



**An Roinn Iompair
Turasóireachta agus Spóirt**

**Department of Transport,
Tourism and Sport**

**Investing In Our Transport Future: A Strategic Framework for Investment in
Land Transport**

Background Paper Five

Populations, Economic Growth and Demand

Issued by:

Economic and Financial Evaluation Unit
Department Of Transport, Tourism and Sport
Leeson Lane
Dublin 2
Ireland

Population, economic growth and demand

SFILT 10th April 2013

Population issues for SFILT

- CSO 2008 population projections range from 4.9m in 2041 to 7.1m.

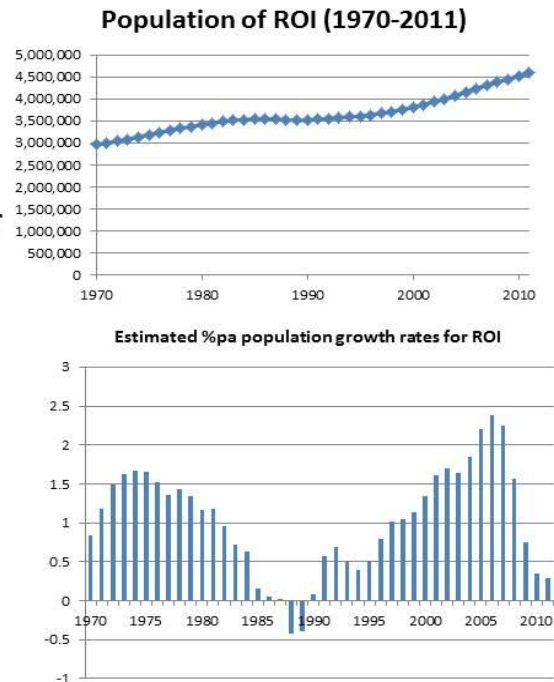
| CSO 2008 projections | M1F1 | M1F2 | M2F1 | M2F2 | M0F1 | M0F2 |
|-------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2011 | 4,738,000 | 4,729,000 | 4,686,000 | 4,676,000 | 4,422,000 | 4,413,000 |
| 2016 | 5,233,300 | 5,187,900 | 5,093,800 | 5,049,700 | 4,606,900 | 4,568,300 |
| 2021 | 5,687,500 | 5,590,100 | 5,499,200 | 5,356,400 | 4,763,700 | 4,686,400 |
| 2031 | 6,417,200 | 6,219,600 | 5,900,700 | 5,718,500 | 4,976,300 | 4,829,300 |
| 2041 | 7,072,200 | 6,759,000 | 6,247,100 | 5,965,400 | 5,122,000 | 4,893,000 |

- Likely range for next projections (May 2013) is 5.4m to 6.4m for 2041.
- Apparently net outward migration in medium term not being considered as possible scenario – leading to higher “low growth” scenarios than 2008.

Population issues for SFILT

Irish population trends:

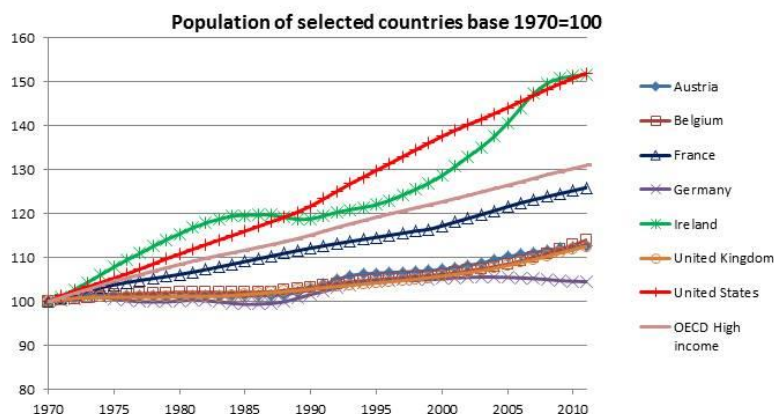
- Growth from 3.0m in 1970 to 4.6m in 2011
- Average growth rate over period around 1% per annum
- Per annum growth rates ranging from -0.4% to 2.4% per annum
- Essentially 0.5m added from 1970 to 1995 then 1m from 1995 to 2011.



Population issues for SFILT

International comparisons:

- With exception of USA growth rates of most developed countries less than half that of ROI
- Austria, Belgium & UK around 0.3% per annum, France 0.56%
- Without exception population growth rates more stable.



