Ageing of the Population -

A Phenomenon of all developed Countries

by Wolfgang ETTL

Long therm projections of the developments of population tend to concentrate only an one certain country or region and underestimate in some kind the pressure of migration from over populated regions (eg. the problems at the border of Mexico and Texas/California).

The long term development of population will give a high increase of costs of pay-as-yuo-go pension and much more health schemes. On the other hand the 'emerging' and more developed countries will be the market of the future. An increasing number of producers and consumers will be outside the traditional developed countries (North America, Japan, Western Europe, Australia).

The key factors of calculation are

- Total fertility rate
- Life Expectancy
- Annal number of immigrants

Each of these factors may assumed on high, medium or low level and so we can get least 9 scenarios. To reduce amount of results we discuss in this paper only one cenario where all factors are at the medium stage (eg. for the western developed countries fertility rate 1.7, life expectancy for male/femal 83,5/89 (increase of 2 years a decade up to this limit) and annual number of immigrants 0,5 million for western Europe).

For developing countries different assumptions of the increase of life expectancy (only 50% of the improvements in western Europe) and on fertility change are made. The differences between of the population will be about plus/minus 33% around the medium level.

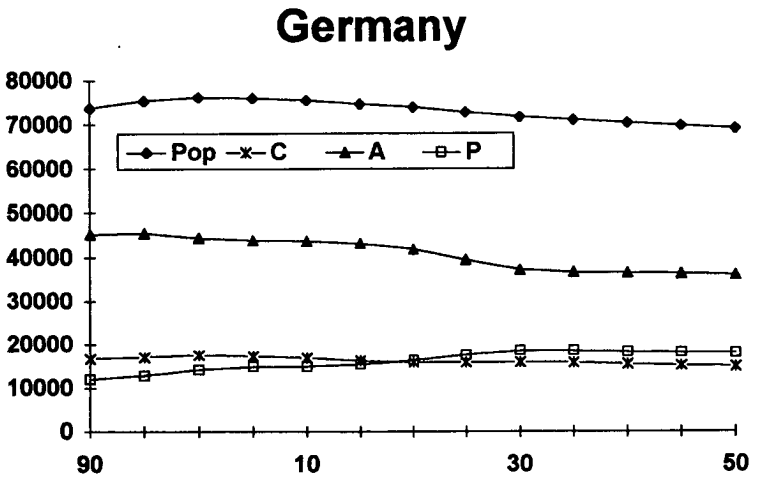
The population of children (absolute and percentage) will go down in all developed countries.
The proportion of the population of working age (age 20 - 60) is almost the same in all scenaries for the developed countries: around

55% of the population with an inevitable decline of 10 percentage points from 2005 to 2030 and relative stable for the time afterwards. Neither immigration nor high fertility would prevent the shrinking in size. On the other hand the proportion of elderly people above 60 years will go up from 20% in the 1990 to 25 - 30% in 2020. In the case of low fertility and high life expectancy and almost no immigrants will further go up to 45% in 2050.
Much more dramatic is the increase of the oldest old, people over 80 years. From a little bit more than 3% this will go up to 12% in the worst case to 20%. Since this part of the population is almost independent from fertility and immigrants long term care, health costs and pensions will be heavily influenced.

The only possibility to transfer the increase of cost from the future to days of today is to build up reserves, which may be invested also in the emerging and developing countries, which have an enormous lack of capital. This capital transfer would also enable these countries to establish the necessary human ressources and knowledge. In the long run the developed countries need emerging countries for investments and future consumers. By other words developing countries replace the investments into children (as future payers of contributions and/or taxes) by capital investments. In almost all low developed countries children are the only possible investsments for the people living there to secure their future. The economic implications will be presented in a paper at the International Congress of Actuaries in Brüssel 1995 in detail.

Abbrevations of the charts of the appendix

Pop	Population in 1000
C	Children in 1000 (under 20)
A	Actives in 1000 (between 20 and 60)
P	Pensioneers in 1000 (over 60)
O	Old pensioneers (over 80)
P/Pop	Pensioneers as Percentage of Population
A/Pop	Aktives as Percentage of Population
C/Pop	Children as Percentage of Population
O/Pop	Old pensioneers as Percentage of Population
P/A	Pensioneers as Percentage of Actives
O/(A&P)	Old Pensioneers as Percentage of (actives and pensioneers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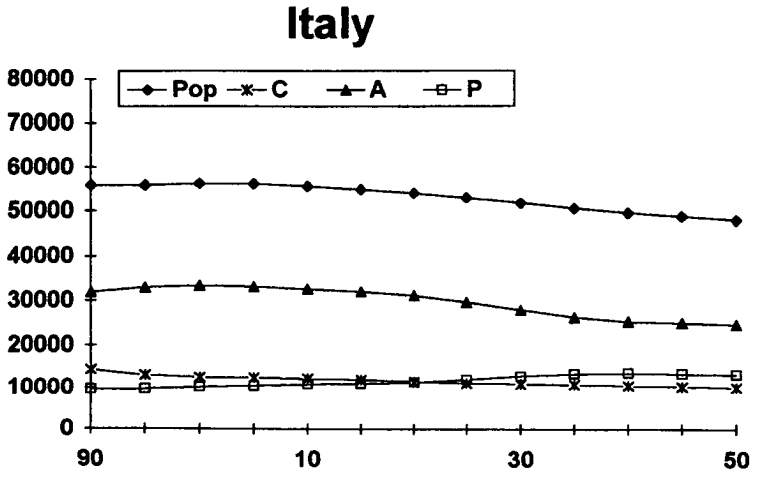
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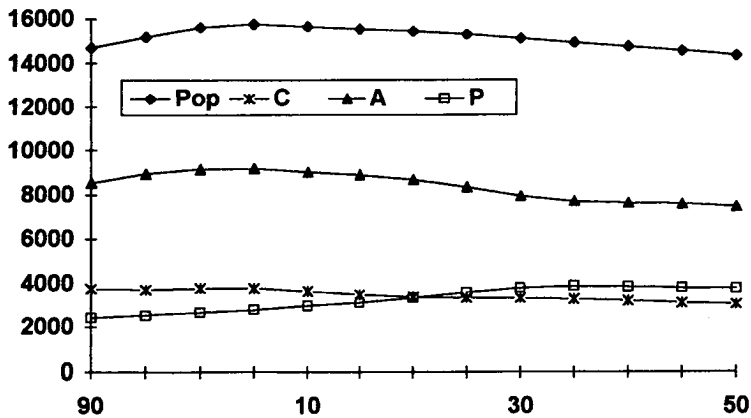
Netherland



