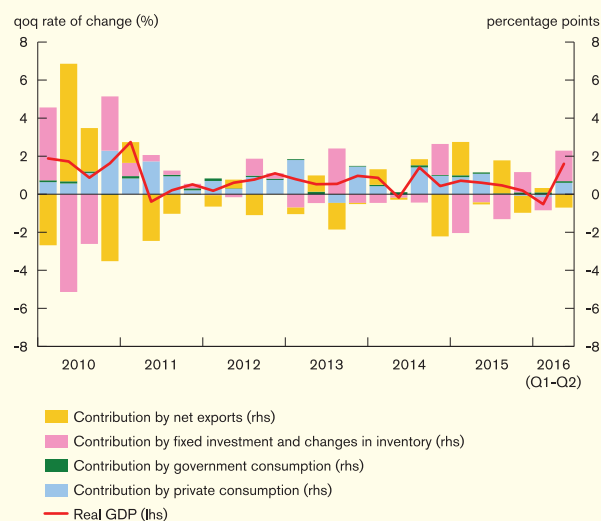# 3. Domestic economy

The Hong Kong economy recovered in the second quarter of 2016 after contracting in the first quarter, driven by the pick-up in private consumption as well as building and construction activities. With a highly uncertain global environment, Hong Kong's economic outlook is expected to remain challenging. Local inflationary pressures are expected to remain contained on the back of soft import prices and modest domestic growth.

3.1 Real activities

Economic activities in Hong Kong recovered in the second quarter after contracting in the first quarter, but the underlying growth momentum remained slow. Real Gross Domestic Product (GDP) growth moderated further to 1.2% year on year in the first half of 2016 from 2.1% in the second half of 2015. On a seasonally adjusted quarter-on-quarter basis, real GDP increased by 1.6% in the second quarter after a 0.5% decline in the first quarter (Chart 3.1). Investment spending supported the growth rebound in the second quarter, as public infrastructure activities picked up after the delay in funding approvals, while private building and construction activities held up. Growth in private consumption also increased in the second quarter thanks to a mild pick-up in domestic service spending and the low base effect in the first quarter. However, the external sector remained weak, with net exports turning into a drag to real GDP growth in the second quarter. In particular, exports of services continued to decline amid weak inbound tourism spending (Chart 3.2). While exports of goods improved in the second quarter given that exports to Mainland China and Europe picked up, imports of goods also increased on the back of improved re-exports-induced demand.

Chart 3.1
Real GDP growth and contribution by major expenditure components

Sources: C&SD and HKMA staff estimates.

**Chart 3.2**
Exports and imports in real terms
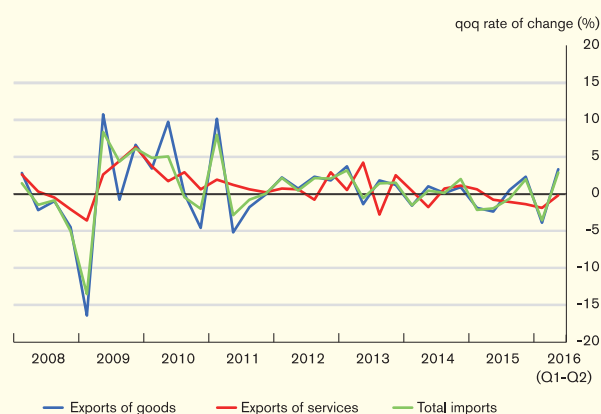
Source: C&SD.

Domestic economy

Labour market conditions eased slightly, with the unemployment rate edging up to 3.4% in July from 3.3% at the end of 2015 (Chart 3.3). The year-on-year growth in total employment also slowed, with the main drag coming from the retail, accommodation and food services sector. Box 3 studies the effects of sectoral and aggregate channels on the overall unemployment rate.

