For information
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Legislative Council
Panel on Manpower

Manpower Projection to 2022

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Introduction

This paper presents the key findings of Manpower Projection to 2022 (MP2022).

Background

2.   The Government conducts manpower projection from time to time to assess the broad trends of the manpower supply and requirements at the macro level in the medium term, as well as the potential manpower imbalances at different education levels.   In mid-2013, we embarked on a new round of manpower projection, namely MP2022.   With 2012 as the base year and covering a 10-year projection period, MP2022 projects the manpower situation up to 2022 on the basis of the latest available manpower statistics.   A brief summary on the framework and methodology of MP2022 is at **Annex.**

Key Findings of MP2022

<u>**Manpower Supply Projection**</u>

3.   As shown in **Table 1** below, an ageing population is a fact and a trend.   The number of elderly persons aged 65 or above is projected to increase from 979 900 in 2012 to 2 557 600 in 2041.   On the other hand, owing to a low fertility rate, a decrease in population is estimated for all the younger age groups aged 0–59, from 5 440 100 in 2012 to 4 909 900 in 2041.

Table 1: Population[@] by Age Group, 2012−2041

Age group (years)	Actual population[@] in 2012		Projected population[@] in							
			2018		2022		2035		2041	
	Number	% share	Number	% share	Number	% share	Number	% share	Number	% share
0 – 14	813 200	11.9	848 000	11.9	890 100	12.1	803 600	10.3	761 600	9.5
15 – 19	419 100	6.1	297 900	4.2	278 000	3.8	333 800	4.3	330 100	4.1
20 – 24	447 900	6.5	408 300	5.7	325 500	4.4	402 600	5.1	369 900	4.6
25 – 49	2 597 200	37.9	2 546 900	35.7	2 526 700	34.5	2 331 100	29.7	2 323 100	29.1
50 – 54	628 100	9.2	591 800	8.3	571 300	7.8	557 200	7.1	568 300	7.1
55 – 59	534 600	7.8	631 500	8.8	613 700	8.4	511 800	6.5	556 800	7.0
60 – 64	426 700	6.2	547 500	7.7	605 900	8.3	544 600	6.9	514 100	6.4
65+	979 900	14.3	1 265 300	17.7	1 520 100	20.7	2 354 700	30.0	2 557 600	32.0
Total	**6 846 700**	**100.0**	**7 137 200**	**100.0**	**7 331 300**	**100.0**	**7 839 300**	**100.0**	**7 981 600**	**100.0**

@   excluding foreign domestic helpers

Note: Individual figures may not add up to the totals due to rounding.

4.   Taking into account the Labour Force Participation Rates (LFPRs)[1] for different age groups, the actual supply of manpower in 2012 and the projected supply in 2022 are shown in **Table 2** below. Our manpower supply is estimated to increase from 3 518 800 in 2012 (actual) to 3 676 300 in 2022 (projected), representing an average annual growth rate of +0.4%. Along an ageing population, the overall LFPR is expected to decrease from 58.8% in 2012 to 58.0% in 2022.

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[1]   Labour force participation rate (LFPR) refers to the proportion of labour force in the population aged 15 and over. It is a measure of the propensity of the persons of working age to be in the labour force.

Table 2: Local[@] Manpower Supply by Age Group in 2012 and 2022

Age group (years)	2012 (Actual) Local[@] manpower supply		LFPR[#]	2022 (Projected) Local[@] manpower supply		LFPR[#]	Projected change from 2012 to 2022	Projected average annual rate of change (2012 – 2022)
	Number	% share		Number	% share			
15 – 19	42 000	1.2	10.1%	19 900	0.5	7.2%	- 22 100	- 7.2%
20 – 24	267 000	7.6	60.4%	195 600	5.3	60.4%	- 71 500	- 3.1%
25 – 49	2 184 100	62.1	83.2%	2 169 400	59.0	86.3%	- 14 700	- 0.1%
50 – 54	470 800	13.4	74.9%	450 000	12.2	79.2%	- 20 800	- 0.5%
55 – 59	329 500	9.4	61.7%	419 100	11.4	68.6%	+ 89 600	+ 2.4%
60 – 64	160 100	4.6	37.7%	287 200	7.8	47.7%	+ 127 100	+ 6.0%
65+	65 200	1.9	7.1%	135 100	3.7	9.3%	+ 69 900	+ 7.6%
Total	**3 518 800**	**100.0**	**58.8%**	**3 676 300**	**100.0**	**58.0%**	**+ 157 500**	**+ 0.4%**

@ excluding foreign domestic helpers

referring to the LFPR of the population in the respective age groups

Note: Individual figures may not add up to the totals due to rounding.