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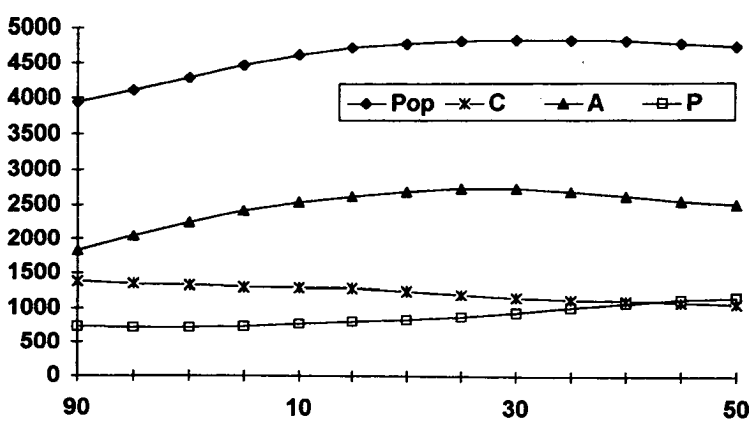

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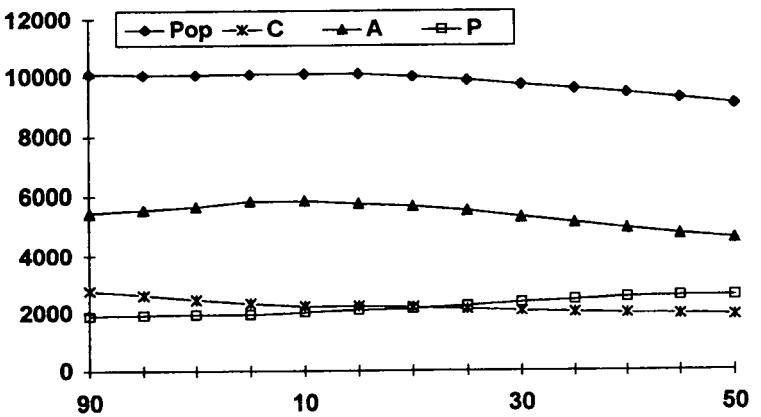

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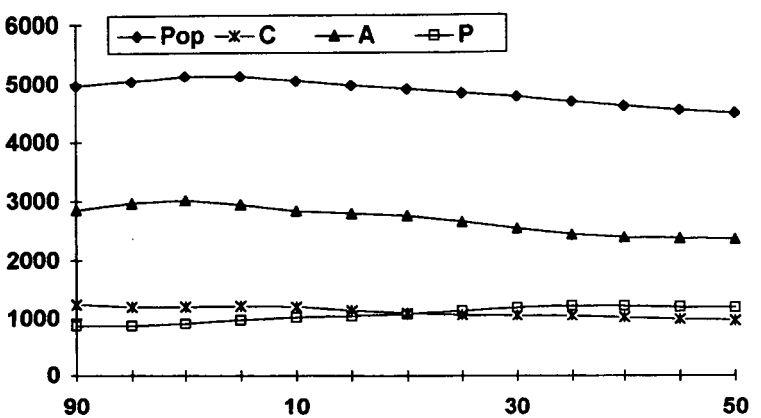

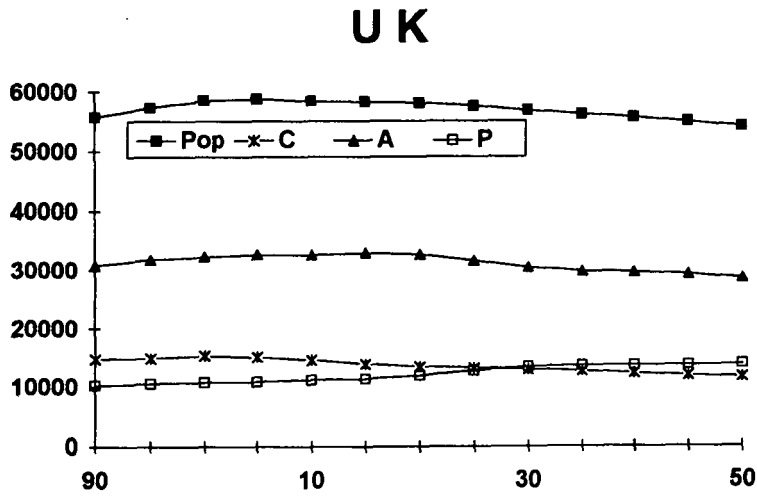
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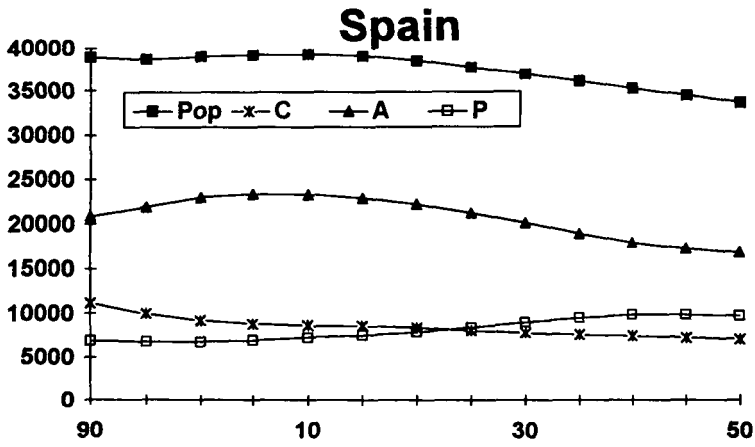
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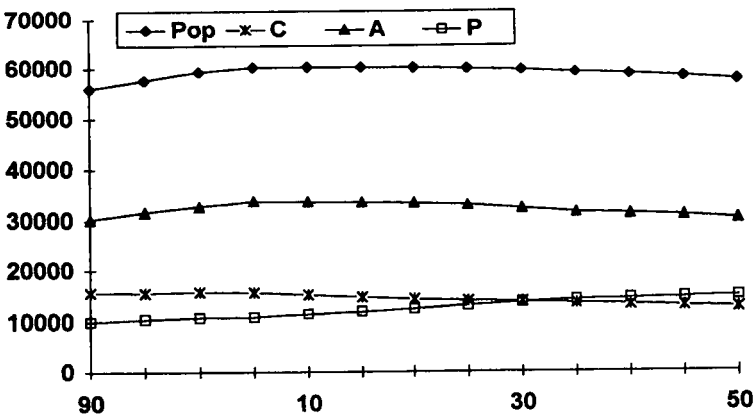