Chart 3.3
**Unemployment rate and total employment**

Source: C&SD.
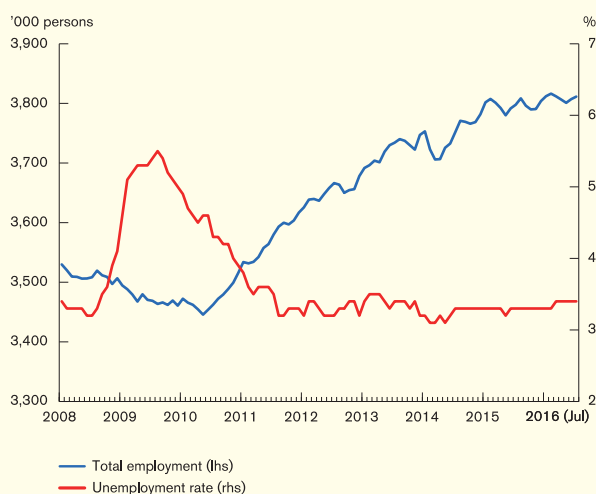
Hong Kong's economic growth is expected to remain moderate going forward. Externally, global growth is likely to remain lacklustre amid weakness in trade flows. This, together with the appreciation of the Hong Kong dollar real effective exchange rate due to the US dollar strength, would restrain Hong Kong's external demand. Domestically, consumer confidence may stay soft amid the modest growth momentum and heightened financial market volatility. Private sector construction is expected to hold up on the back of the increased housing construction starts, but business investment activities will likely remain weak in the face of the uncertain business outlook.

The HKMA in-house composite index of leading indicators suggests that Hong Kong's growth momentum will likely remain modest in the second half of 2016 (Chart 3.4). For 2016 as a whole, the Government maintained their real

GDP growth forecast of 1-2% , while private sector analysts have revised downward their growth forecasts for 2016 to 1.0% from 1.8% projected in March (Chart 3.4).

Chart 3.4
Real GDP and leading economic indicator
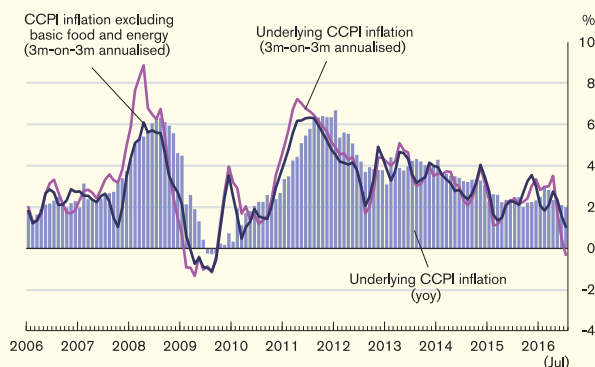

Sources: C&SD and HKMA staff estimates.
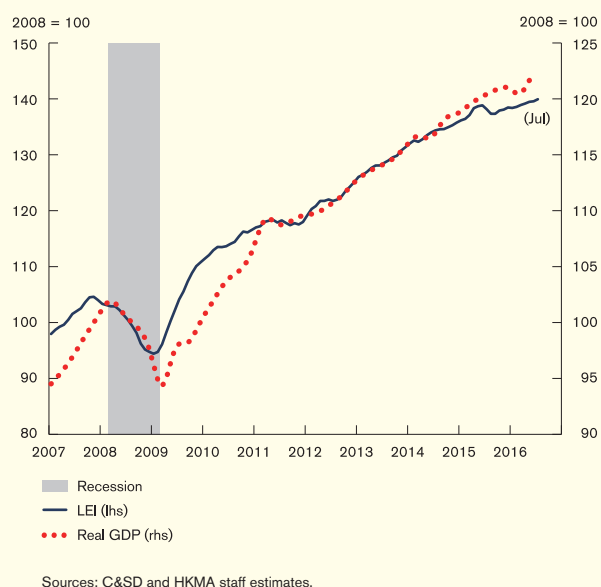
The economic outlook for Hong Kong has become more uncertain. On one hand, while market expectation of still-abundant global liquidity could improve market sentiment and provide some support to economic growth in the near term, the uncertainty surrounding the pace and effect of US rate hike will continue to pose headwinds. On the other hand, while the repercussions of Brexit have so far been limited, any adverse development down the road that has a broader impact on the European economy could pose more significant challenge to Hong Kong. In particular, Hong Kong's external trade would be negatively affected, given that Europe is one of Hong Kong's major trading partners, and risk-off sentiments could strengthen the US dollar. In addition, domestic sentiment and financial market conditions may deteriorate, posing headwinds to the property market. Separately, uncertainties surrounding the growth prospects for the Mainland economy would continue to pose risks to Hong Kong's trade performance and its inbound tourism sector.