5.　　A breakdown of the manpower supply by sex is provided in **Table 3** below. The local female manpower supply is projected to grow at an average annual rate of +1.0% from 1.55 million in 2012 to 1.72 million in 2022. During the same period, its share of local workforce is anticipated to be edging up from 44.0% to 46.7%, with the female LFPR increasing slightly from 49.6% to 50.5%. On the other hand, the local male manpower supply is expected to decrease slightly at an average annual rate of -0.1% from 1.97 million in 2012 to 1.96 million in 2022. Its share of the total manpower supply is expected to decline from 56.0% in 2012 to 53.3% in 2022, and the male LFPR is projected to decrease from 68.7% to 66.5% during the same period.

Table 3: Local[@] Manpower Supply by Sex in 2012 and 2022

Sex	2012 (Actual) Local[@] manpower supply		LFPR[#]	2022 (Projected) Local[@] manpower supply		LFPR[#]	Projected change from 2012 to 2022	Projected average annual rate of change (2012 – 2022)
	Number	% share		Number	% share			
Male	1 969 300	56.0	68.7%	1 958 500	53.3	66.5%	- 10 800	- 0.1%
Female	1 549 500	44.0	49.6%	1 717 800	46.7	50.5%	+ 168 300	+ 1.0%
Total	**3 518 800**	**100.0**	**58.8%**	**3 676 300**	**100.0**	**58.0%**	**+ 157 500**	**+ 0.4%**

@ excluding foreign domestic helpers

referring to the LFPR of the population in the respective sex

Note: Individual figures may not add up to the totals due to rounding.

6.   The general education profile of our workforce is anticipated to continue to improve in the next few years.   The manpower supply with qualifications of *diploma*, *sub-degree*, *first degree* and *postgraduate* is projected to grow appreciably during the period from 2012 to 2022.   On the other hand, the manpower supply at the levels of *upper secondary* and *lower secondary and below* is expected to decline, mainly owing to the anticipated retirement of the workers in these categories.   It is broadly estimated that some 100 000 workers with qualifications of *upper secondary* and some 250 000 workers with qualifications of *lower secondary and below* will retire during this period.   The details are provided in **Table 4** below.

Table 4: Local[@] Manpower Supply by Education Level in 2012 and 2022

Education level	Actual local[@] manpower supply in 2012		Projected local[@] manpower supply in 2022		Projected change from 2012 to 2022	Projected average annual rate of change (2012 – 2022)
	Number	% share	Number	% share		
Lower secondary and below	948 200	26.9	717 000	19.5	- 231 100	- 2.8%
Upper secondary	1 333 300	37.9	1 272 100	34.6	- 61 200	- 0.5%
Diploma	143 600	4.1	204 600	5.6	+ 61 000	+ 3.6%
Sub-degree	186 800	5.3	251 300	6.8	+ 64 600	+ 3.0%
First degree	714 200	20.3	914 300	24.9	+ 200 100	+ 2.5%
Postgraduate	192 800	5.5	317 000	8.6	+ 124 200	+ 5.1%
All levels	**3 518 800**	**100.0**	**3 676 300**	**100.0**	**+ 157 500**	**+ 0.4%**

@   excluding foreign domestic helpers

Note: Individual figures may not add up to the totals due to rounding.

Manpower Requirement Projection

7.   The total manpower requirements (excluding foreign domestic helpers) are projected to increase by 319 100 from 3.48 million in 2012[2] to 3.79 million in 2022.   The average annual growth rate is +0.9% (vis-à-vis +0.4% for total manpower supply).   The manpower requirements in 2012 and in 2022 by economic sector, by occupation group and by education level are set out in **Table 5**, **Table 6** and **Table 7** respectively.

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2   Job vacancies in 2012 are counted as manpower requirements.