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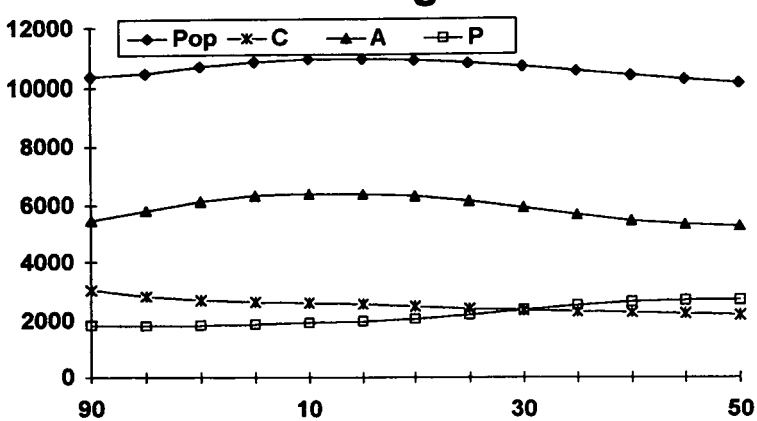

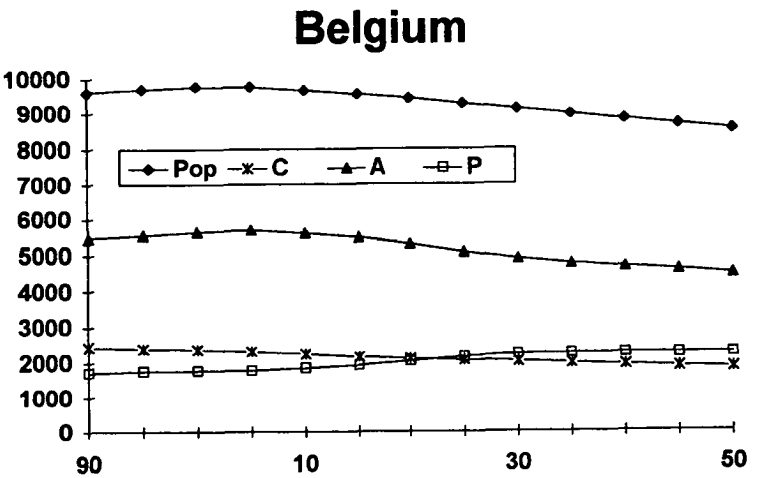
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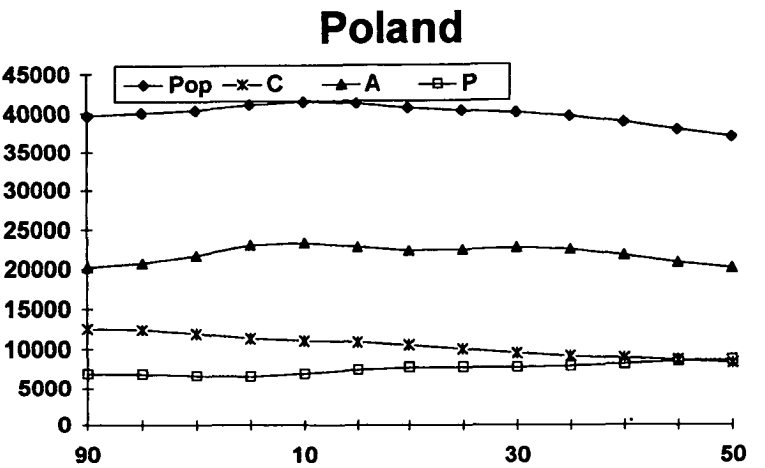
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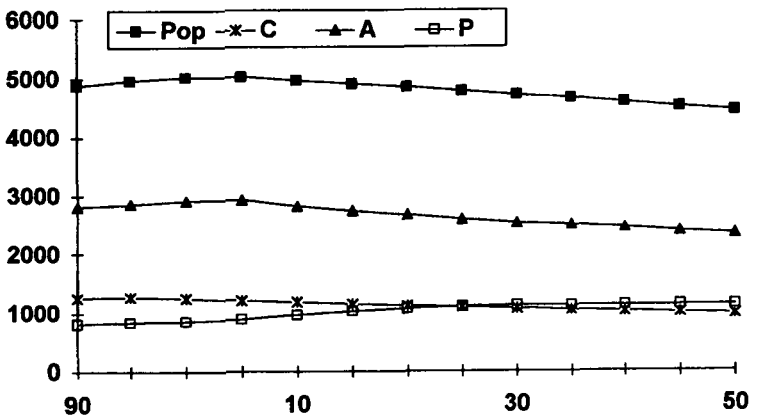
Finland



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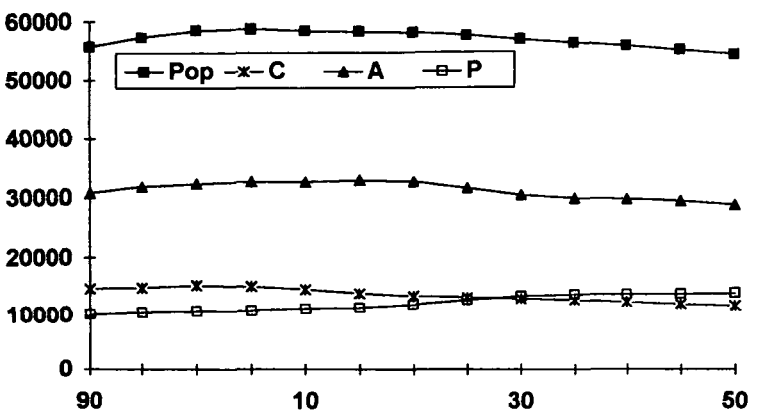

