

主旨: My View on Hong Kong's Population Policy  
附件: Comments on Hong Kong Population Policy.pdf

Please refer to the attached paper for my comments. May God bless your efforts to formulate good and appropriate Population Policy for Hong Kong.

Thanks.

## Comments on Hong Kong's Population Policy

- Renwill Yang 2014-2-18

According to Census Department, the aging trend in 2041 will be as follows. The proportion of the population aged 65 and over is projected to rise markedly from 13% in 2011 to 30% in 2041. Correspondingly, the median age would rise from 41.7 in 2011 to 49.9 in 2041. On the other hand, the proportion of the population under 15 is projected to decrease from 12% in 2011 to 9% in 2041.

The following tables illustrate the projected population excluding foreign domestic workers in 2041 as compared to that in 2011 from Census Department.

2041						
年齡組別 Age group	男性 Male		女性 Female		男女合計 Both sexes	
	千人 Thousands	百分比 %	千人 Thousands	百分比 %	千人 Thousands	百分比 %
0-4	115.2	1.4	106.5	1.3	221.7	2.8
5-9	128.7	1.6	119.8	1.5	248.6	3.1
10-14	151.0	1.9	140.4	1.8	291.4	3.7
15-19	171.0	2.1	159.1	2.0	330.1	4.1
20-24	188.0	2.4	181.8	2.3	369.9	4.6
25-29	219.4	2.7	223.1	2.8	442.5	5.5
30-34	206.9	2.6	246.8	3.1	453.7	5.7
35-39	159.1	2.0	235.5	3.0	394.6	4.9
40-44	191.6	2.4	281.1	3.5	472.8	5.9
45-49	230.9	2.9	328.7	4.1	559.5	7.0
50-54	234.4	2.9	333.9	4.2	568.3	7.1
55-59	232.8	2.9	324.0	4.1	556.8	7.0
60-64	218.5	2.7	295.6	3.7	514.1	6.4
65-69	222.9	2.8	298.7	3.7	521.6	6.5
70-74	223.5	2.8	306.8	3.8	530.3	6.6
75-79	236.8	3.0	312.1	3.9	548.9	6.9
80-84	205.4	2.6	261.0	3.3	466.4	5.8
85+	177.0	2.2	313.4	3.9	490.4	6.1
總計 Total	3 513.3	44.0	4 468.3	56.0	7 981.6	100.0

2011						
年齡組別 Age group	男性 Male		女性 Female		男女合計 Both sexes	
	千人 Thousands	百分比 %	千人 Thousands	百分比 %	千人 Thousands	百分比 %
0-4	129.5	1.9	119.7	1.8	249.2	3.7
5-9	125.8	1.9	117.4	1.7	243.2	3.6
10-14	170.9	2.5	160.2	2.4	331.1	4.9
15-19	217.3	3.2	206.4	3.0	423.7	6.2
20-24	221.6	3.3	214.6	3.2	436.2	6.4
25-29	229.1	3.4	230.4	3.4	459.5	6.8
30-34	225.1	3.3	252.6	3.7	477.7	7.0
35-39	233.7	3.4	273.9	4.0	507.6	7.5
40-44	241.7	3.6	294.5	4.3	536.2	7.9
45-49	294.5	4.3	336.3	5.0	630.9	9.3
50-54	312.2	4.6	313.9	4.6	626.1	9.2
55-59	253.6	3.7	254.7	3.8	508.3	7.5
60-64	205.1	3.0	203.2	3.0	408.2	6.0
65-69	121.5	1.8	112.6	1.7	234.1	3.5
70-74	116.7	1.7	113.7	1.7	230.4	3.4
75-79	97.0	1.4	108.2	1.6	205.1	3.0
80-84	62.3	0.9	83.8	1.2	146.1	2.2
85+	40.7	0.6	84.6	1.2	125.3	1.8
總計 Total	3 298.4	48.7	3 480.7	51.3	6 779.1	100.0

### Without Population Policy Intervention

There will be a population increase by 18% in 2041. The % population in the working age range between 20 and 59 in 2011 versus 2041 will change from 62% to 42%. This implies that the population ratio between this age group and the 60+ age group will dramatically decrease from 3.1 to 1.2. According to Hong Kong Census and Statistics Department, the labour force participation rate is 49.3% in 2011. It will fall to approximately 35.2% if we don't have population policy intervention (Appendix A).