Table 5: Manpower Requirements by Economic Sector in 2012 and 2022

Economic sector	Actual manpower requirement in 2012		Projected manpower requirement in 2022		Projected change from 2012 to 2022	Projected average annual rate of change (2012 – 2022)
	Number	% share	Number	% share		
Agriculture, fishing and quarrying	5 400	0.2	5 100	0.1	- 400	- 0.7%
Manufacturing	114 200	3.3	107 600	2.8	- 6 700	- 0.6%
Electricity, gas, water and waste management	15 100	0.4	14 500	0.4	- 600	- 0.4%
Construction	300 600	8.6	345 400	9.1	+ 44 800	+ 1.4%
Import, export, wholesale and retail trades	915 600	26.3	960 600	25.3	+ 45 000	+ 0.5%
Accommodation and food services	280 500	8.1	307 500	8.1	+ 27 000	+ 0.9%
Transportation, storage, postal and courier services	324 300	9.3	339 200	8.9	+ 14 900	+ 0.4%
Information and communications	104 200	3.0	119 900	3.2	+ 15 700	+ 1.4%
Financial services	233 000	6.7	290 500	7.7	+ 57 600	+ 2.2%
Real estate	130 200	3.7	143 800	3.8	+ 13 600	+ 1.0%
Professional and business services	364 100	10.5	422 300	11.1	+ 58 200	+ 1.5%
Social and personal services	687 700	19.8	737 700	19.4	+ 50 100	+ 0.7%
Total	**3 475 100**	**100.0**	**3 794 200**	**100.0**	**+ 319 100**	**+ 0.9%**

Note: Individual figures may not add up to the totals due to rounding.

Table 6:   Manpower Requirements by Occupation Group in 2012 and 2022

Occupation group	Actual manpower requirement in 2012		Projected manpower requirement in 2022		Projected change from 2012 to 2022	Projected average annual rate of change (2012 – 2022)
	Number	% share	Number	% share		
Managers and administrators	402 800	11.6	469 800	12.4	+ 67 000	+ 1.6%
Professionals	265 000	7.6	317 400	8.4	+ 52 300	+ 1.8%
Associate professionals	719 900	20.7	850 700	22.4	+ 130 800	+ 1.7%
Clerical support workers	515 300	14.8	502 000	13.2	- 13 400	- 0.3%
Service and sales workers	622 900	17.9	705 500	18.6	+ 82 600	+ 1.3%
Agricultural and fishery workers	4 400	0.1	3 900	0.1	- 500	- 1.2%
Craft and related workers	246 800	7.1	257 300	6.8	+ 10 500	+ 0.4%
Drivers, plant and machinery operators and assemblers	188 000	5.4	185 200	4.9	- 2 800	- 0.1%
Elementary occupations	510 000	14.7	502 500	13.2	- 7 500	- 0.1%
Total	**3 475 100**	**100.0**	**3 794 200**	**100.0**	**+ 319 100**	**+ 0.9%**

Note: Individual figures may not add up to the totals due to rounding.

Table 7: Manpower Requirements by Education Level in 2012 and 2022

Education level	Actual manpower requirement in 2012		Projected manpower requirement in 2022		Projected change from 2012 to 2022	Projected average annual rate of change (2012 – 2022)
	Number	% share	Number	% share		
Lower secondary and below	955 700	27.5	772 800	20.4	- 182 900	- 2.1%
Upper secondary	1 314 100	37.8	1 366 200	36.0	+ 52 100	+ 0.4%
Diploma	138 900	4.0	188 200	5.0	+ 49 300	+ 3.1%
Sub-degree	178 900	5.1	238 400	6.3	+ 59 500	+ 2.9%
First degree	696 600	20.0	965 000	25.4	+ 268 400	+ 3.3%
Postgraduate	190 900	5.5	263 600	6.9	+ 72 700	+ 3.3%
All levels	**3 475 100**	**100.0**	**3 794 200**	**100.0**	**+ 319 100**	**+ 0.9%**

Note: Individual figures may not add up to the totals due to rounding.