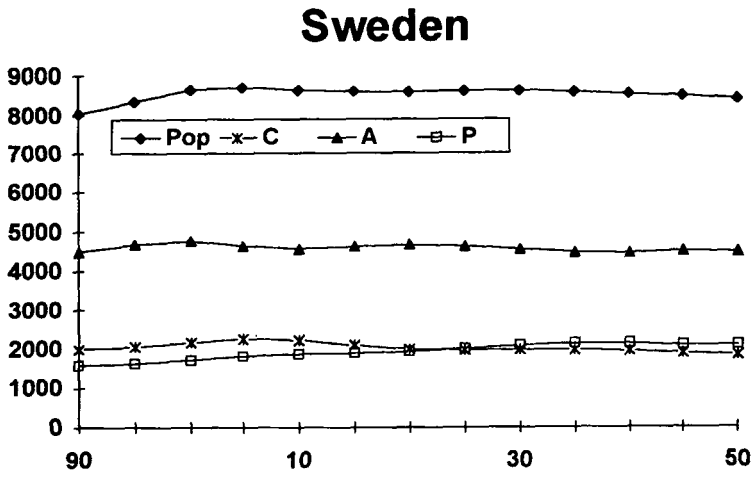
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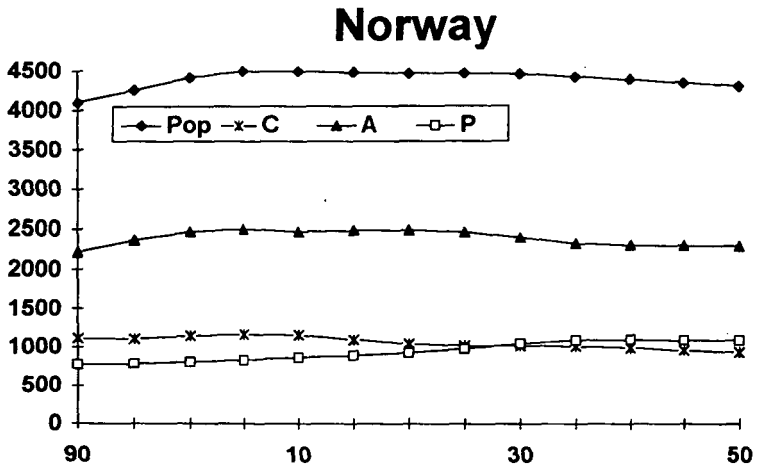
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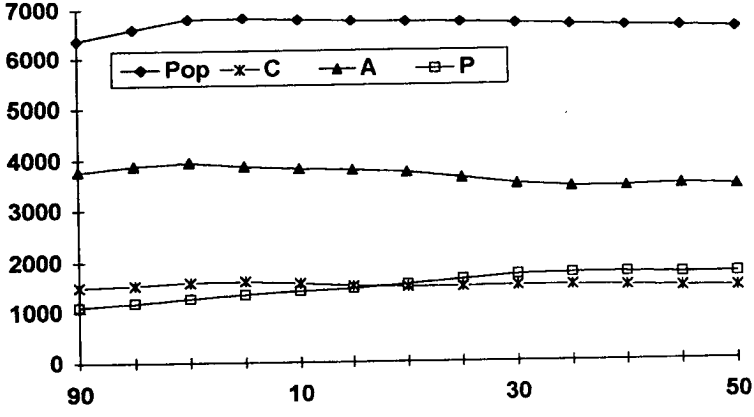

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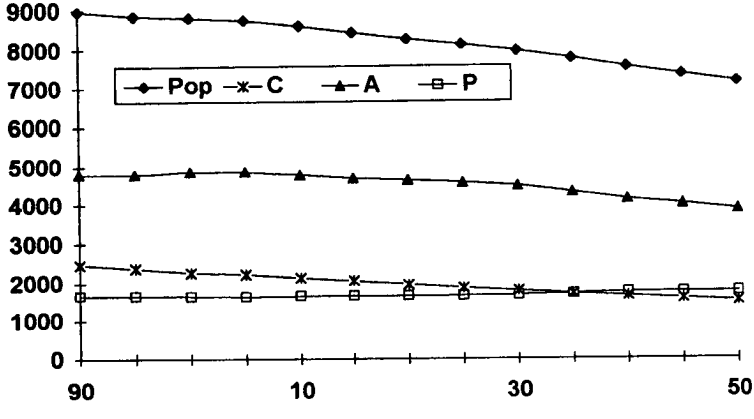

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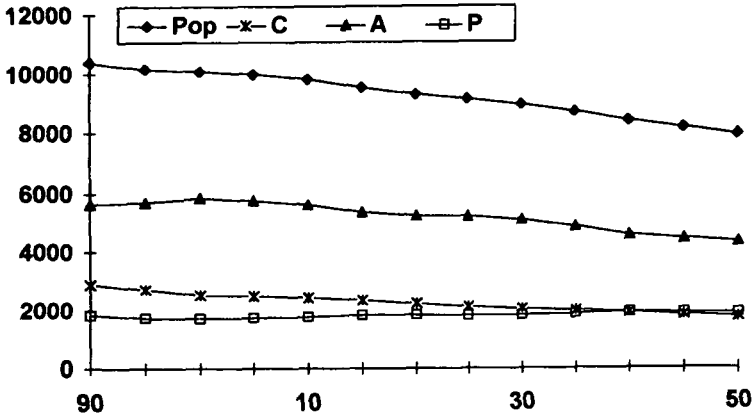

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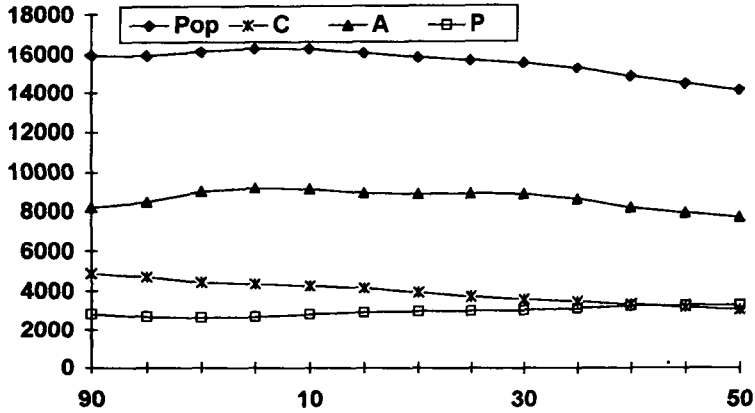