按年齡及性別劃分的就業人數(不包括外籍家庭傭工)

### Employed persons (excluding foreign domestic helpers) by age and sex

年齡組別 Age group	2011 第四季 Q4		
	男 Male	女 Female	男女合計 Both Sexes
	千人 (百分比) '000 (%)	千人 (百分比) '000 (%)	千人 (百分比) '000 (%)
15 - 19	16.4 (0.9)	18.4 (1.2)	34.8 (1.0)
20 - 24	123.4 (6.6)	117.7 (8.0)	241.2 (7.2)
25 - 29	202.9 (10.8)	194.2 (13.2)	397.1 (11.9)
30 - 34	211.9 (11.3)	188.3 (12.8)	400.1 (12.0)
35 - 39	217.6 (11.6)	192.1 (13.0)	409.6 (12.2)
40 - 44	222.6 (11.9)	202.0 (13.7)	424.6 (12.7)
45 - 49	269.1 (14.4)	219.7 (14.9)	488.8 (14.6)
50 - 54	269.9 (14.4)	181.0 (12.3)	450.9 (13.5)
55 - 59	192.7 (10.3)	110.5 (7.5)	303.2 (9.1)
≥ 60	144.7 (7.7)	52.7 (3.6)	197.4 (5.9)
合計 Overall	1 871.2 (100.0)	1 476.6 (100.0)	3 347.7 (100.0)
年齡中位數 Median Age	43	40	42

綜合住戶統計調查按季統計報告- 二零一一年四月至六月:表A1.1

Table A1.1 in Quarterly Report on General Household Survey April to June 2011

<http://www.statistics.gov.hk/pub/B10500012011QQ02B0100.pdf>

## Population Policy Intervention

We believe that it is essential to keep the labour force participation rate at around 50% over a period of 30 years. There are four means to achieve so.

- a. Delay the retirement from 60 (for most private company in Hong Kong) to 70
- b. Increase the female participation rate
- c. Increase the female fertility rate
- d. Import professional working immigrants between age 21 and 35

From the analysis in Appendix B, delaying the unofficial retirement age from 60 to 70 will help to improve the LFPR by 5.9% to 41%. In comparison with US, Hong Kong has a lower female labour force participation rate (see Appendix C). From the analysis in Appendix D, if we further include programs that promote the female participation rate from age 40 may increase by 15% to approximate that of US, we further improve the LPPR by around 1.7% to 42.7%. If we institute family friendly program to raise the fertility rate to the population replacement rate of 2.1%, the LFPR will increase further by approximately 3.8% to 46.5%.

The remaining shortfall in workforce may only be filled by bringing in new immigrants / attracting Hong Kong emigrants back or by importing foreign labour. Bringing in immigration will also bring in their non-working dependents. We estimate that the effectiveness to improve working force with each immigrant is around 63%. Hence, we need an additional of around 9 million immigrants over 30 years or 30,000 annually. The alternative would be to have 564,000 foreign workers which would definitely bring social unrests.

From the above analysis, the effectiveness of different means to increase the labour force participation rate may be ranked from high to low as follows:

1. Delaying the unofficial retirement age from 60 to 70 (5.9%)
2. Instituting family friendly policies to increase the fertility rate to the replacement rate of 2.1 (3.8%)
3. Bringing in high-quality young skilful immigrants between the age of 21 and 35 (3.5%)
4. Promoting the LPRF of females especially from age 40 above (1.7%)

## 1. Delaying the unofficial retirement age

For (1), the critical question to answer in the Policy Consultation paper is as follows:

- How can we help mature workers stay in the labour force longer? Job matching services? Training programmes? Any others?

