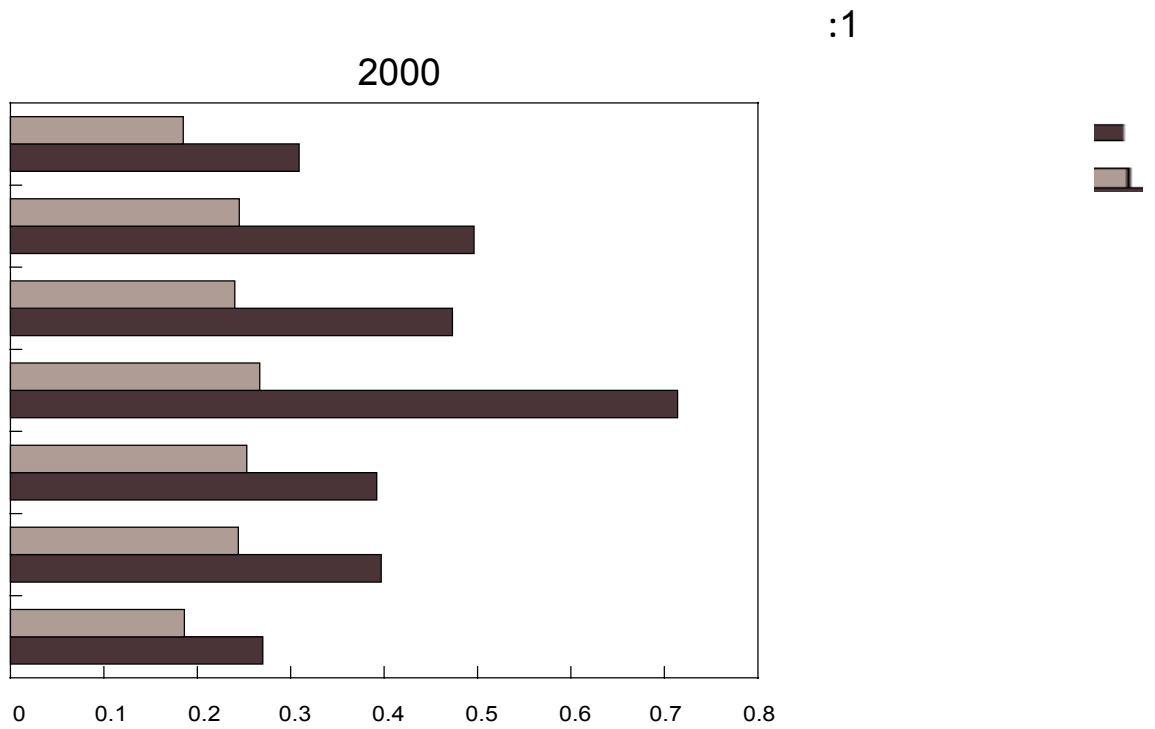


.(United Nations 2003)



65 : 64-15

65

65

62 60

.(Gruber and Wise 1999) 55

65

2000 .(Disney and Johnson 2001) <sup>1</sup>

1.47 1.10 - 65

.( 58 64)

65

.(2 )

64-15

- 2000 .

(0.55) - 64-15

.(0.76) (0.74) (0.61)

0.77 2000

2 0.57

- -

(1)