3.2   Consumer prices

Local inflationary pressures, after picking up somewhat in the first quarter on weather-driven surges in basic food prices, resumed an easing trend in the second quarter. The year-on-year rate of change of the underlying composite consumer price index (CCPI) slowed from 2.8% in the first quarter to 2.3% in the second quarter, and eased further to 2.0% in July (Chart 3.5). Inflation momentum, as measured by the annualised three-month-on-three-month underlying inflation rate, also retreated from 3.5% in April to -0.3% in July. The tapering of inflation momentum was broad-based, with all major CCPI components registering some moderation (Chart 3.6). In particular, the housing rental component continued its downtrend since late 2015 amid the feed-through of the earlier moderation in fresh-letting private residential rentals, while the price of tradables also changed from an increase of 3.2% in April to a decrease of 5.9% in July along with abating food inflation.

Chart 3.5
Different measures of consumer price inflation

Sources: C&SD and HKMA staff estimates.

Chart 3.6
### Consumer price inflation by broad component
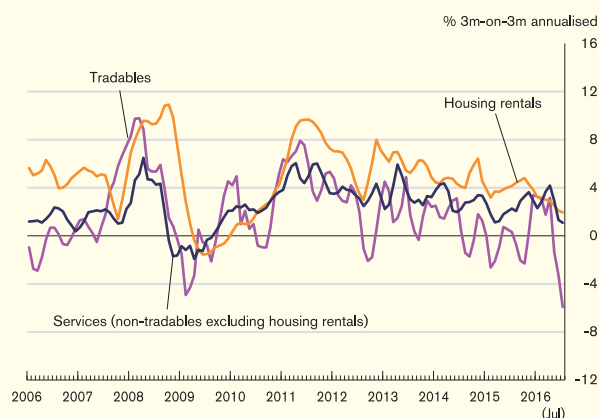
Sources: C&SD and HKMA staff estimates.

In the near term, upside risks to sequential inflation momentum is likely to remain contained. The output gap, while estimated to have narrowed somewhat in the second quarter, is still negative, which will likely continue to exert a dampening effect on local business costs and hence services inflation. Moreover, fresh-letting private residential rentals, despite a small uptick during the second quarter, stayed below year-ago levels and are likely to contribute to further easing in the housing rental component of the CCPI going forward (Chart 3.7). On the external front, import price inflation will likely remain constrained by the strong Hong Kong dollar (Chart 3.8). Against this background, local inflation is expected to moderate further in 2016, with the government forecasting an annual underlying inflation rate of 2.2%, down from 2.5% in 2015.
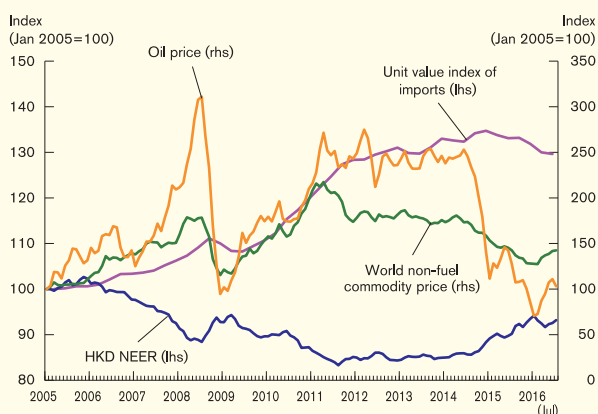
Domestic economy