A few points may be highlighted from an EPC report may put insights to answering these questions (see Reference [3])

- Early retirement of older workers has proven to be a bane rather than a boon for labour markets and pension systems. There should be restriction of early retirement policies and postponement or even abolition of the statutory retirement age especially of civil servants.
- An important issue is the perception of the strengths and weaknesses of older workers when compared to younger ones, both regarding employers' attitudes as well as the workers' self-image. According to recent research, older workers are not per se less productive than younger ones. Public education and information campaigns are necessary
- Productivity at the workplace does not seem to be closely related to age but rather to the quality of the working conditions and to the time over which an individual is employed at the same tasks. Providing workers with good and healthy working conditions and a variety of different tasks thus prevents declining productivity with rising age. This also requires education and policy encouragement to provide old age workers with good healthy working condition with a variety of different tasks
- Older workers are often offered significant fewer training opportunities giving them even greater disadvantages to their younger counterparts. Low qualifications of older workers also interact with structural change because less skilled persons find it much harder to obtain a new job within their former occupations or with a comparable remuneration. Establishment and institutionalisation of adult education programs to enable career mobility and create incentives for lifelong learning is important.
- Health is the very basic prerequisite to enable workers to remain active on the labour market. Improving both physical and mental health for the older population is very important. Promotion and enforcement of occupational health and safety principles starting at the early stages of working life is especially essential.
- The reconciliation of work and family life does not only apply to younger but also to older workers having to care for their parents and sometimes their



grandchildren. Promotion of policies that ensure work-life balance and the compatibility of work and care responsibilities will help in this respect.

- Support in the form of career guidance for older workers is necessary especially in attempts of pursuing a completely different career. Supporting stronger collaboration between private and public employment agencies and encouraging programmes assisting both the re-entry and the staying on of older workers in the workforce would be essential.

## **2. Policies that may be considered to encourage the increase in fertility rate**

The measures that are mentioned in the consultation paper should all be adopted only for Hong Kong citizens:

- direct subsidy or allowance to help meet pregnancy expenses
- improved access to ART treatment
- family benefits or services (e.g. paid parental leave, subsidised childcare and after-school care services)
- family-friendly workplace practices (e.g. flexible working hours and home office)
- raising public awareness on the implications of delayed marriage and childbearing on fertility

Other measures that may be considered includes the following:

- a. Strictly limit the number of small flats built and allocated in public rental housing (PRH) to nonelderly one-person applicants in an effort to curb the singleton lifestyle.
- b. Adopt the Korean policy to provide subsidies to child care and promote leaving offices at 7pm on the third Wednesday of every month—called “Family Day”.
- c. Adopt Russian policy to institute a public holiday as the Day of Conception, in the hopes to give couples the day off from work to do their civic duty to make babies
- d. Adopt Romanian policy to tax people between age 25 and 40 without children

The cost should be born by the taxpayers.

## **3. Policies to bring in high-quality young skilful immigrants between the**

Are there barriers that deter talented people from working in Hong Kong? If so, how can we reduce or eliminate these barriers?

- The following measures to reduce the barriers may be very important to attract high-skilled immigrants:
  - Improve Hong Kong's air quality
  - Provide affordable housing
  - Cooperating with the business and education institute to provide language training
  - Automatic recognition of education degrees and professional work experience
  - Competition laws that favour new startups and foster a dynamic innovative business environment
  - Inclusive mentality of the general public

We need policies and programs to actively promote the following values to attract the right immigrants to Hong Kong:

- freedom, rule of law, security and protection of properties, open and transparent society free of corruption living with integrity, creativity, dynamic, resiliency, perseverance, equal opportunities, family friendly policies, compassionate society with responsible citizens not abusing the welfare systems for the true needy and allowing fusion of eastern and western values in the pursuit of truth with rationality without favoring populist rules.

#### **4. Female Labour Force Participation Rate**

Some research has suggested the following policy impacts on the female LFPR. Please refer to Reference [4] for details.

