micro-level. At the macro-level, how responsive employment could adjust hinges on the flexibility of labour market, which is typically shaped by a number of institutional factors in the labour market, including employment protection legislation, taxation, and labour and welfare policies alike.

Indeed, the Hong Kong economy went through a few recessions from 1996 to 2014, during which our labour market was inevitably adversely affected. By examining the labour market adjustments under different economic cycles, one can observe how the hours of work interplay with employment in the adjustment process. *Chart 1* shows the year-on-year rates of change in total employment (EMP), average working hours of employed persons (AWH) and real Gross Domestic Product (GDP) during the period. Four recessions are identified, namely, (1) the 1998-1999 recession after the Asian Financial Crisis; (2) the burst of "IT bubbles" in 2001; (3) the outbreak of Severe Acute Respiratory Syndrome (SARS) in 2003 and (4) the Global Financial Crisis (GFC) in 2008-2009.

It can be noted that during the periods just before the recessions, AWH shortened in tandem with the slow-down in economic activities. During the recession periods (2), (3) and (4), the loss in labour input was mainly driven by the drop in AWH. In comparison, the magnitude of EMP adjustment was smaller, which in turn helped partly relieve the upward pressure of unemployment rate. This observation suggests that employers appear to be quite reluctant to lay off workers immediately after economic activities slowed, probably partly because downsizing is often more difficult than adjusting the hours of work of existing staff. In general, corporate retrenchments or significant job losses only come into place when the weakness of demand for output protracts.

When the Hong Kong economy began to recover (i.e. periods after recessions), AWH usually adjusted ahead, and to a greater magnitude, than EMP. Conceivably, this reflects employers' still cautious hiring sentiment when the economy just regains some momentum. Instead, they prefer to extend the working hours of existing staff as transitional measures to cope with the revival of business activities. Such arrangement allows firms more flexibility in managing their operating costs while consolidating their business performances during the early phase of economic recovery. Total employment only picks up after economic recovery gains traction, followed by visible declines in average working hours and unemployment rate. From *Chart 1*, it can also been seen that increases in AWH were particularly notable in 2004 and 2010 when the economy rebounded from SARS outbreak and GFC respectively, followed by remarkable employment gains throughout the periods during 2004-2008 and after 2011. With employment growth apace, average working hours dropped in tandem.

Box 6.1 (Cont'd)

