

The Demographic Trend of NEET Aged 15 - 24

CHAN Moon-tong, Ph.D.

Hong Kong College of Technology

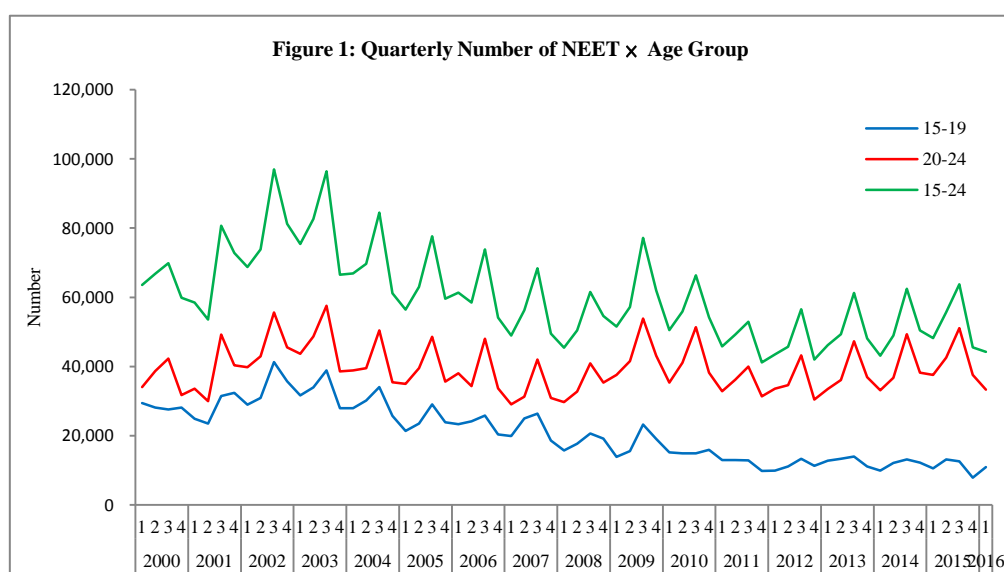
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1. Introduction

The NEET refers to a youth who is both unemployed and economically inactive due to individual and other reasons. It is a short form for “Not in Employment, Education or Training”. To reflect the current and future situations of the NEET in Hong Kong, the Hong Kong College of Technology (HKCT) has been doing a research aiming at forecasting the number of NEET in the coming few years including 2017. Such forecasts could reflect more or less the working and educational problems facing the NEET in Hong Kong. Increasing numbers of NEET for several consecutive quarters may be a signal of deterioration. The Census & Statistics Department (C&SD), HKSAR, regularly provide us with the data generated from the quarterly General Household Surveys (GHS). The cumulative number of quarterly data till now is 65 starting from Q1, 2000 and ending at Q1, 2016.

2. Forecasting

In general, time series forecasting method is used for building a model that relates the past values of a time series. The forecasts are reliable only when there are no special events, such as change of government policy, catastrophes, economic boom or recession, occurred in the forecasting period. The occurrence of these events may invalidate the forecasts. Our time-series data are quarterly collected from the C&SD. Figure 1 below shows the quarterly totals of NEET aged 15–19, 20 –24, and 15–24.



Source: Q1, 2000 – Q1, 2016, General Household Surveys, C&SD.

As seen from Figure 1, there is an obvious seasonality of four quarters per cycle (year) for the three age groups. Other obvious readings are as follows:

- (1) All groups of NEETs constrained continuously after the SARS attack in 2003 till 2007.
- (2) The numbers of NEETs of the 15-24 group and 20-24g group stay high thereafter in 2008 and 2009 respectively, most likely due to the financial tsunami commenced in 2008.
- (3) the trend of the 15-19 group, which declined continuously as most youths of this group were still in secondary schooling, and did not hit hard by the financial tsunami.
- (4) During 2012-2015, the numbers of the two groups (15-24 and 20-24) displayed a mild upward trend.

Such outburst intervention events, SARS in 2003 and financial tsunami in 2008, definitely affect the performance of forecasting. An indicator variable is thus introduced into the model with '1' indicates a time point where an event is thought to have an effect, and '0' denotes no effect. The affected quarters selected are Q2–Q4, 2003, Q4, 2008, and Q1–Q4, 2009. These features, downward trend and intervention events, will be taken into account when modeling and forecasting are made. Forecasting is performed via the statistical package IBM SPSS 22. The observations and forecasts for age groups 15–19, 20–24, and 15–24 are illustrated in Table 1 below:

Table 1: Observations and Forecasts of NEET*

Year	Quarter	Number of NEET					
		15–19		20–24		15–24	
		Observation	Forecast	Observation	Forecast	Observation	Forecast
2000	1	29,500	-	34,100	-	63,500	-
	2	28,100	-	38,600	-	66,800	-
	3	27,600	-	42,300	-	69,900	-
	4	28,100	-	31,800	-	59,900	-
2001	1	24,900	-	33,600	-	58,500	-
	2	23,600	-	30,000	-	53,600	-
	3	31,500	-	49,200	-	80,700	-
	4	32,400	-	40,400	-	72,800	-
2002	1	29,000	-	39,800	-	68,700	-
	2	30,900	-	42,900	-	73,800	-
	3	41,300	-	55,600	-	97,000	-
	4	35,700	-	45,500	-	81,200	-
2003	1	31,700	-	43,700	-	75,400	-
	2	33,900	-	48,700	-	82,600	-
	3	38,900	-	57,500	-	96,400	-

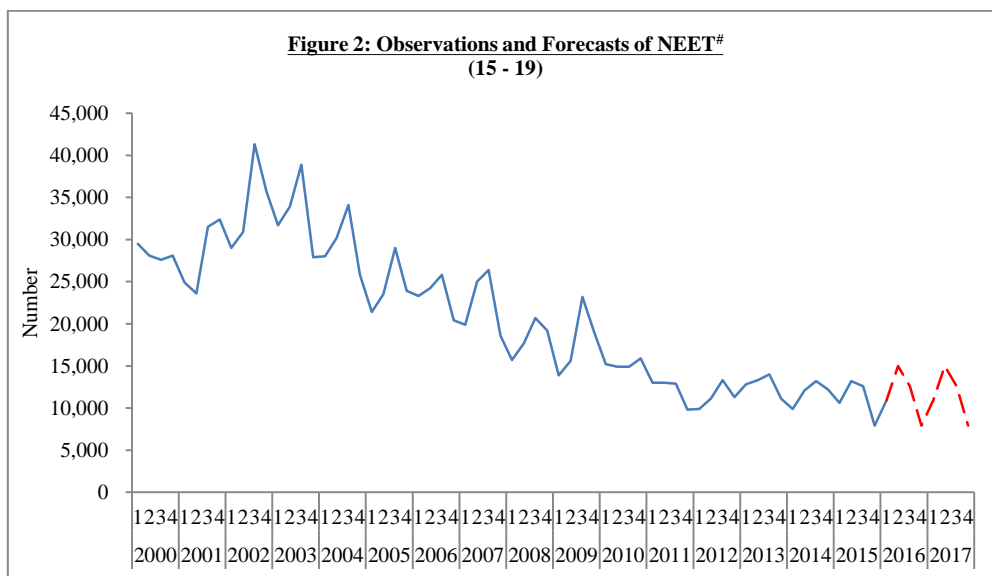
	4	27,900	-	38,600	-	66,600	-
2004	1	28,000	-	38,900	-	66,900	-
	2	30,200	-	39,600	-	69,700	-
	3	34,100	-	50,500	-	84,500	-
	4	25,800	-	35,400	-	61,200	-
2005	1	21,400	-	35,000	-	56,400	-
	2	23,500	-	39,600	-	63,000	-
	3	29,000	-	48,600	-	77,600	-
	4	23,900	-	35,700	-	59,600	-
2006	1	23,300	-	38,000	-	61,400	-
	2	24,200	-	34,300	-	58,500	-
	3	25,800	-	48,000	-	73,900	-
	4	20,400	-	33,700	-	54,100	-
2007	1	19,900	-	29,100	-	49,000	-
	2	25,000	-	31,200	-	56,200	-
	3	26,400	-	42,000	-	68,400	-
	4	18,600	-	31,000	-	49,500	-
2008	1	15,700	-	29,800	-	45,500	-
	2	17,700	-	32,700	-	50,400	-
	3	20,700	-	40,900	-	61,600	-
	4	19,200	-	35,400	-	54,600	-
2009	1	13,900	-	37,600	-	51,500	-
	2	15,600	-	41,600	-	57,200	-
	3	23,200	-	53,900	-	77,200	-
	4	19,100	-	43,100	-	62,000	-
2010	1	15,200	-	35,400	-	50,500	-
	2	14,900	-	41,100	-	55,900	-
	3	14,900	-	51,400	-	66,300	-
	4	15,900	-	38,200	-	54,200	-
2011	1	13,000	-	32,900	-	45,800	-
	2	13,000	-	36,200	-	49,200	-
	3	12,900	-	40,000	-	52,900	-
	4	9,800	-	31,400	-	41,200	-
2012	1	9,900	-	33,600	-	43,500	-
	2	11,100	-	34,600	-	45,700	-
	3	13,300	-	43,200	-	56,500	-
	4	11,300	-	30,500	-	42,000	-
2013	1	12,800	-	33,500	-	46,200	-