*There exists a negative correlation between the participation in part-time work with stronger employment protection. An increase in the duration of leave likely reduces the female labour force participation while birth grants and expenditure per child birth on leave has no significant effect. The provision of paid leave makes it more likely that women work full-time rather than part-time. Full-time employment rates do not appear to be sensitive to the duration of leave but they are positively associated with spending on income support during leave. There is an unambiguous positive correlation between the provision of childcare services for the under-3s and full-time and part-time female participation in the labour market. Full-time employment is also sensitive to the amount spent per child on childcare services. This*

*outcome might reflect the fact that a greater or higher-quality provision of care increases average expenditure per child, so making it easier to work full-time. Reducing the effective tax rates on the second “full-time” earner increases female labour force participation.*

In order to encourage females to return to work after 40's, there should be some return-to-work trainings specifically targeting females starting from the age of 36.

## References

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<http://www.statistics.gov.hk/pub/B10500012013QQ03B0100.pdf>
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[http://www.epc.eu/documents/uploads/pub\\_3278\\_policy\\_recommendations\\_for\\_a\\_better\\_labour\\_market\\_inclusion\\_of\\_older\\_workers.pdf](http://www.epc.eu/documents/uploads/pub_3278_policy_recommendations_for_a_better_labour_market_inclusion_of_older_workers.pdf) (last accessed Feb 17, 2014)
4. Thévenon, O. (2013), “Drivers of Female Labour Force Participation in the OECD”, OECD Social, Employment and Migration Working Papers, No. 145, OECD Publishing.  
<http://dx.doi.org/10.1787/5k46cvrgnms6-en>
5. Green, A.G. and D.A.Green. 1999. “The Economic Goals of Canada's Immigration Policy, Past and Present”, Canadian Public Policy, 25, pp. 425-451.





## Appendix B. Labour Force Participation Rates Projection w/ Unofficial Retirement Age Postponed

Year 2041 with Retirement post 65

	Male	Male LPRF	Working Male	Female	Female LPRF	Working Female	Both Male & Females	Working Male & Female
	'000	%	'000	'000	%	'000	'000	'000
0-4	115.2			106.5			221.7	
5-9	128.7			119.8			248.6	
10-14	151			140.4			291.4	
15-19	171	8.3%	14	159.1	7.2%	11	330.1	25.65
20-24	188	51.4%	97	181.8	53.1%	97	369.9	193.12
25-29	219.4	88.8%	195	223.1	87.2%	195	442.5	389.32
30-34	206.9	93.8%	194	246.8	76.4%	189	453.7	382.70
35-39	159.1	94.6%	150	235.5	68.7%	162	394.6	312.27
40-44	191.6	94.7%	181	281.1	68.0%	191	472.8	372.54
45-49	230.9	93.2%	215	328.7	65.8%	216	559.5	431.60
50-54	234.4	88.1%	206	333.9	56.5%	189	568.3	395.20
55-59	232.8	75.3%	175	324	40.4%	131	556.8	306.27
60-64	218.5	72.0%	157	295.6	34.7%	103	514.1	259.85
65-69	222.9			298.7			521.6	
70-74	223.5			306.8			530.3	
75-79	236.8			312.1			548.9	
80-84	205.4			261			466.4	
85+	177			313.4			490.4	
Total	3513.1			4468.3			7981.6	3068.53
LFPR							38%	
Non-working population ('000)							4913	
Target working population ('000)							4913	
Shortfall in working populaton ('000)							1845	
Working immigration needed (63% effectiveness) Needed ('000)							2951	
Annual working immigrants between Age 21 and 34 Needed ('000)							98	