Chart 1: Economic performance and labour market adjustments in Hong Kong during 1996 to 2014
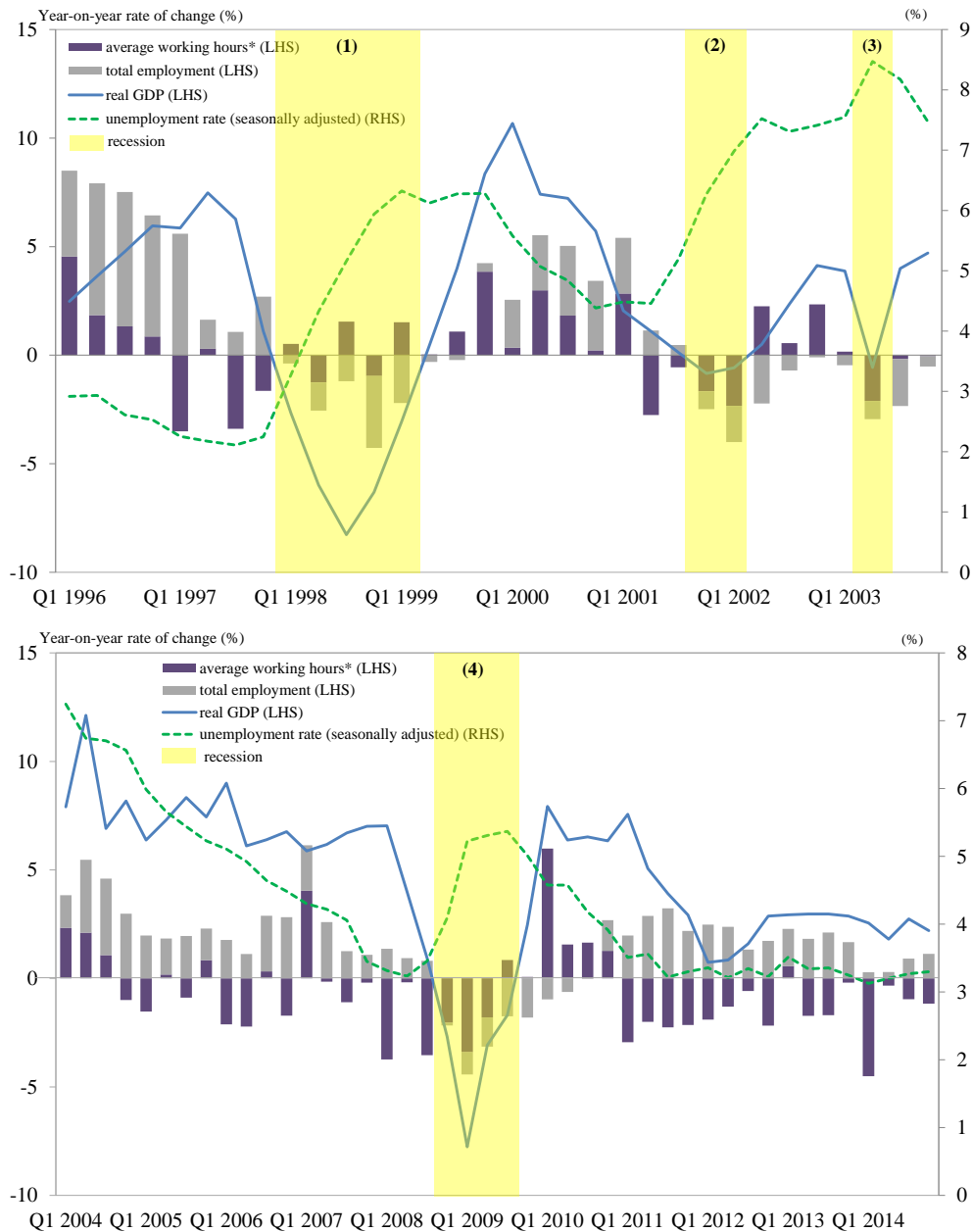

Note: (*) Hours of work in the General Household Survey (GHS) refer to the number of hours which an employed person actually worked in all employment during the 7 days before enumeration. Unless specified otherwise, average working hours in this article refer to the average hours of work per employed person, excluding foreign domestic helpers.

Sources: GHS and National Income Statistics (NIS), Census and Statistics Department (C&SD).

Using the same set of quarterly data, a simple correlogram shows more clearly the lead/lag relationship of the year-on-year rates of change of EMP and AWH with the year-on-year real GDP growth (***Chart 2***). On one hand, AWH in quarters ahead of real GDP has a positive correlation coefficient (of around 0.3), implying that the former variable may provide some leading signals for the latter. On the other hand, the correlation coefficients of real GDP and EMP are also positive, though the impact of real GDP on EMP will take time to filter through. The larger magnitude of correlation coefficient (around 0.6) may suggest that EMP actually bears a closer relationship with real GDP.

Box 6.1 (Cont'd)