Chart 3.7
CCPI rental component and market rental

% 3m-on-3m
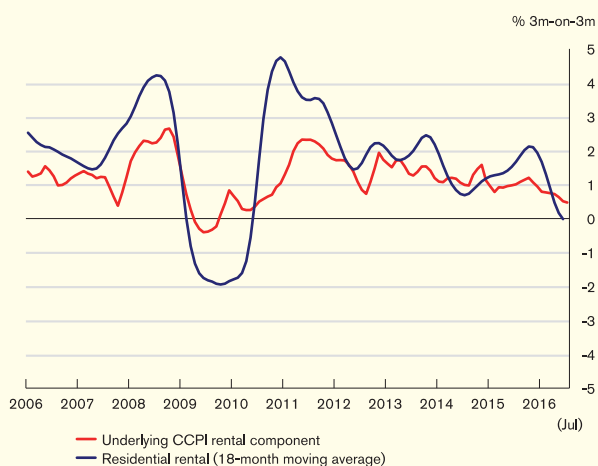
Sources: C&SD and Rating and Valuation Department.

Chart 3.8
Commodity and import prices

Sources: C&SD and IMF.

prospects will likely deteriorate given the relatively strong trade linkages between Hong Kong and the European Union, thereby adding to disinflationary pressures by aggravating Hong Kong's negative output gap and impinging upon the local labour market. Nonetheless, a mitigating factor is a slower US Federal Reserve's interest rate normalisation process amid heightened post-Brexit uncertainties, which might provide a breather to Hong Kong's monetary conditions and domestic demand in the near term, thereby possibly lending some short-term support to the local property market and rentals.

The inflation outlook is clouded by various uncertainties. On the downside, should the shocks from Brexit and their repercussions to the global economy turn out to be more severe or long-lasting than envisaged, the resulting gyrations in investor sentiment and global financial market volatilities could add to downside risks to the local property market. Further consolidation in the local residential property market, in turn, could weigh on housing rentals and pose a drag on consumer sentiment via negative wealth effect. Moreover, should the European economy be significantly affected by Brexit, Hong Kong's near-term growth

Box 3
The unemployment rate of Hong Kong:
The effects of aggregate and sectoral channels

The unemployment rate has stayed at low levels since mid-2011. Our previous analysis[15] suggested that the resilience of the labour market was due partly to restrained supply of and strengthened demand for lower-skilled labour. In particular, the booming inbound tourism over the past years played an important role in creating more jobs in the retail and other tourism-related sectors, which tended to hire more lower-skilled labour.

With inbound tourism experiencing a downturn since 2015, the unemployment rate for the tourism-related sector has picked up in recent months, posing headwinds to the overall labour market. The worry is that even if the weakness in the tourism-related sectors represented mainly a sectoral phenomenon (i.e. sectoral channel), the reallocation of labour from these sectors to other sectors may not happen in an instantaneous manner. Moreover, the weakness might also be part of an aggregate phenomenon facing all sectors (i.e. aggregate channel). Against this backdrop, this Box analyses the effects of aggregate and sectoral channels on the overall unemployment rate, with an aim to shed light on the near-term outlook for the labour market.

Sectoral developments in unemployment rates
Along with more moderate aggregate economic momentum, some major economic sectors have seen more visible uptick in their unemployment rates more recently (Chart B3.1). For example, in the retail, accommodation and food services sector, the seasonally adjusted unemployment rate started to climb in mid-2015 and has risen by a total of 0.7 percentage points in mid-2016.

But partly reflecting the resilience of other major economic sectors, especially the public administration, social and personal services sector, there have been no synchronised rises in the short term trends of the sectoral unemployment rates, and the overall unemployment rate increased only marginally by around 0.1 percentage points in the first half of 2016.

