

EUROPEAN PENSION SYSTEMS – THE REAL CHALLENGE OF THE 21ST CENTURY¹

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ABSTRACT: It will be argued that the present focus of the pension reform debate - public, pay-as-you-go versus private, funded - is misplaced and somewhat outdated. Pay-as-you-go versus funding or pre-funding is a more-or-less technical issue. The public versus private choice should be seen as a cost-benefit, efficiency problem. These two dichotomies represent important, but secondary problems. (They cannot even be expected to help solving the certainly serious - although not that catastrophic as often painted - problems caused by the foreseeable demographic changes, the so-called ageing of the population.) The major distinctive attribute of existing European pension schemes is not the mode of financing or management. It is the Bismarckian heritage, the close link to employment, based on the typically 20th century-type, continuous working career. A presently emerging trend, however, is the transformation of the labour market. The so-called "atypical" forms of employment (part-time work, outsourcing, work at home, fixed-length contracts, etc.) are spreading and the traditional employer-employee link is weakening, if not - at least partially - disappearing. Activity ratios (poorly represented by the unemployment rate) are declining. This trend will probably be accentuated by the deepening of globalization and European integration, the growing importance of migration, including temporary migration (i.e. working in one country for a few years, then in another one, then maybe returning home for retirement). The questions thus arise: how, when, where will people, who are economically "inactive" or wandering around during a large fraction of their earning span, acquire pension eligibility, sufficient for income security in old age? Will the present forms of pension insurance (including social security as well as country-based private funds) be able to live up to this 21st century-type of challenge? If not, what are the adequate models for the future and what are the feasible ways of transition to them? How much and what type of European harmonization of pension systems is and will be required? (For example, how could a harmonized European system react to country-specific mortality rates and to the emerging problem of the "oldest old"?) The paper is intended to discuss these and several related issues.

1. A TRANSITION (?) STORY

The question mark will be explained in the third part of this section. Until then, the case of Hungary will serve to illustrate certain aspects of the transition process in Central-Eastern

Europe. Hungary is chosen simply because of data availability. Not insignificantly for our story, however, Hungary experienced the largest drop in employment and the highest increase in productivity among the CEE transition countries.

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1.1. Cross-section: 1998 versus 1986

The transition countries of Central-Eastern Europe experienced a dramatic decline of their economies in the early 1990s, mainly because of the collapse of the CMEA (Council of Mutual Economic Assistance) market and the resulting need for structural adjustment. Country cases differ by path-dependency and national policies.

By and large, however, similar trends can be observed everywhere, although the magnitudes vary from country to country. Basic demographic and economic facts are well known (e.g. Augusztinovics 1999a, Landesmann 2000). Here we shall focus on full-time, “traditional” or “typical” employment and the impact on pension claims of the changing employment conditions.

Table 1.

**CHANGING EMPLOYMENT: HUNGARY FROM 1986 TO 1998
BY GENDER AND EDUCATIONAL ATTAINMENT**

	THOUSAND PERSONS		STRUCTURE		1998
	986	1998	1986	1998	1986=100
M 5-7 years	252.9	18.1	10.6	1.1	7.1
M compl.primary	752.2	297.2	31.5	18.3	39.5
M vocational	698.8	646.4	29.2	40.0	92.4
M baccalauréat	436.6	377.4	18.3	23.3	86.4
M university	244.6	276.6	10.2	17.1	113.0
MALE total	2385.3	1615.8	100.0	100.0	67.7
F 5-7 years	169.7	11.1	8.8	.7	6.5
F compl.primary	759.3	346.7	39.8	23.7	45.6
F vocational	228.0	237.0	11.9	16.2	103.9
F baccalauréat	572.9	552.2	30.0	37.8	96.3
F university	177.4	311.2	9.3	21.3	175.3
FEMALE total	1907.6	1458.4	100.0	100.0	76.4
B 5-7 years	422.7	29.3	9.8	.9	6.9
B compl.primary	1511.6	643.9	35.2	20.9	42.6
B vocational	926.8	883.5	21.5	28.7	95.3
B baccalauréat	1009.6	929.6	23.5	30.2	92.0
B university	422.1	587.8	9.8	19.1	139.2
BOTH SEXES total	4293.0	3074.3	100.0	100.0	71.6
MALE			55.5	52.5	
FEMALE			44.4	47.4	
TOTAL			100.0	100.0	