## Appendix B (continued)

### Year 2041 with Retirement post 70

	Male	Male LPRF	Working Male	Female	Female LPRF	Working Female	Both Male & Females	Working Male & Female
	'000	%	'000	'000	%	'000	'000	'000
0-4	115.2			106.5			221.7	
5-9	128.7			119.8			248.6	
10-14	151			140.4			291.4	
15-19	171	8.3%	14	159.1	7.2%	11	330.1	25.65
20-24	188	51.4%	97	181.8	53.1%	97	369.9	193.12
25-29	219.4	88.8%	195	223.1	87.2%	195	442.5	389.32
30-34	206.9	93.8%	194	246.8	76.4%	189	453.7	382.70
35-39	159.1	94.6%	150	235.5	68.7%	162	394.6	312.27
40-44	191.6	94.7%	181	281.1	68.0%	191	472.8	372.54
45-49	230.9	93.2%	215	328.7	65.8%	216	559.5	431.60
50-54	234.4	88.1%	206	333.9	56.5%	189	568.3	395.20
55-59	232.8	75.3%	175	324	40.4%	131	556.8	306.27
60-64	218.5	72.0%	157	295.6	34.7%	103	514.1	259.85
65-69	222.9	63.0%	140	298.7	22.4%	67	521.6	207.23
70-74	223.5			306.8			530.3	
75-79	236.8			312.1			548.9	
80-84	205.4			261			466.4	
85+	177			313.4			490.4	
Total	3513.1			4468.3			7981.6	3275.75
LPRR							41.0%	
Non-working population ('000)							4706	
Target working population ('000)							4706	
Shortfall in working population ('000)							1430	
Working immigration needed (63% effectiveness) Needed ('000)							2288	
Annual working immigrants between Age 21 and 34 Needed ('000)							76	

Appendix C. US Labour Force Participation Rate  
 (US Department of Labour – Bureau of Labour Statistics  
[http://www.bls.gov/emp/ep\\_table\\_303.htm](http://www.bls.gov/emp/ep_table_303.htm), accessed on Feb 16)

Table 3.3 Civilian labor force participation rates by age, sex, race, and ethnicity, 1992, 2002, 2012, and projected 2022

Group	Participation rate				Percentage-point change			Annual growth rate		
	1992	2002	2012	2022	1992— 2002	2002— 2012	2012— 2022	1992— 2002	2002— 2012	2012— 2022
Men, 16 years and older	75.8	74.1	70.2	67.6	-1.7	-3.9	-2.6	-0.2	-0.5	-0.4
16 to 24	70.5	65.5	56.5	51.1	-5	-9	-5.4	-0.7	-1.5	-1
16 to 19	53.4	47.5	34	27.8	-5.9	-13.5	-6.2	-1.2	-3.3	-2
20 to 24	83.3	80.7	74.5	69.9	-2.6	-6.2	-4.6	-0.3	-0.8	-0.6
25 to 54	93	91	88.7	88.2	-1.9	-2.3	-0.5	-0.2	-0.3	-0.1
25 to 34	93.8	92.4	89.5	88.8	-1.3	-2.9	-0.7	-0.1	-0.3	-0.1
35 to 44	93.7	92.1	90.7	90.4	-1.6	-1.4	-0.3	-0.2	-0.2	0
45 to 54	90.7	88.5	86.1	85.1	-2.3	-2.4	-1	-0.3	-0.3	-0.1
55 and older	38.4	42	46.8	46.2	3.6	4.8	-0.6	0.9	1.1	-0.1
55 to 64	67	69.2	69.9	71	2.2	0.7	1.1	0.3	0.1	0.2
55 to 59	79	78	78	77.8	-1	0	-0.2	-0.1	0	0
60 to 64	54.7	57.6	60.5	64.3	2.9	2.9	3.8	0.5	0.5	0.6
60 to 61	67.2	67.3	68.8	69.7	0.1	1.5	0.9	0	0.2	0.1
62 to 64	46.2	50.4	54.6	60.5	4.2	4.2	5.9	0.9	0.8	1
65 and older	16.1	17.9	23.6	27.2	1.8	5.7	3.6	1.1	2.8	1.4
65 to 74	21.1	25.5	31.8	35.9	4.4	6.3	4.1	1.9	2.2	1.2
65 to 69	26	32.2	37.1	41.6	6.3	4.9	4.5	2.2	1.4	1.2
70 to 74	15	17.6	24.2	28.8	2.6	6.6	4.6	1.6	3.2	1.8
75 to 79	9	10.2	15.9	19	1.2	5.7	3.1	1.2	4.6	1.8
75 and older	7.3	7.6	11.3	13.9	0.4	3.7	2.6	0.5	4	2.1



Appendix C (continued)