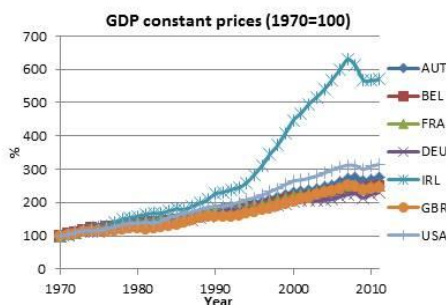
Population issues for SFILT

- Applying a 0.3% population growth rate to Irish population yields population of 5.02 million in 2041
- Ireland would need to maintain long term average growth rate of 1% per annum to get to 6.2m in 2041

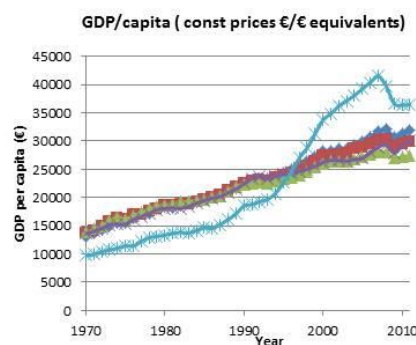
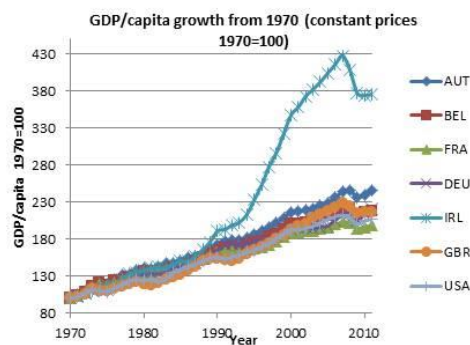
| | Low population (0.3%) | Medium population (0.66%) | High population (1%) |
|------------|-----------------------|---------------------------|----------------------|
| Population | | | |
| 2011 | 4,588,252 | 4,588,252 | 4,588,253 |
| 2021 | 4,727,773 | 4,900,231 | 5,068,286 |
| 2031 | 4,871,536 | 5,233,422 | 5,598,541 |
| 2041 | 5,019,671 | 5,589,269 | 6,184,272 |

- Consideration of appropriate assumption on which to base SFILT work is vital early step
- Useful to consider the long term economic growth levels necessary to support strong population growth.

Economic drivers - GDP

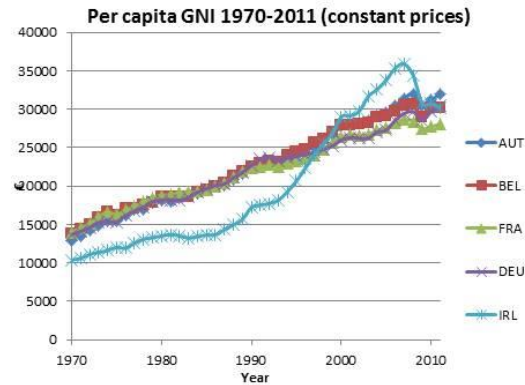


- Irish GDP growth rates multiples of these countries
- Rates 2-2.8% per annum versus 4.5% per annum for Ireland
- Ireland started from low base but even now GDP/capita higher than these countries.



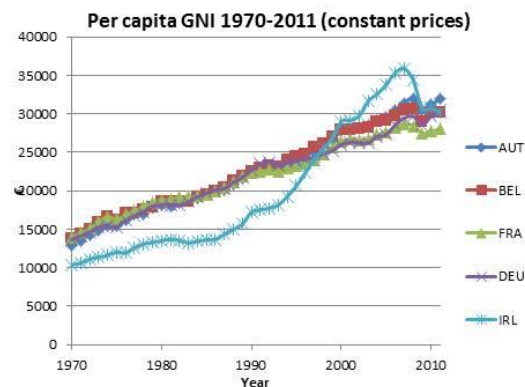
Economic drivers - GNI

- GNI/capita per annum growth rates Germany 1.97%, USA 1.87%, Ireland 2.82%
- GNP growth rates for Ireland 1996-2007 average 6.8%
- **Main point – Ireland at similar GNI/capita levels to most advance economies – is such stellar growth possible for future?**



Economic drivers - GNI

- GNI/capita per annum growth rates Germany 1.97%, USA 1.87%, Ireland 2.82%
- GNP growth rates for Ireland 1996-2007 average 6.8%
- **Main point – Ireland at similar GNI/capita levels to most advance economies – is such stellar growth possible for future?**