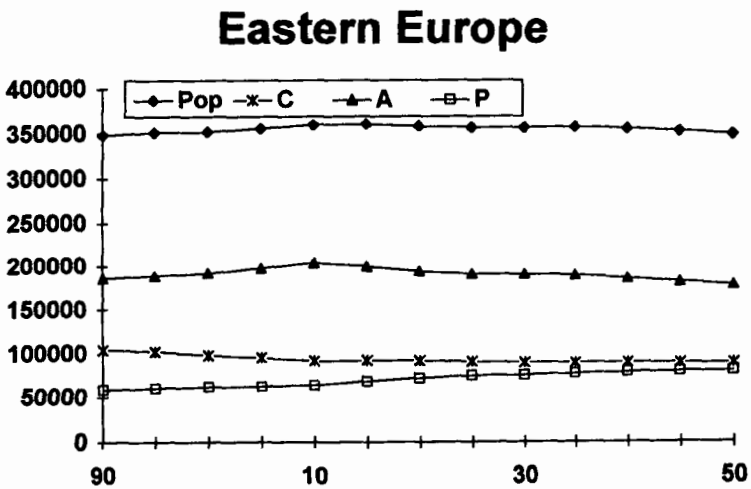
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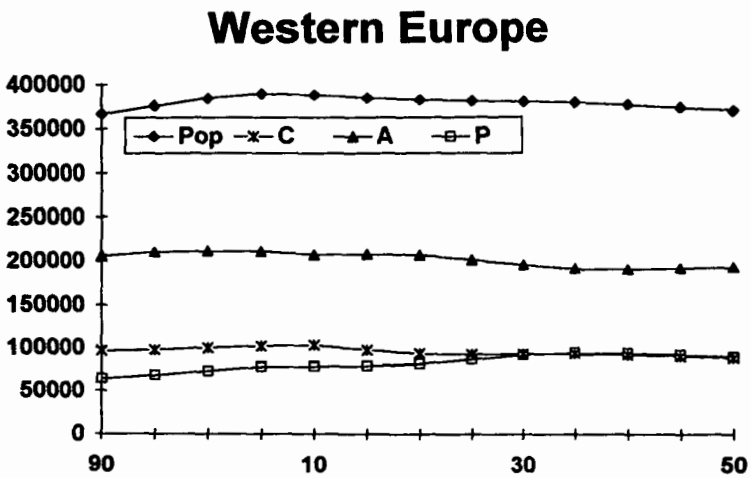
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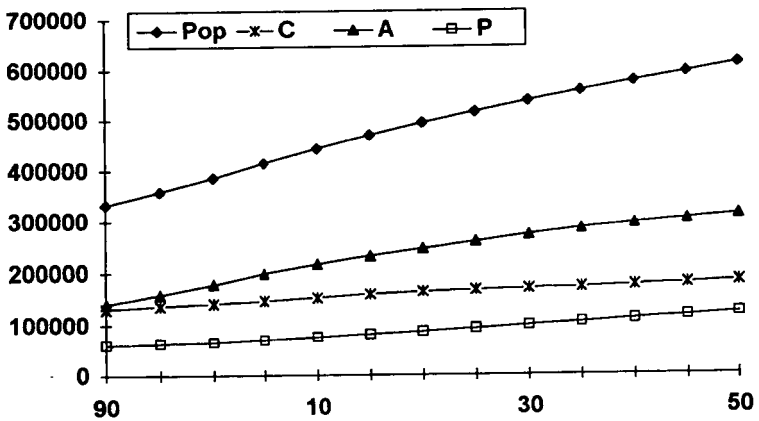
South America



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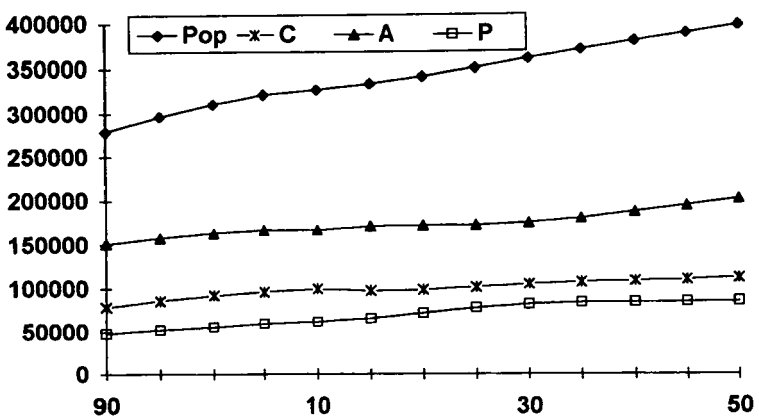

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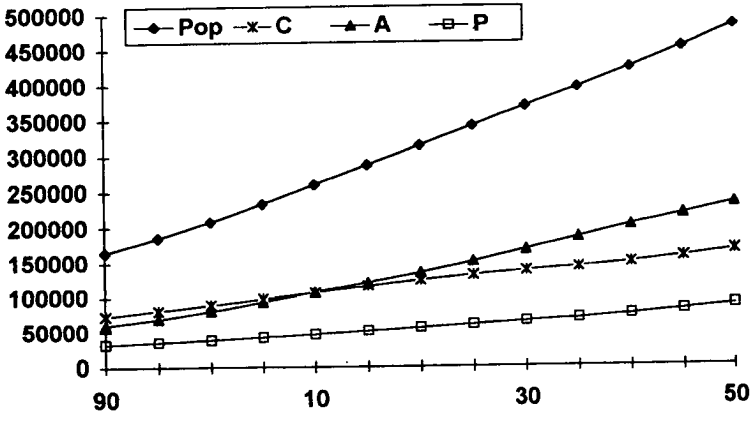