Chart B3.1
Sectoral unemployment rates
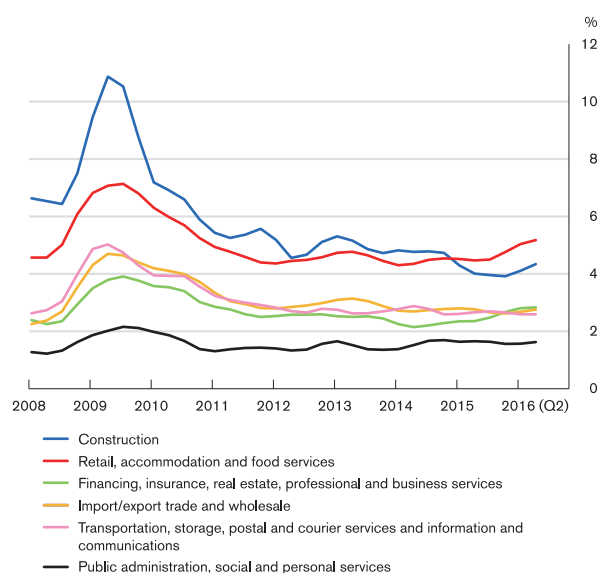
Sources: C&SD and HKMA staff estimates.

Decomposition of sectoral output: sectoral vs aggregate shocks
Taken together, these patterns seem to suggest that some of the economic sectors may have been more affected by sector-specific disturbances, rather than economy-wide shocks. Using a pure statistical factor model[16] that decomposes sectoral GDP growth rates into
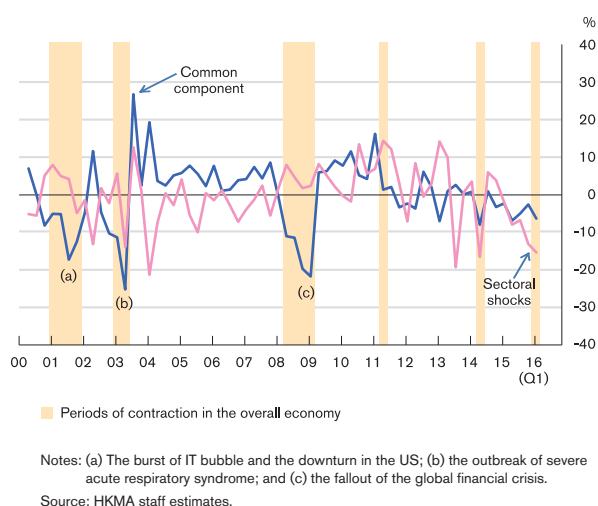
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[15] See Box 2 separately in the September 2012 and March 2014 issues of this Report.

[16] For more details on the methodology, see Foerster, et al. (2011), "Sectoral versus Aggregate Shocks: A Structural Factor Analysis of Industrial Production", *Journal of Political Economy*, 119(1), pp. 1-38.

sectoral shocks and a common component affected by aggregate shocks, we find that the retail and wholesale sector is a case in point.[17] In particular, the decomposition results indicate that negative sectoral shocks were relatively more important than aggregate shocks in driving the recent output contraction in this sector (Chart B3.2). The question then turns to the role of sectoral shifts in driving the overall unemployment rate.

Chart B3.2
Decomposing annualised growth in the value-added of the retail and wholesale sector

Notes: (a) The burst of IT bubble and the downturn in the US; (b) the outbreak of severe acute respiratory syndrome; and (c) the fallout of the global financial crisis.
Source: HKMA staff estimates.