Manpower Resource Balance (MRB)

8.   The MRB, derived by comparing the projected manpower supply with the projected manpower requirements, provides a measure for assessing if the future manpower of the whole economy and at different education levels will be in balance, shortfall or surplus.   Corresponding to a scenario of 4% real Gross Domestic Product (GDP) trend growth, the total manpower supply in 2022 is projected to fall short of the total manpower requirements, with the MRB of the overall economy reaching -117 900.   **Table 8** depicts the MRBs at different education levels in 2022.

Table 8: Projected Manpower Resource Balance by Education Level in 2022

Education level	(a) Projected manpower supply in 2022	(b) Projected manpower requirement in 2022	(c) = (a) –(b) Projected manpower resource balance in 2022 [Surplus (+) / shortfall (-)]	
Lower secondary and below	717 000	772 800	- 55 700	
Upper secondary	1 272 100	1 366 200	- 94 100	} *- 64 800*
Diploma	204 600	188 200	+ 16 300	
Sub-degree	251 300	238 400	+ 13 000	
First degree	914 300	965 000	- 50 800	} *+ 2 600*
Postgraduate	317 000	263 600	+ 53 400	
All levels	**3 676 300**	**3 794 200**	**- 117 900**	

Note: The overall manpower supply, manpower requirements and manpower resource balance presented in this table correspond to a scenario of 4% real GDP trend growth, which was the official medium-term forecast when the findings of MP2022 were being compiled.
Individual figures may not add up to the totals due to rounding.

9.   A broad-brush scenario study has been conducted to take into account the impacts of economic cycles and fluctuations on the key findings of MP2022 at a macro level, by assuming a ±1 percentage point range for the real GDP trend growth over the projection period.   As manpower requirements bear a stronger positive relationship with changes in economic situation when compared with manpower supply, the projected manpower shortfall in 2022 would be smaller when the economy is assumed to grow at a slower trend rate and vice versa. Consequently, the projected manpower resource balance would range from -59 700 (under 3% real GDP growth per annum) to -177 700 (under 5% real GDP growth per annum).

Observations

10.   The findings of MP2022 are meant to be projections on the broad trends of our manpower situation up to 2022.   While MP2022 covers analyses on the projected manpower requirements by economic sector and by occupation group, it is unable to project the manpower supply and hence manpower resource balance by sector or occupation.   The reason is that we cannot ascertain in which sector/profession a person will take up a job after graduation from school or university.   In addition, workers in a particular industry/profession may change jobs and work in another industry/profession over time for more than once.   Relevant bureaux/departments may conduct further sector-specific manpower planning/studies, having regard to the future development and characteristics of the manpower supply and demand of the specific sectors concerned, the policy direction and other practical considerations. Examples of sector-specific studies being pursued by bureaux/ departments include a strategic review on healthcare manpower planning and professional development being pursued under a Steering Committee chaired by the Food and Health Bureau and the Elderly Service Programme Plan to be formulated by the Elderly Commission under the umbrella of the Labour and Welfare Bureau.

11.   The manpower shortage projected in MP2022 as referred to in paragraphs 8 – 9 above is derived from the projected manpower supply and requirements, which are mainly based on past trends, the present patterns and new policies known at the time the projections were being prepared. Measures should and could be implemented to tackle the projected manpower shortage against a background of our ageing population.   According to a survey conducted by the Census and Statistics Department in 2011, 8% of female homemakers and 5% of early retirees would be willing to work given suitable employment opportunities.   It is broadly estimated that some 33 800 female homemakers and 13 200 early retirees would join the labour force in 2022 given suitable employment opportunities if the survey findings remain valid in 2022.   If more women and retirees are willing to participate in the labour market, the manpower supply will further increase.   Apart from these groups, it is estimated that in 2022 some 14 000 young people aged 20–24 (excluding full-time students) would be economically inactive. This suggests that there may be room for enhancing the LFPR of young people.