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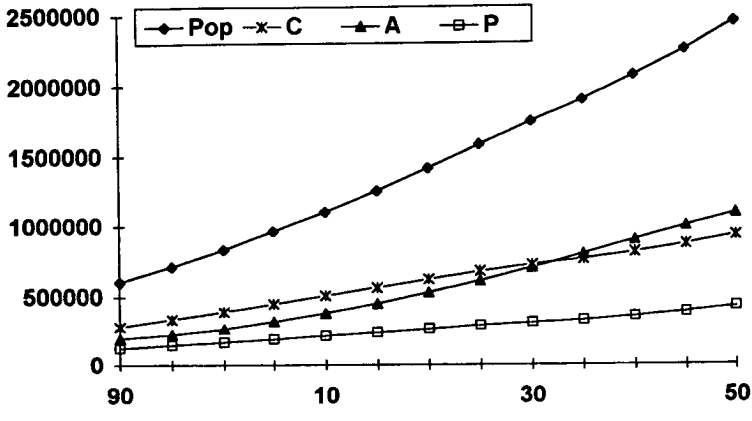
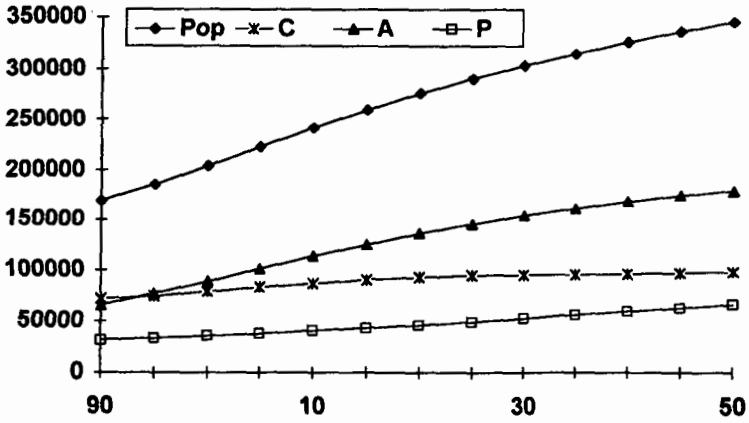
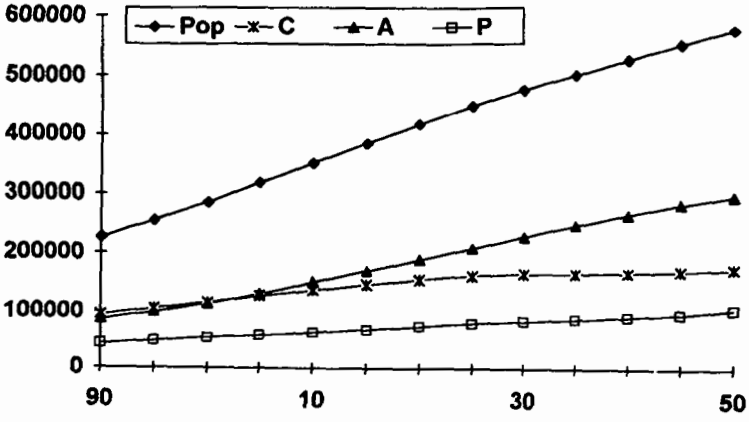
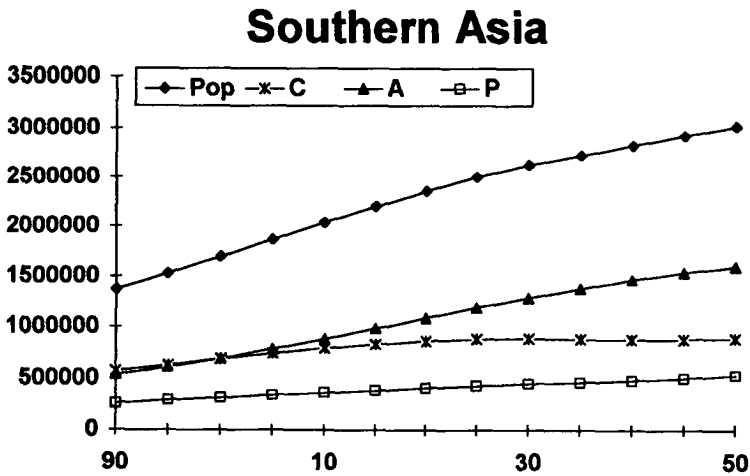


Central America & Carib.



West and Central Asia

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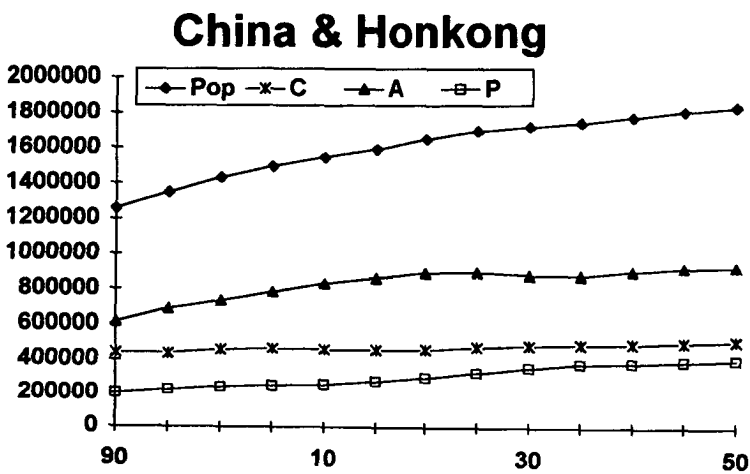
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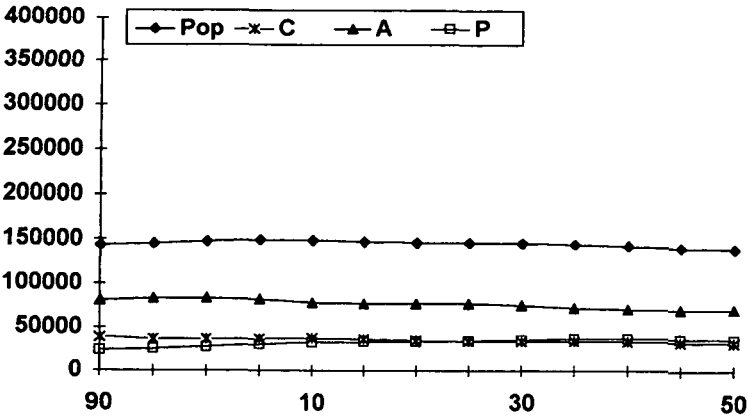
Japan,Australia and New Zealand



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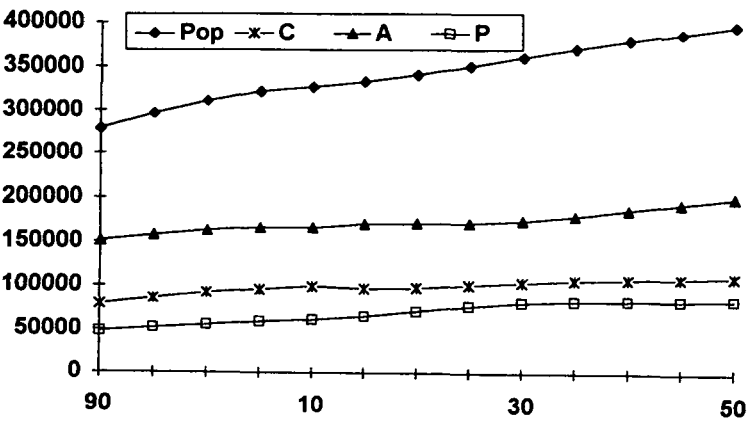