	2	13,300	-	36,100	-	49,300	-
	3	14,000	-	47,300	-	61,300	-
	4	11,100	-	36,900	-	48,100	-
2014	1	9,900	-	33,100	-	43,100	-
	2	12,100	-	36,700	-	49,000	-
	3	13,200	-	49,300	-	62,500	-
	4	12,200	-	38,200	-	50,400	-
2015	1	10,600	-	37,600	-	48,200	-
	2	13,200	-	42,600	-	55,700	-
	3	12,600	-	51,100	-	63,800	-
	4	7,900	-	37,600	-	45,500	-
2016	1	10,900	-	33,300	-	44,200	-
	2	-	15,000	-	39,500	-	53,000
	3	-	12,600	-	48,900	-	61,900
	4	-	7,900	-	36,000	-	44,200
2017	1	-	10,900	-	32,200	-	43,300
	2	-	15,000	-	38,700	-	52,300
	3	-	12,600	-	48,300	-	61,500
	4	-	7,900	-	35,600	-	43,900

Source: Observations are from Q1, 2000 – Q1, 2016, General Household Surveys, C&SD.

- *Notes:
1. The data above are rounded to the nearest hundred.
 2. The observations and forecasts are not seasonally adjusted.

Figure 2 below shows the observations and forecasts of NEET aged 15–19:

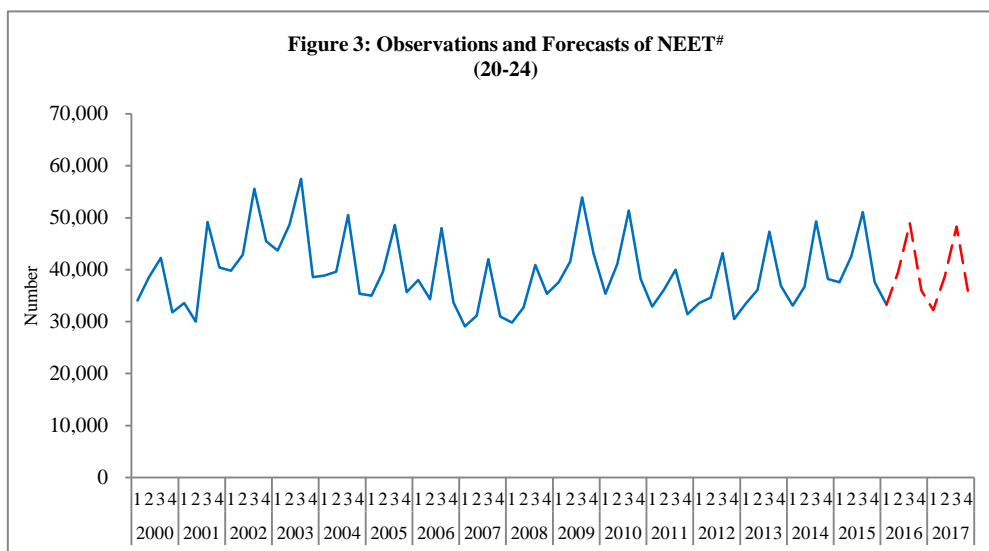


Source: Observations are from Q1, 2000 – Q1, 2016, General Household Surveys, C&SD.

The observations and forecasts are not seasonally adjusted.

The observations and forecasts for NEETs aged 15–19 are shown in Figure 2 above. We can see that, except occasionally high values in 2003, 2008 and 2009, there is a downward trend in the series. The numbers of NEETs have been decreasing from 29,500 in Q1, 2000 to 10,900 in Q1, 2017 with a decrease of about 63%, provided that the trend continues.

The seriousness of the condition for the NEETs aged 15-19 in Hong Kong has been gradually declining.