Relationship between sectoral shifts and the aggregate unemployment rate

Theoretically, sector-specific shocks can cause fluctuations in the overall unemployment rate, as labour reallocation from contracting sectors to expanding sectors may not be instantaneous.[18] Under such theory, the greater the dispersion of employment demand, the higher the aggregate unemployment rate will be. To measure the

extent of sectoral shifts, we follow the literature[19] and construct such an index by computing the standard deviation of sectoral employment growth rates. Since the raw sectoral employment growth rates may also reflect the impact of aggregate shocks, we use the statistical factor analysis to purge the growth rates from such aggregate influences. To compile the index, we use the data on the number of persons engaged from the Quarterly Survey of Employment and Vacancies, which provides longer data and a more detailed sectoral breakdown (over 50) than the General Household Survey.

A cursory look at the data suggests that the measured index of sectoral shifts broadly co-moved with the overall unemployment rate (Chart B3.3). Indeed, the index of sectoral shifts coincided quite well with the ups and downs of the unemployment rate prior to 2001 and the downtrend between 2004 and 2007. The rise in the unemployment rate during the global finance crisis was also preceded by a surge in the index of sectoral shifts. After 2010, the index hovered at a low level and ran parallel to the flat-lined unemployment rate.

Chart B3.3
Relationship between sectoral shifts and the unemployment rate
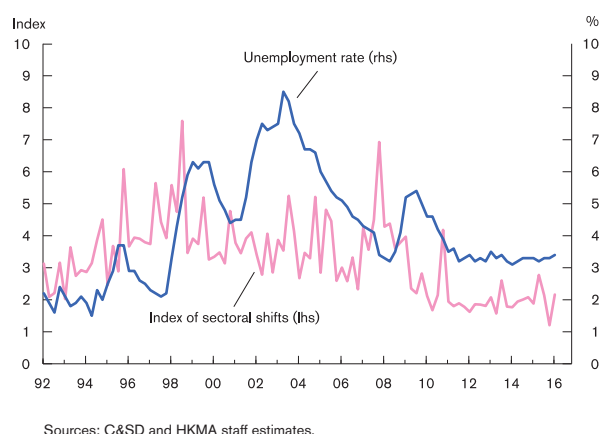

Sources: C&SD and HKMA staff estimates.

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[17] The estimated common component and sectoral shocks would be more precise if the input-output linkages of different economic sectors were also taken into account, as such linkages may cause some sectoral shocks to be captured as part of the common component. Data on the input-output linkages of different sectors in Hong Kong, however, are not available.

[18] The classic reference is Lilien (1982) "Sectoral Shifts and Cyclical Unemployment", *Journal of Political Economy*, 90(4), pp. 777-793. For a recent survey of the literature, see Gallipoli and Pelloni (2013), "Macroeconomic Effects of Job Reallocations: A Survey", *Review of Economic Analysis*, 5(2), pp. 127-176.

[19] There are a number of ways to calculate such index. Please see the survey paper cited in footnote 18. Our method is akin to the one adopted in Mehrotra and Sergeyev (2013) "Sectoral Shocks, the Beveridge Curve and Monetary Policy" No. 919, 2013 Meeting Papers, Society for Economic Dynamics.

Domestic economy

Empirical results and the relative importance of aggregate and sectoral shocks

To further understand the impact of sectoral shifts and aggregate shocks, a vector auto-regression (VAR) model is constructed with the following five variables: real GDP growth, the unemployment rate, the inflation rate, 3-month Hong Kong Interbank Offered Rate and the index of sectoral shifts.[20] The real GDP growth helps identify the impact of aggregate shocks and is expected to be negatively correlated with the overall unemployment rate. The inclusion of inflation rate may allow for a Phillips curve relationship. The interest rate is intended to capture the effect from monetary conditions. Finally, the index of sectoral shifts proxies for the sectoral shock channel and is expected to be positively correlated with the aggregate unemployment rate. The sample period runs from the third quarter of 1992 to the first quarter of 2016 and a lag length of five is chosen based on log-likelihood criterion. In line with expectation, impulse response functions generated from the estimated VAR model suggest that an unexpected increase in the real GDP growth – interpreted as an aggregate shock – would decrease the overall unemployment rate while the rise in the index of sectoral shifts would increase it (Chart B3.4).