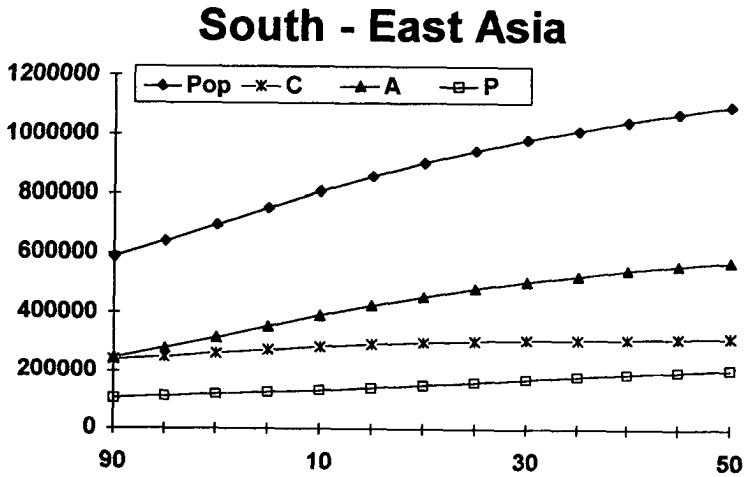
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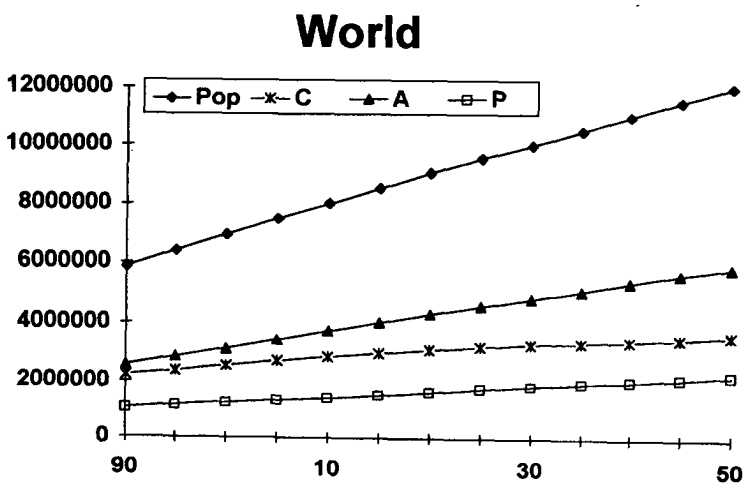
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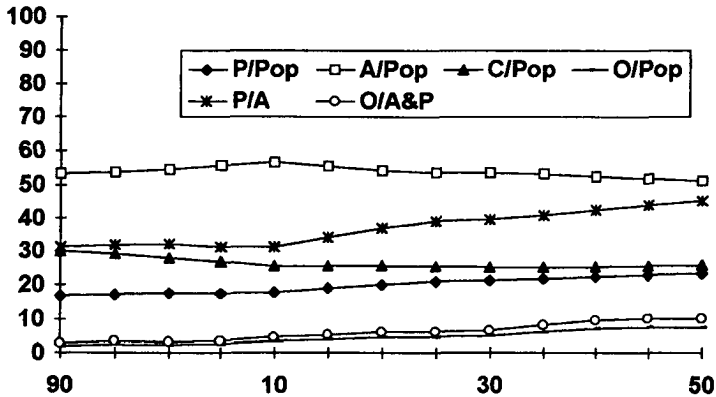
Eastern Europe



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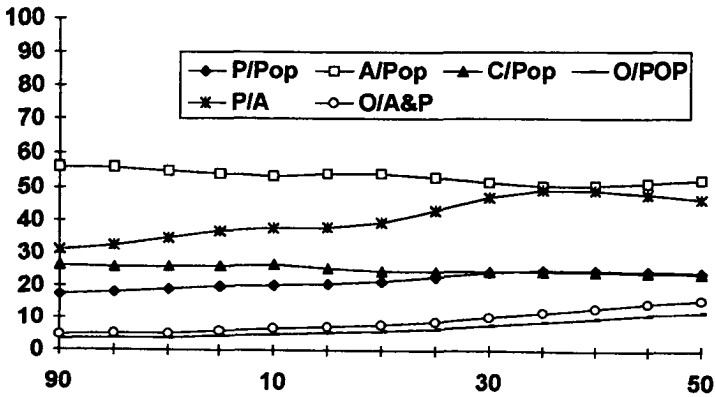

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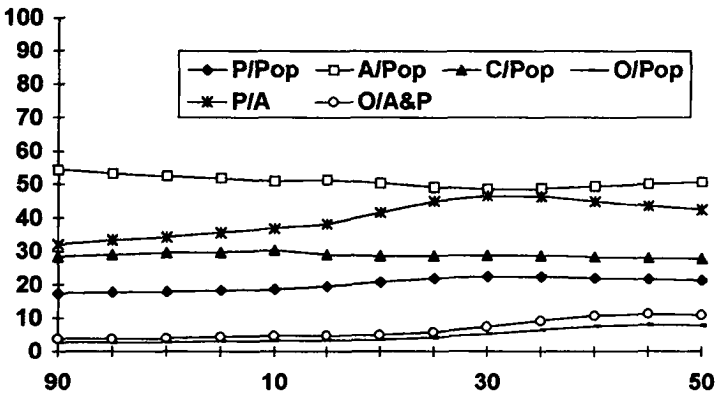

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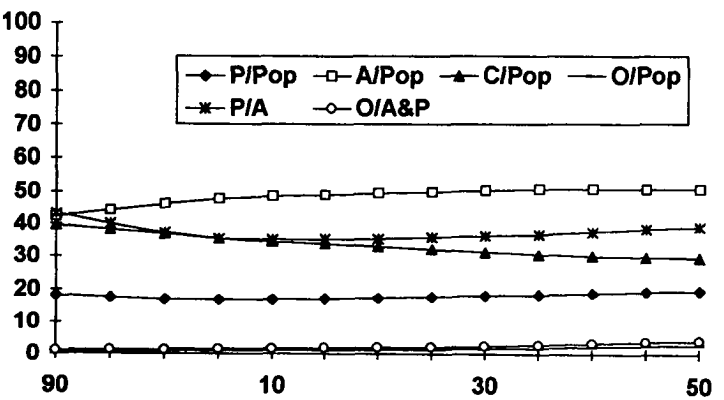