0.71 2000 /

0.27

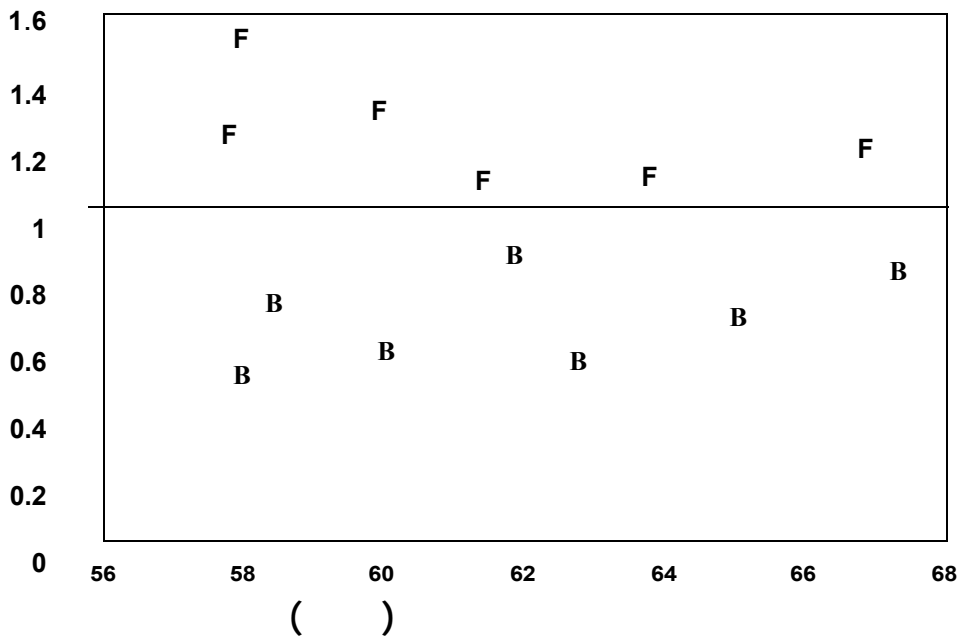
/

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= /

/ ×

:( 2 )  
2000



65  
64-15

.(Latulipe 1996)

(1.47) (0.71) / (0.27)  
 (0.76) (1.10) (0.27) (0.55) /  
 (0.19)

65

%80 70  
.(OECD 2001a) 65

( )

( / )  
 .(OECD 1001b; Dang et al. 2001)  
 3

.(

.4( )  
 .( )  
 2000 (1)  
 %8 (%29) %10  
 .(%35) (%24)  
 (1)  
 2000

/						
0.40	0.73	1.19	0.24	0.20	0.08	
0.27	0.76	1.10	0.19	0.31	0.08	
0.31	0.72	1.21	0.18	0.33	0.10	
0.39	0.74	1.16	<b>0.25</b>	0.36	0.14	
<b>0.48</b>	<b>0.68</b>	<b>1.33</b>	0.24	<b>0.51</b>	<b>0.24</b>	
<b>0.50</b>	<b>0.61</b>	<b>1.25</b>	<b>0.24</b>	<b>0.58</b>	<b>0.29</b>	
<b>0.71</b>	<b>0.55</b>	<b>1.47</b>	<b>0.27</b>	<b>0.49</b>	<b>0.35</b>	

-15 65 ) 65 ( 64-15 65 65 : 64 / :

(1) )<sup>5</sup>( ) (

/<sup>6</sup>.

.(Disney and Johnson 2001)

" "

.(Disney and Johnson 2001)

(OECD 2001a)

.( )

:

× =

(3)

/

(0.08)



benchmark

2050

2000

medium variant

.(United Nations 2003)

(4)