Chart B3.4
Response of the unemployment rate to aggregate and sectoral shifts shocks
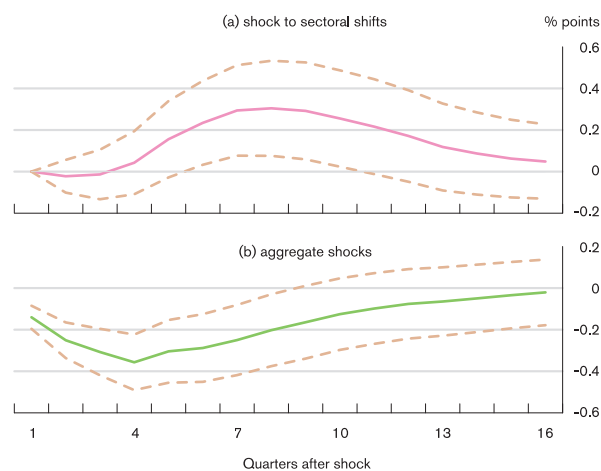
Notes: The shock to sectoral shifts pertains to a one-standard-deviation increase in the index and the aggregate shock is a one-percentage-point rise in GDP growth. The solid lines refer to the response functions and the dashed lines the standard error bands.
Source: HKMA staff estimates.

To further gauge the relative importance of aggregate and sectoral shocks, we carry out a forecast error variance decomposition of the overall unemployment rate. The decomposition exercise reveals that the impact of aggregate shocks was more important relative to the sectoral shifts disturbances at all selected horizons (Table B3.A). In fact, more than 50% of the forecast error variance was accounted for by aggregate shocks at or below the two-year horizon. The effect of the sectoral shifts only became more significant beyond the one-year horizon, contributing around 7-25% of the forecast error variance.

Table B3.A
Forecast error variance decomposition of the unemployment rate

Forecast horizon (quarters)	Forecast error variance decomposition (percentage points)		
	Sectoral shifts	Aggregate shocks	Unemployment rate
4	0.4	61	34
6	7	62	26
8	18	58	20
16	25	46	16

Note: For ease of exposition, other variables' contribution is not shown here.
Source: HKMA staff estimates.

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[20] The system is identified following the standard recursive ordering procedure. The sectoral shifts index is placed last in the estimation ordering. Hence, the sectoral shifts index can respond contemporaneously to innovations to real GDP growth, the unemployment rate, etc, while these variables respond to innovations to sectoral shifts index only with a lag. In addition, a generalised impulse response analysis, which is invariant to the ordering of the variables, is also conducted and similar estimation results are obtained.

Implications for the current labour market situation

This study analyses the role of sectoral shifts and aggregate shocks in driving the overall unemployment rate. We find that historically, sharp changes in the overall unemployment rate were mainly driven by aggregate shocks instead of sectoral shifts over the past 24 years. It may be due to the fact that the mobility of labour can help alleviate the impact of sectoral shifts on the overall unemployment rate.

The retail and wholesale sector has lost steam amid weak inbound tourism and sluggish domestic demand. Our estimation results suggest that sector-specific shocks were relatively more important than aggregate shocks in driving the weakness in this sector. Thus, the sectoral shifts in employment demands induced by it would unlikely worsen the overall unemployment rate much.[21] However, if the broader economy weakens further, the overall unemployment rate would face stronger upward pressure due to the aggregate effect.

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[21] With all that said, it may be the case that sectoral shifts in the past happened mainly among sectors hiring similar type of labour (i.e. either skilled or unskilled), and hence the mobility of labour across sectors would limit the impact of such shift on the overall unemployment rate. If sectoral shifts, however, were to occur among sectors hiring different type of labour with limited substitutability, then the impact of such shift on the overall unemployment rate may be bigger.