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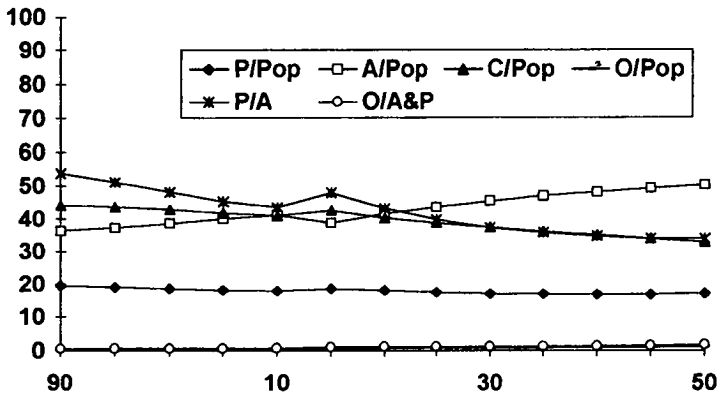
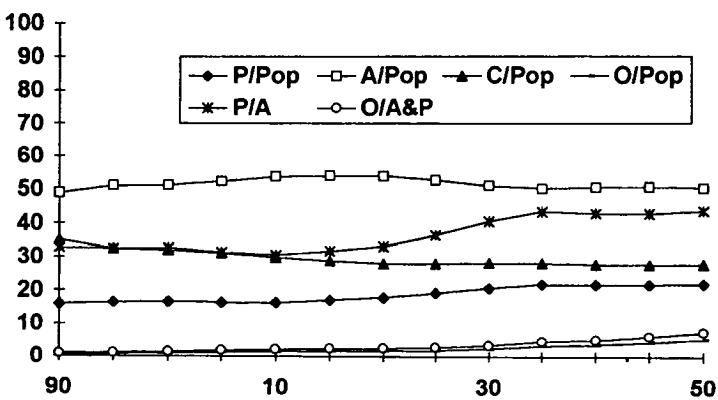


China and Hongkong



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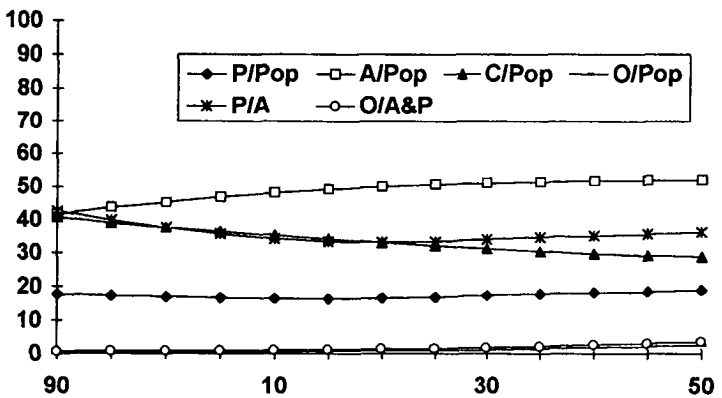
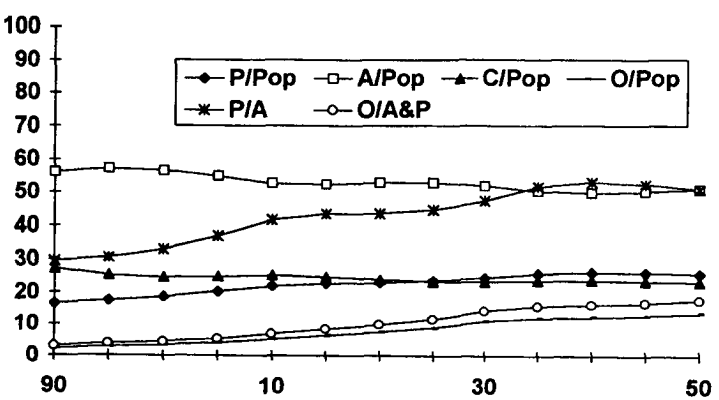
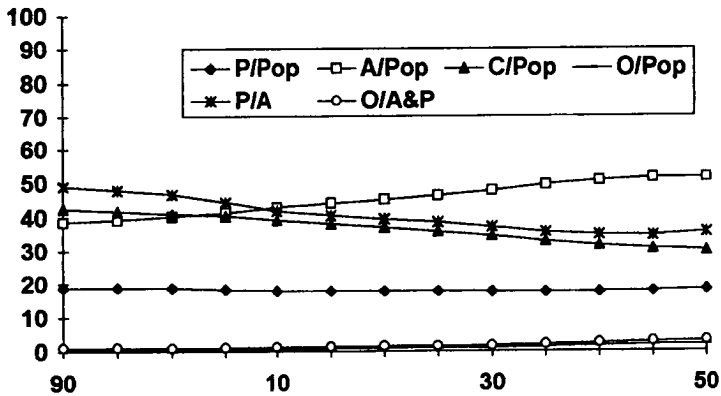


Japan Austr. & New Zealand



West and Centr. Asia



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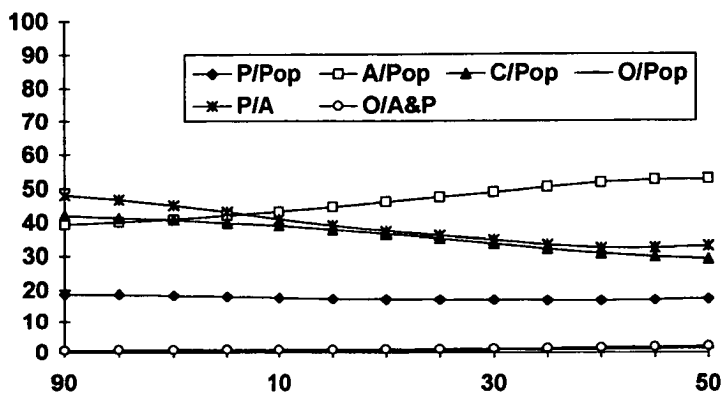

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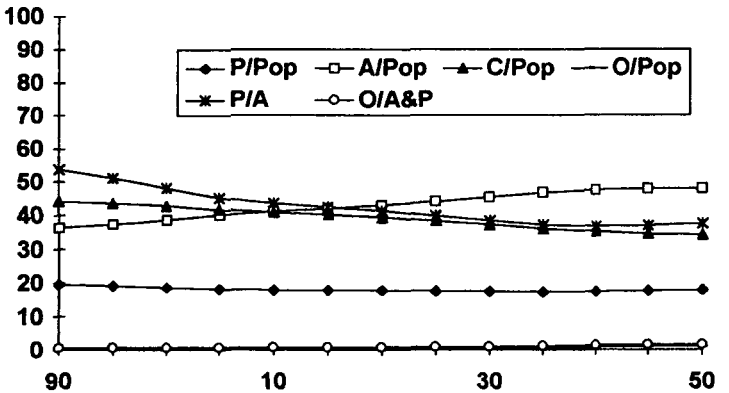

Sub - Sah. Africa