Group	Participation rate				Percentage-point change			Annual growth rate		
	1992	2002	2012	2022	1992— 2002	2002— 2012	2012— 2022	1992— 2002	2002— 2012	2012— 2022
Women, 16 years and older	57.8	59.6	57.7	56	1.8	-1.9	-1.7	0.3	-0.3	-0.3
16 to 24	61.8	61.1	53.2	48.1	-0.7	-7.9	-5.1	-0.1	-1.4	-1
16 to 19	49.1	47.3	34.6	26.7	-1.7	-12.7	-7.9	-0.4	-3.1	-2.6
20 to 24	70.9	72.1	67.4	64.7	1.2	-4.7	-2.7	0.2	-0.7	-0.4
25 to 34	74.6	75.9	74.5	73.8	1.3	-1.4	-0.7	0.2	-0.2	-0.1
25 to 34	73.9	75.1	74.1	73.4	1.2	-1	-0.7	0.2	-0.1	-0.1
35 to 44	76.7	76.4	74.8	73.3	-0.3	-1.6	-1.5	0	-0.2	-0.2
45 to 54	72.6	76	74.7	74.9	3.4	-1.3	0.2	0.5	-0.2	0
55 and older	22.8	28.5	35.1	37.5	5.7	6.6	2.4	2.3	2.1	0.7
55 to 64	46.5	55.2	59.4	64.3	8.7	4.2	4.9	1.7	0.7	0.8
55 to 59	56.8	63.8	67.3	73.3	7	3.5	6	1.2	0.5	0.9
60 to 64	36.4	44.1	50.4	55.6	7.7	6.3	5.2	1.9	1.4	1
60 to 61	45.7	52.8	59.2	67.2	7.1	6.4	8	1.5	1.1	1.3
62 to 64	30.5	37.6	44.1	47.7	7.2	6.5	3.6	2.1	1.6	0.8
65 and older	8.3	9.8	14.4	19.5	1.6	4.6	5.1	1.7	3.9	3.1
65 to 74	12.5	16.1	22.5	28.3	3.7	6.4	5.8	2.6	3.4	2.3
65 to 69	16.2	20.7	27.6	35.4	4.5	6.9	7.8	2.5	2.9	2.5
70 to 74	8.2	11.1	15.4	19.8	3	4.3	4.4	3.2	3.3	2.5
75 to 79	4.4	5.4	7.9	11.6	1	2.5	3.7	2.1	3.9	3.9
75 and older	2.8	3.5	5	8	0.7	1.5	3	2.3	3.7	4.8



# Appendix D. LPRF Projection with Postponement in Retirement and 15% Increase in Female LPRF

## Female LPRF 15% Improvement + Retirement Post 65

	Male	Male LPRF	Working Male	Female	Female LPRF	Working Female	Both Male & Females	Working Male & Female
	'000	%	'000	'000	%	'000	'000	'000
0-4	115.2			106.5			221.7	
5-9	128.7			119.8			248.6	
10-14	151			140.4			291.4	
15-19	171	8.3%	14	159.1	7.2%	11	330.1	25.65
20-24	188	51.4%	97	181.8	53.1%	97	369.9	193.12
25-29	219.4	88.8%	195	223.1	87.2%	195	442.5	389.32
30-34	206.9	93.8%	194	246.8	76.4%	189	453.7	382.70
35-39	159.1	94.6%	150	235.5	68.7%	162	394.6	312.27
40-44	191.6	94.7%	181	281.1	78.2%	220	472.8	401.21
45-49	230.9	93.2%	215	328.7	75.7%	249	559.5	464.04
50-54	234.4	88.1%	206	333.9	65.0%	217	568.3	423.53
55-59	232.8	75.3%	175	324	46.5%	151	556.8	325.92
60-64	218.5	72.0%	157	295.6	39.9%	118	514.1	275.25
65-69	222.9			298.7			521.6	
70-74	223.5			306.8			530.3	
75-79	236.8			312.1			548.9	
80-84	205.4			261			466.4	
85+	177			313.4			490.4	
Total	3513.1			4468.3			7981.6	3193.01
LFPR							40.0%	
Non-working population ('000)							4789	
Target working population ('000)							4789	
Shortfall in working population ('000)							1596	
Working immigration needed (63% effectiveness) ('000)							2553	
Annual working immigrants between Age 21 and 34 Needed ('000)							85	