12.   The Steering Committee on Population Policy (SCPP) took note of, among others, the key findings of MP2022 at its meeting on 26 April 2014.   SCPP has identified several policy areas which require follow-up actions.   These include:

(a)   articulating a clear economic and social vision to guide the future development of Hong Kong;

(b)   formulating a blueprint for sustainable land supply to cope with the future demand arising from housing, employment, and other social and economic development needs, and fostering a quality living environment to encourage family formation, improve people's quality of life and attract foreign investors and talents;

(c)   enhancing child care services and retraining courses targeting the needs of women, as well as encouraging the business sector to widely adopt family-friendly measures in workplaces to assist women to maintain a balance between family and work;

(d)   advocating longer working years for the general working population and examining whether there are barriers in the current systems and regulations that discourage workers from staying longer in the workforce.   At the same time, subject to the results of the current consultation on extension of service years of civil servants, consider raising the retirement age of new recruits in future to set an example;

(e)   better assisting new arrivals to integrate into society, and enhancing employment support services for persons with disabilities and ethnic minorities, in order to build up a more inclusive society;

(f)   on the basis of measures announced in the 2014 Policy Address, promoting vocational education as a viable alternative pathway to academic routes, consolidating the curriculum of self-financing post-secondary programmes, and making better use of the Continuing Education Fund, etc, so as to minimise the skills mismatch and enhance the quality of manpower;

(g)   enhancing the migrant admission schemes, and actively reaching out to and recruiting talents via the economic and trade offices overseas and in the Mainland;

(h) continuing to consider enhancing the existing labour importation mechanism to respond to manpower demand in the labour market in a more effective manner without jeopardising the interests of local workers;

(i) considering the enhancement of support for young families and promotion of positive family values; and

(j) building an age-friendly community and assisting the elderly to participate in volunteer work with a view to promoting "Active Ageing".

Advice Sought

13.   Members are invited to note the key findings of MP2022 set out above.

Labour and Welfare Bureau
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Framework and Methodology of MP2022

MP2022 comprises three major components, namely, manpower supply projection (MSP), manpower requirement projection (MRP), and manpower resource balance (MRB).   While MSP is analysed by age group, sex and education level, MRP is analysed by economic sector, occupation group and education level.   By comparing the findings of MSP with MRP, we can derive MRB by education level, which is the common analysis element in both MSP and MRP.

2.   MP2022 adopts a six-level education classification, namely, "Lower secondary and below", "Upper secondary", "Diploma" (including "Craft"), "Sub-degree", "First degree" and "Postgraduate".   These categories largely reflect the formal education structure of Hong Kong.

3.   The classifications of economic sectors and occupation groups adopted in MP2022 for analysing the findings of MRP are primarily based on those of the Census and Statistics Department (C&SD) in relation to compilation of manpower statistics.   MRP are analysed on the basis of 12 conventional economic sectors[1] (which together make up the whole economy) and nine occupation groups[2].

4.   We have conducted a broad-brush scenario studies in collaboration with the Economic Analysis and Business Facilitation Unit to assess the impact of economic cycles and fluctuations on the projected overall manpower supply and requirements, as well as the manpower resource balance at a macro level.

5.   The findings of MP2022 were worked out by drawing reference to a wide range of statistics and information from different sources, including the following−

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[1]   These include Agriculture, fishing and quarrying; Manufacturing; Electricity, gas, water and waste management; Construction; Import, export, wholesale and retail trades; Accommodation and food services; Transportation, storage, postal and courier services; Information and communications; Financial services; Real estate; Professional and business services; and Social and personal services.

[2]   These include "Managers and administrators", "Professionals", "Associate professionals", "Clerical support workers", "Service and sales workers", "Agricultural and fishery workers", "Craft and related workers", "Drivers, plant and machinery operators and assemblers" and "Elementary occupations".

(a)	2011 Population Census (from C&SD);

(b)	Hong Kong Population Projections 2012−2041 [3] (from C&SD);

(c)	Updated Hong Kong Labour Force Projections for 2013 to 2041 [4] (from C&SD);

(d)	Education statistics on primary and secondary schools, as well as tertiary education institutions;

(e)	Socio-economic characteristics of Hong Kong residents, particularly the education profile by age group and sex (based on an MP2022-related household survey);

(f)	Employers' views on the current and future manpower requirements by industry, occupation group and education level (based on an MP2022-related establishment survey);

(g)	Findings of an extensive consultation with businesses, trade associations and academics on the outlook for the future manpower requirements of various sectors (conducted by C&SD); and

(h)	Historical manpower statistics by economic sector, occupation and education level (based on C&SD's manpower-related surveys).

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[3]	Released by C&SD in July 2012

[4]	Released by C&SD in September 2013