2010

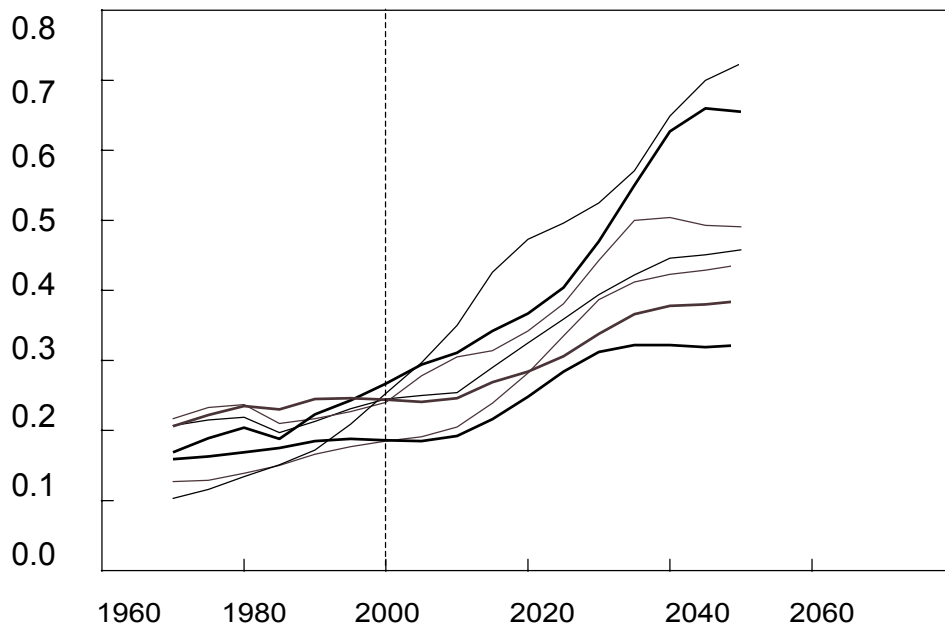
0.35

.(1.7) 1990

2000-1970

:(4)

2050-2000



65

:  
64-15

.(UN 2003)

2010  
 .2050  
 2000 0.7  
 0.24 0.32 0.19 :  
 .2000 (0.72) 0.43 0.18 2050 0.25  
 0.38

2050  
 2050

2000 1970 5  
 .( / ) (OECD)

: )

.( )