Chart 2: Cross-correlogram of the year-on-year rates of change in EMP and AWH with real GDP growth (1996 – 2014)
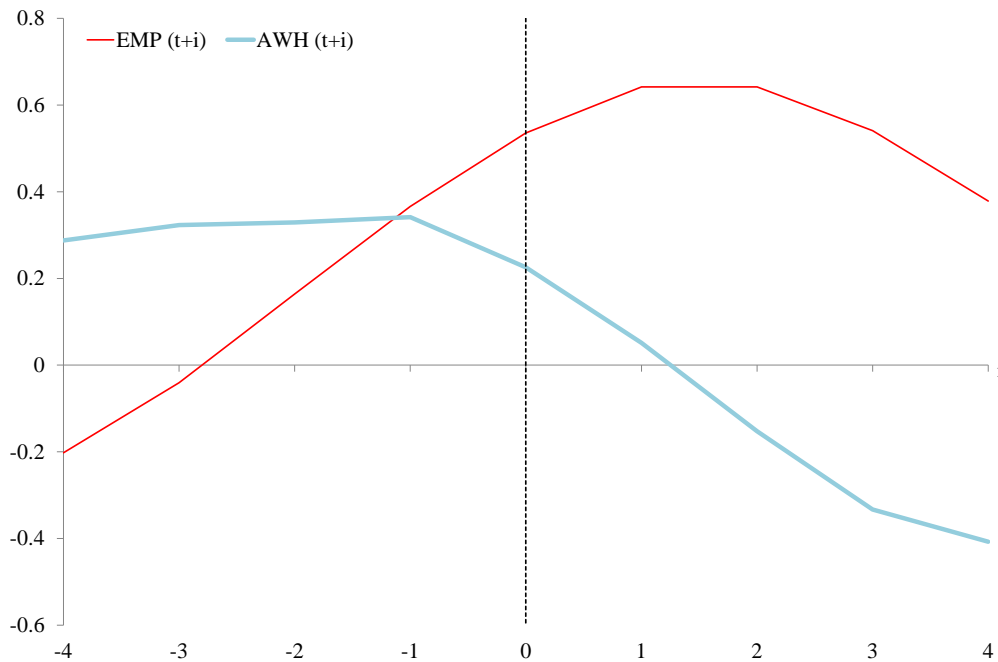
Source: Author's calculation based on GHS and NIS, C&SD.

Further analysis based on the empirical results of Granger causality test at *Table 1* also shows that the two labour market indicators in question are quite responsive to the change in economic output. Specifically, one lag of AWH is a statistically significant predictor of real GDP, whereas up to four lags of real GDP are useful in predicting the change in EMP. Moreover, as shown in *Chart 1*, average working hours would tend to shorten when the employment keeps growing. Echoing this observation, it is also noted that past values of EMP (up to three lags) are also statistically significant in predicting AWH.

Table 1: Granger Causality Wald Test Results

	AWH *Granger causes* real GDP chi-square statistics	real GDP *Granger causes* AWH chi-square statistics
1 lag	6.01 **	1.02
2 lags	2.44	3.74
3 lags	1.42	5.55
4 lags	3.69	5.79
	real GDP *Granger causes* EMP chi-square statistics	**EMP *Granger causes* real GDP** chi-square statistics
1 lag	11.22 **	1.54
2 lags	17.43 **	1.06
3 lags	22.61 **	0.39
4 lags	27.22 **	0.22
	EMP *Granger causes* AWH chi-square statistics	**AWH *Granger causes* EMP** chi-square statistics
1 lag	3.33 *	8.00 **
2 lags	7.66 **	1.90
3 lags	7.22 *	2.11
4 lags	6.18	6.88

Note:　**　and　*　denote statistical significance at 5% and 10% significance levels respectively.
Source:　Author's estimates based on GHS and NIS, C&SD.

Box 6.1 (Cont'd)

The above observations suggest that the adjustment to labour demand shocks in Hong Kong encompassed both adjustments to employment and hours of work. Although the local labour market mainly adjusts through changes in employment, the hours of work flexibly going up and down in response to the cyclical conditions also plays a crucial role, i.e. as a lubricant to temporarily cushion the adverse impact of economic shocks on the labour market. It is worth noting that the Hong Kong economy displayed strong resilience in the past decade or so, with swift recovery of output and then job creation. All these no doubt owe much to the flexibility of labour market, it being the cornerstone of our long-term competitiveness as well as our resilience through different economic cycles.