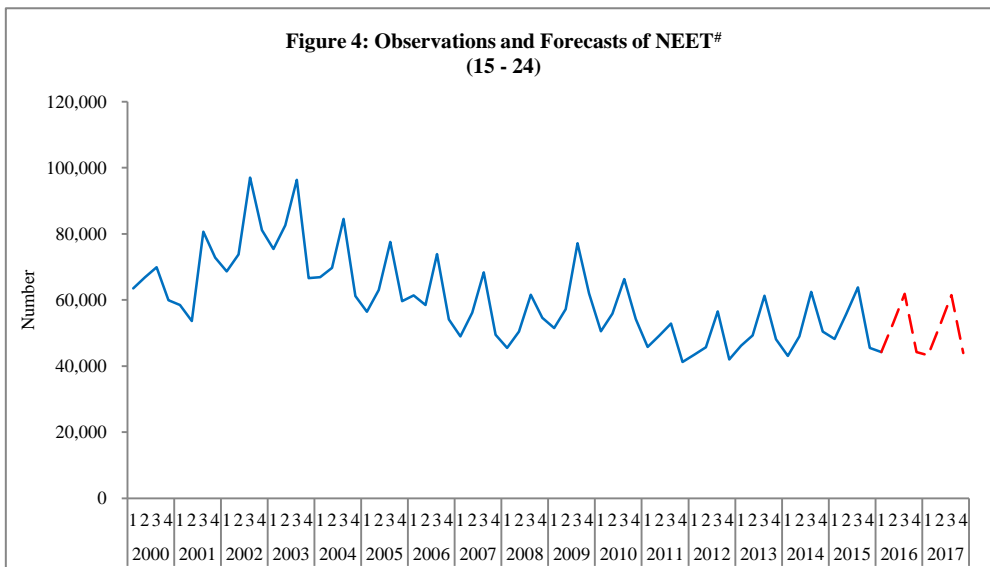


Source: Observations are from Q1, 2000 – Q1, 2016, General Household Surveys, C&SD.

The observations and forecasts are not seasonally adjusted.

The time series for 20-24 does not indicate a trend as shown in Figure 3 above, in spite of the occurrences of the unforeseen events in 2003, 2008 and 2009. The quarterly forecasts for 2016–2017 are not significantly different from each other either. The number of NEETs for Q1, 2000 and forecast for Q1, 2017 are 34,100 and 32,200 respectively, indicating a small drop of 5.6%. However, the average quarterly numbers of NEETs remain at a high value of about 40,000 for the whole span of time from Q1, 2000 to Q4, 2017. During the years from 2012 to 2015, it seems that there is an upward trend for the population of NEET aged 20-24, showing a signal of deterioration.

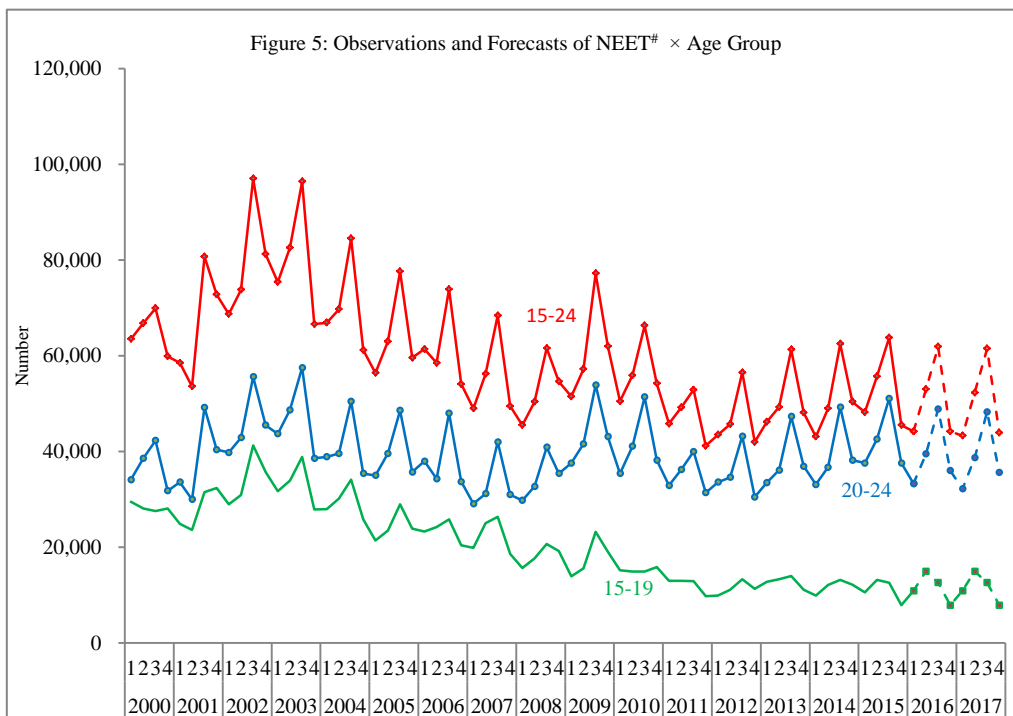
Figure 4 illustrates the combined series of the two age groups 15–19 and 20–24 which forms the series of 15–24.



Source: Observations are from Q1, 2000 – Q1, 2016, General Household Surveys, C&SD.

The observations and forecasts are not seasonally adjusted.

As seen from Figure 5, the rise and fall patterns of the age groups 15-24 and 20-24 are rather similar. Both of them have a mild upward trend instead started in 2012: as the downward trend effect of 15–19 no longer dominates the combined series. The number of 15-24 NEETs in Q1, 2000 is 63,500, whereas the forecast in Q1, 2017 is 43,300. An obvious decrease of about 32% is noted during the whole period from Q1, 2000 to Q1, 2017.



Source: Observations are from Q1, 2000 – Q1, 2016, General Household Surveys, C&SD.

The observations and forecasts are not seasonally adjusted.