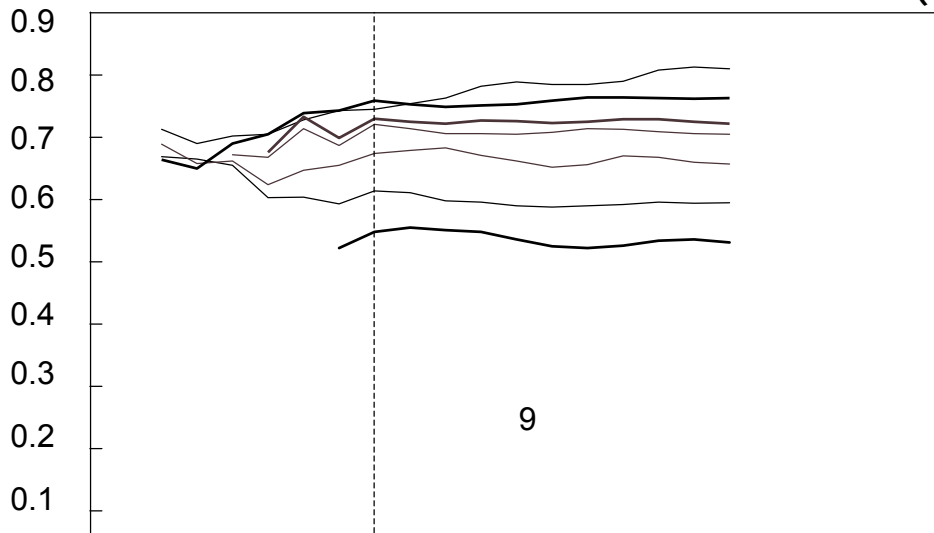
(

2050

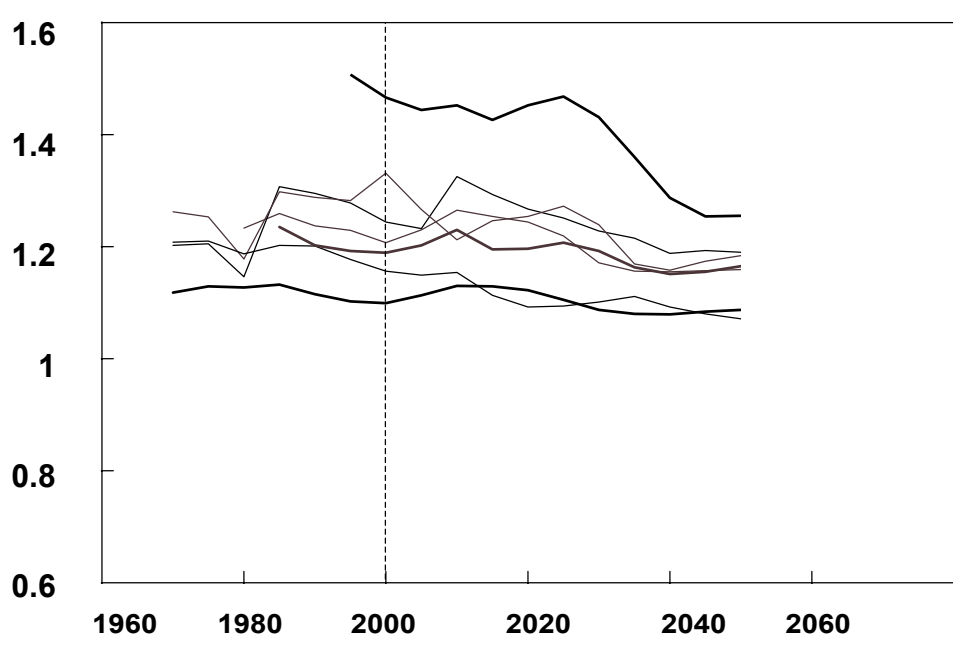
(5)

2000

2050-2000 2000-1970 :(5)



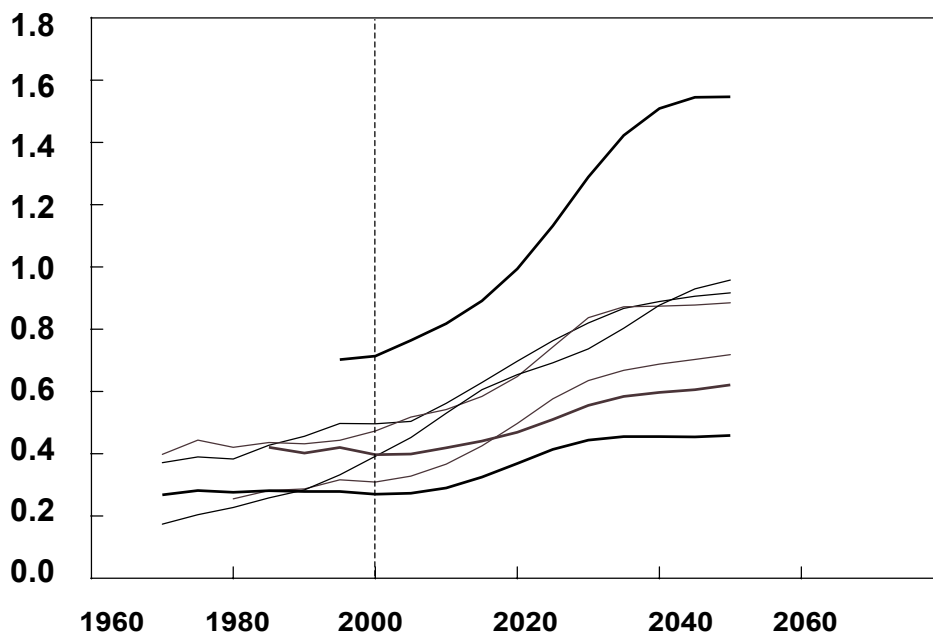
2050-2000 (OECD) 2000 :  
 2000 2000-1970 :(6) 2050-



2050-2000 (OECD) 2000 :