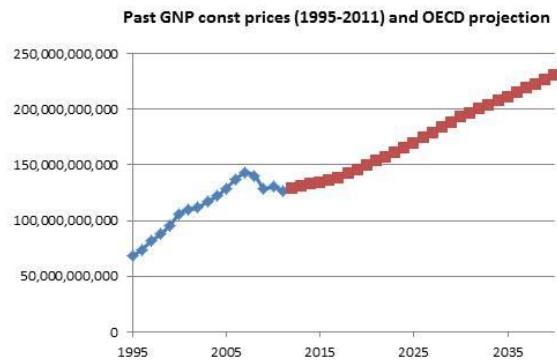


Economic drivers – OECD projections

OECD report on long term growth potential of economies

<http://www.oecd.org/berlin/50405107.pdf>

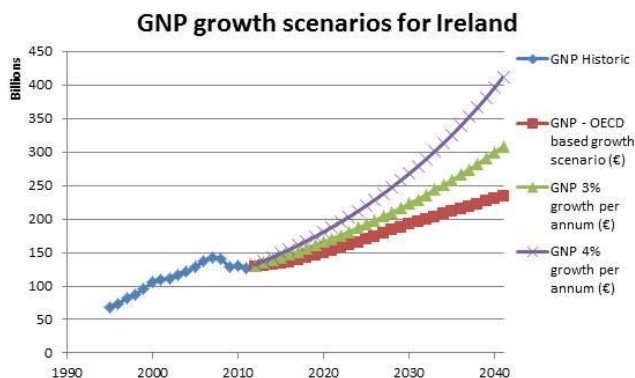
- For Ireland GDP potential growth of 1.4% 2012-17, 2.6% 2018-30, then 1.8% for 2031-2050
- OECD projections implying Ireland growth potential in line with past growth of high income countries (and OECD projected future for those countries)
- Takes 35 years for output to double – rather than 12.



Economic drivers – Growth scenarios

Applying some growth scenarios to GNP:

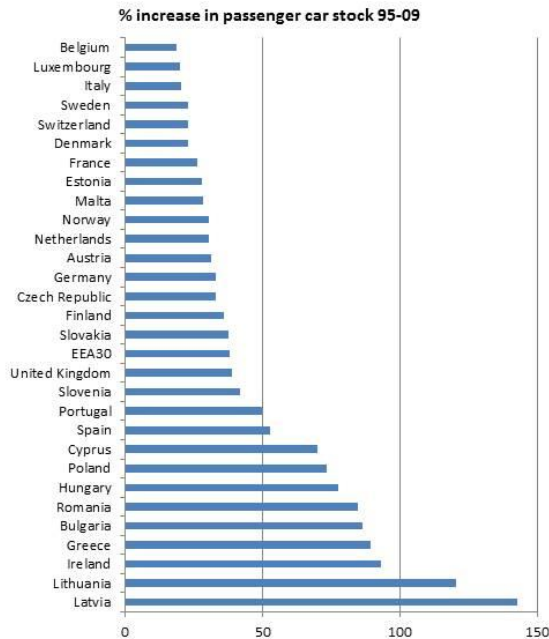
- OECD GDP projections for Ireland applied to GNP
- Growth rate of 3% per annum
- Growth rate of 4% per annum.



Road transport demand issues

Car stock increases

- Again trends in more developed countries much more conservative.
- Generally less than 2% per annum growth in car stock versus 5% in Ireland over same period.



Source: European Environment Agency <http://www.eea.europa.eu/data-and-maps/indicators/size-of-the-vehicle-fleet/size-of-the-vehicle-fleet-2>

Population issues for SFILT

- Bringing together population growth scenarios and OECD projection for economic growth

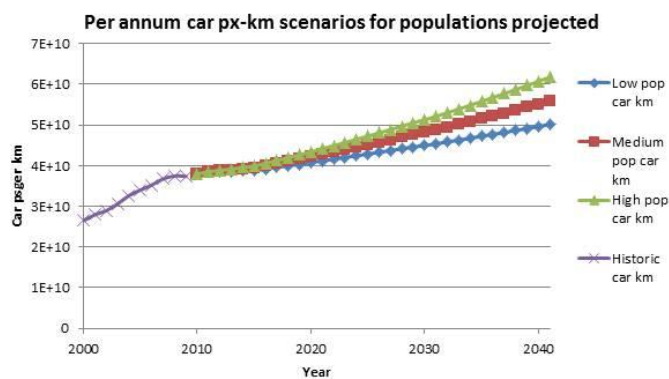
| | Low population (0.3%) | Medium population (0.66%) | High population (1%) |
|------------|-----------------------|---------------------------|----------------------|
| Population | | | |
| 2011 | 4,588,252 | 4,588,252 | 4,588,253 |
| 2021 | 4,727,773 | 4,900,231 | 5,068,286 |
| 2031 | 4,871,536 | 5,233,422 | 5,598,541 |
| 2041 | 5,019,671 | 5,589,269 | 6,184,272 |

| | Low population (0.3%) | Medium population (0.66%) | High population (1%) |
|--------------------|-----------------------|---------------------------|----------------------|
| Implied GNP/capita | | | |
| 2011 | 27,676 | 27,676 | 27,676 |
| 2021 | 32,352 | 31,214 | 30,179 |
| 2031 | 40,269 | 37,484 | 35,040 |
| 2041 | 46,713 | 41,953 | 37,916 |

- Other high income countries would roughly double GNP per capita over 30-35 years
- Suggests either population growth towards lower end of “projections” or would need much higher economic growth than OECD projections.