# Appendix D (continued)

## Female LPRF 15% Improvement + Retirement Post 70

	Male	Male LPRF	Working Male	Female	Female LPRF	Working Female	Both Male & Females	Working Male & Female
	'000	%	'000	'000	%	'000	'000	'000
0-4	115.2			106.5			221.7	
5-9	128.7			119.8			248.6	
10-14	151			140.4			291.4	
15-19	171	8.3%	14.165	159.1	7.2%	11.4854	330.1	25.65
20-24	188	51.4%	96.545	181.8	53.1%	96.576	369.9	193.12
25-29	219.4	88.8%	194.79	223.1	87.2%	194.535	442.5	389.32
30-34	206.9	93.8%	194.03	246.8	76.4%	188.666	453.7	382.70
35-39	159.1	94.6%	150.45	235.5	68.7%	161.815	394.6	312.27
40-44	191.6	94.7%	181.45	281.1	78.2%	219.754	472.8	401.21
45-49	230.9	93.2%	215.3	328.7	75.7%	248.744	559.5	464.04
50-54	234.4	88.1%	206.4	333.9	65.0%	217.131	568.3	423.53
55-59	232.8	75.3%	175.24	324	46.5%	150.678	556.8	325.92
60-64	218.5	72.0%	157.21	295.6	39.9%	118.038	514.1	275.25
65-69	222.9	63.0%	140.35	298.7	25.7%	76.9055	521.6	217.26
70-74	223.5			306.8			530.3	
75-79	236.8			312.1			548.9	
80-84	205.4			261			466.4	
85+	177			313.4			490.4	
Total	3513.1			4468.3			7981.6	3410.26
LFPR							42.7%	
Non-working population ('000)							4571	
Target working population ('000)							4571	
Shortfall in working population ('000)							1161	
Working immigration needed (63% effectiveness) Needed ('000)							1858	
Annual working immigrants between Age 21 and 34 Needed ('000)							62	

**Appendix E. LPRF Projection w/ Later Retirement, 15% Female LPRF Increase & Replacement Fertility Rate**

**Female LPRF 15% Improvement + Retirement Post 65 + Fertility Increased to 2.1**

Current fertility 1.186 Target Fertility Rate: 2.1 Avg. Fertility Rate 1.643  
Impact factor of increased fertility 0.2285

	Male	Male LPRF	Working Male	Female	Female LPRF	Working Female	Both Male & Females	Working Male & Female
	'000	%	'000	'000	%	'000	'000	'000
0-4	165			154			222	
5-9	179			169			249	
10-14	203			193			291	
15-19	222	8.3%	18.425	217	7.2%	15.6522	330	34.08
20-24	241	51.4%	123.97	244	53.1%	129.823	370	253.79
25-29	275	88.8%	243.82	290	87.2%	253.212	443	497.03
30-34	274	93.8%	257.14	324	76.4%	247.41	454	504.55
35-39	159	94.6%	150.45	236	68.7%	161.815	395	312.27
40-44	192	94.7%	181.45	281	78.2%	219.754	473	401.21
45-49	231	93.2%	215.3	329	75.7%	248.744	560	464.04
50-54	234	88.1%	206.4	334	65.0%	217.131	568	423.53
55-59	233	75.3%	175.24	324	46.5%	150.678	557	325.92
60-64	219	72.0%	157.21	296	39.9%	118.038	514	275.25
65-69	223			299			522	0.00
70-74	224			307			530	
75-79	237			312			549	
80-84	205			261			466	
85+	177			313			490	
	3893			4882			7982	3491.67

LFPR 43.7%  
Non-working population ('000) 4490  
Target working population ('000) 4490  
Shortfall in working populaton ('000) 998  
Working immigration needed (63% effectiveness) Needed ('000) 1597  
Annual working immigrants between Age 21 and 34 Needed ('000) 53