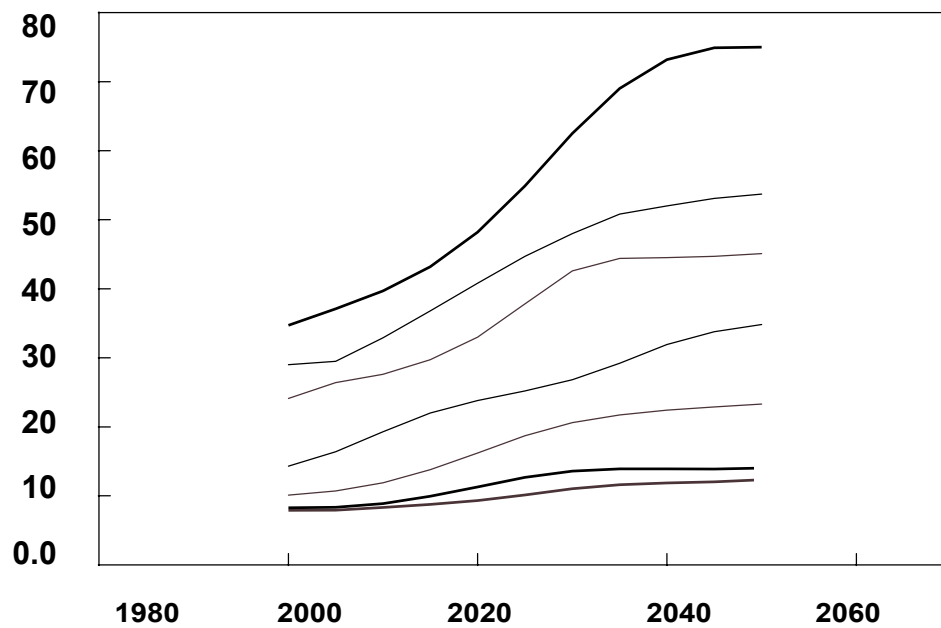
) .2000 1970 (6) ( ( )  
 : )  
 )  
 2050 2000 8(  
 1970

.2050  
 2050  
 .2000  
 .155  
 2050  
 (0.96)  
 .2000  
 0.46  
 0.27  
 2050-  
 2000  
 2000-1970  
 :(7)



6 5 4 :  
 (8)  
 2000  
 %75 35  
 8 ) .2050 2000  
 .(%12 8 ) ( %14

(8)  
 2005-2000



2000 7 :  
 (Dang et al. 2001): أنظر/ي الملحق. (OECD 2001b)

الخيارات المتعلقة

10

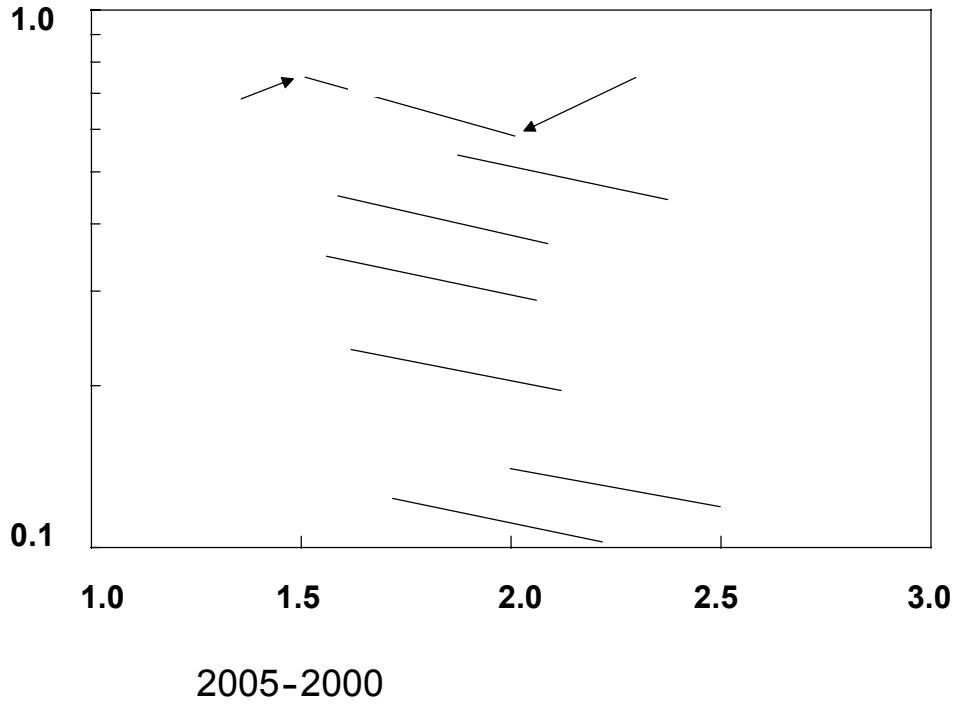
) 2050 2000  
 (1.6) (1.5) (1.6) (1.9) (1.6) :  
 ) (2.0) (1.7)  
 (9) .<sup>11</sup>(  
 2050  
 2050-2000 1.5  
 2.0 0.5  
 .%20 2050 0.59 .2050 0.75  
 ) (9) 2050 2000  
 .(