Road transport demand issues

- Same assumptions for each population –
 - Car psger-km per capita from 8,500 to 10,000 by 2040
 - gradual decline km/car per annum from 17,000 to 16,000
 - implied car ownership rates from 430 to 550 by 2040



- 2000-07 approx 10bn increase in psger km per annum
- 12bn, 17bn, 23bn increases under the three scenarios here.

Discussion/summary

- Issue around national economic and migration policy outside remit of this work - but need central demand scenario for which population & economic growth assumptions are vital
- Analysis points to “baseline” scenario at lower end of existing population projections
- Decision has significant implications for future transport demand
- Projected demographics, regional & urban/rural patterns need to be considered
- Then issue of how to cater for this scale of demand (wherever it occurs) and subsequent necessary investment level & priorities
 - City/urban transit investment versus rural and interurban transport
 - Road-v-rail in interurban context & then national relative to local roads
 - Car versus other modes (metro-tram-bus-walk-cycle) in urban context
 - Commercial/freight issues relative to passenger transport
 - Addressing pinch-points or new infrastructure projects
 - Mega-projects relative to medium scale projects
- Overarching issue of whether framework accepts demand or also aimed at managing demand growth.

Population issues for SFILT

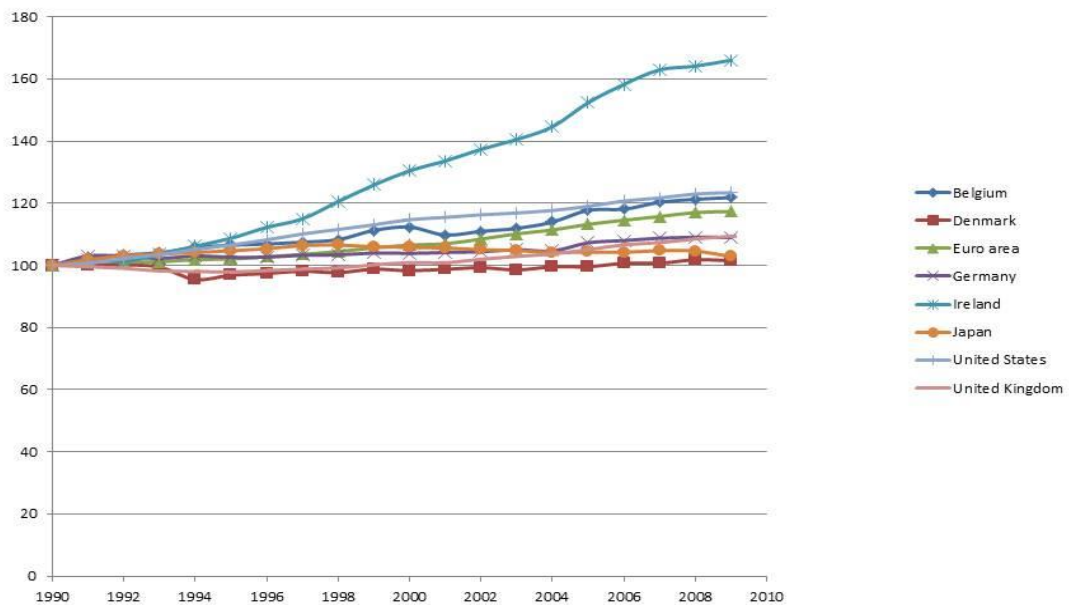
- Bringing together population growth scenarios and OECD projection for economic growth

| Population | Low population (0.3%) | Medium population (0.66%) | High population (1%) | Implied GNP/capita (0.3%) | Low population (0.3%) | Medium population (0.66%) | High population (1%) |
|------------|-----------------------|---------------------------|----------------------|---------------------------|-----------------------|---------------------------|----------------------|
| 2011 | 4,588,252 | 4,588,252 | 4,588,253 | 2011 | 27,676 | 27,676 | 27,676 |
| 2021 | 4,727,773 | 4,900,231 | 5,068,286 | 2021 | 32,352 | 31,214 | 30,179 |
| 2031 | 4,871,536 | 5,233,422 | 5,598,541 | 2031 | 40,269 | 37,484 | 35,040 |
| 2041 | 5,019,671 | 5,589,269 | 6,184,272 | 2041 | 46,713 | 41,953 | 37,916 |

- Other high income countries would roughly double GNP per capita over 30-35 years
- Suggests either population growth towards lower end of “projections” or would need much higher economic growth than OECD projections.

Labour force

Labour force growth (1990=100)



EU car ownership levels (EEA)

Cars per 1000 people (2009)