(2050-2000)

0.5

:(9)

:2050



.(United Nations 2001)

" "

1.000 2.5

(2.6) (1.2) (4.7) :

2050 2000

(0.4) (1.2)

2.5 10 (2.2)

12

2050 1.000

0.35 2050 1.000 2.9 0.4

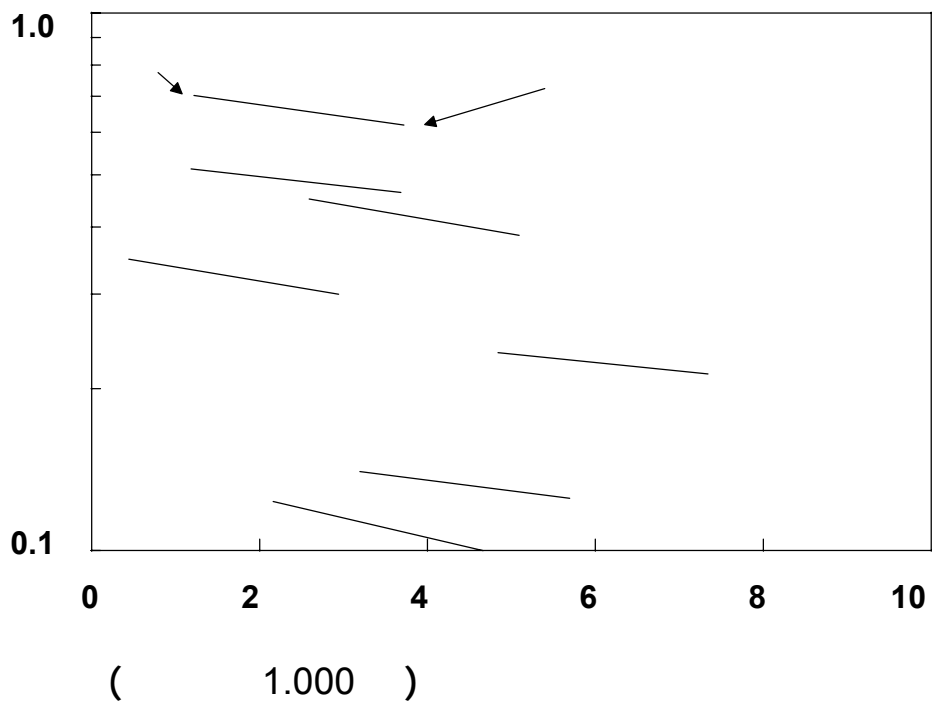
10 .0.29

1.000

.%5 2050

2050 2000

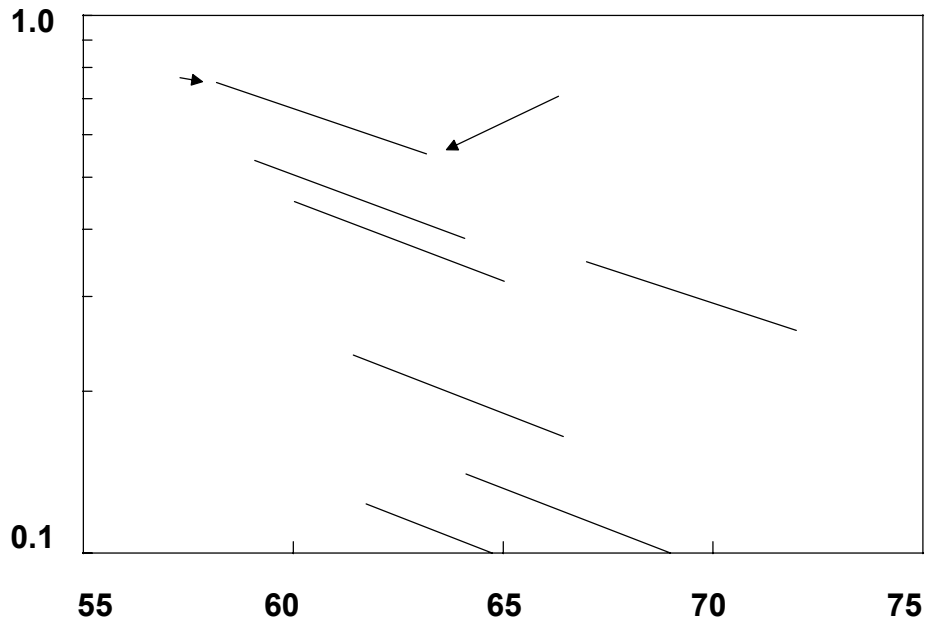
127 ) ( 45 58 ) ( 79 82 ) .( 110  
 2050  
 %22  
 .(%23 20 )  
 %21  
 1.000 2.5  
 )  
 .( %5 %4  
 1.000 2.5 : (10)  
 :2050 (2050-2000)



64 15 - -

55)  
 0.40 0.70) (%  
 .(

.0.70 0.55  
 .%21  
 . (11) .2050 2000  
 %6 .2050  
 .(OECD 2002a; Gruber and Wise 1999)  
 (2050-2000) :(11)  
 :2050



.2050

2000

.2050

%10

%55

(2)

2

) 2050 %10

:(2)

(

0.27	(2050-2000)



(Caldwell et al. 2002)

: )  
(  
(Caldwell et al. 2002)

1.000 2.9 0.4 )  
(  
- 2050 - - %18

McDonald and Kippen 2001; United )

(Nations 2001; OECD 1998

Disney and Johnson 2001; Feldstein )

(and Siebert 2002; Jackson 2002

## Appendix: Data sources

*Population.* Estimates (1970–2000) and projections (2000–2050, medium variant) of population by age (5-year age groups) and sex as well as total fertility rates and migration rates from United Nations (2003). These data are available online at <http://esa.un.org/unpp/>.

*Employment.* Estimates of employment and labor force participation rates by age and sex from 1970 to 2000 from OECD web site <http://www1.oecd.org/scripts/cde/>. Proportion of total employment that is self-employed from same source.

*Earnings.* Wages and salaries and GDP from OECD National Account Statistics (OECD 2002b). Self-employed income estimated by assuming that average earnings per self-employed worker equal the average earnings of employees.

*Pension expenditures and benefits.* Estimates of pension spending as a proportion of GDP in 2000 from OECD (2001b) and Dang et al. (2001). Total benefits in 2000 are assumed to equal total pension expenditures.

*Mean age at retirement.* Estimated from labor force participation rates by age and sex with method proposed by Latulippe (1996).

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