Facts to be observed:

1. All in all, almost 30 percent of full-time jobs (1.2 million out of 4.3 million) were lost.

2. Most severely hit were those at the bottom of the educational attainment scale: there are practically no jobs in the legal, "white" economy for those who did not complete the normal 8 years of primary school (indicated by "5-7 years") but employment opportunities were more than halved also for those did (indicated by "compl.primary").

3. Amidst the general decline, employment opportunities for male and particularly female workers with higher education (indicated by "university") have increased. This is partly due to the generally improving educational attainment (more people had university degrees in 1998 than in 1986), but the dominant factor is the changing structure of labour demand.

4. The decline in female employment was on the average somewhat more moderate than for men. In the highest category ("university") the number of employed women exceeded the number of men in 1998, while the ratio was reverse in 1986. Moreover, even the number of female skilled workers (indicated by "vocational") has actually increased.

5. As an overall result, women's share in total employment increased by 3 percentage points (bottom three rows in Table 1).

It should be pointed out that the decline in employment had very little to do with demographic factors. The demographic situation in 1998 was in fact more favourable in 1998 than in 1986: in addition to the baby-boom generation, their "echo", i.e. the large cohorts born during the late 1970s, were already of working age. We estimated the impact of demographic change by applying 1986 age-specific employment rates to the 1998 population by years of age. The result was so negligible that it is not worth mentioning. Changes in the level and structure of employment, as presented in Table 1, are almost entirely due to the changing demand for labour.

There is, however, an econo-demographic aspect of these trends, notably the age-specific pattern of labour demand. We calculated employment rates by gender and years of age and then grouped ages according to whether the decrease of the rate was above or below the overall average. In this sense, the seemingly haphazard age-groups in Table 2. are homogeneous.

Table 2.

EMPLOYMENT RATES BY GENDER AND AGE-GROUPS

Age	1 9 8 6			1 9 9 8			1998-1986		
	MALE	FEM.	BOTH	MALE	FEM.	BOTH	MALE	FEM.	BOTH
19-20	56.8	62.6	59.6	16.5	15.4	16.0	-40.2	-47.1	-43.6
21-31	72.0	54.8	63.6	50.0	40.3	45.3	-21.9	-14.4	-18.3
32-49	92.1	83.0	87.5	64.0	66.0	65.0	-28.1	-17.0	-22.5
50-54	85.4	69.5	77.0	67.7	61.0	64.2	-17.7	-8.4	-12.8
55-60	66.6	9.7	35.9	41.5	8.7	23.5	-25.0	-.9	-12.4
19-60	80.9	63.0	71.8	55.1	48.5	51.8	-25.7	-14.4	-20.0

Facts to be observed:

1. The greatest losers are the very young. This is mainly due to the fact that those of the baby boom echo who were entering the labour market in the late 1990's with low educational attainment had little chance to find jobs - as discussed above. On the other hand, a larger part of this age-group was enrolled in higher education in 1998 than in 1986.

2. Men aged 21-31 seem to have fared best - at least in relative terms. They are in great demand at large multinational and domestic firms of the "new economy", particularly those with medium or high educational attainment.

3. Second in relative losing are those aged 32-49, particularly men. An outstanding phenomenon in this age-group is that the female employment rate in 1998 exceeded the respective rate of men - unheard of in any age group in 1986 and previously

4. Beyond age 50 trends are affected by the changing statutory retirement age which is

being gradually increased from 55 for women and 60 for men to 62 for both sexes. Many below the statutory age are already in various forms of early retirement, but for those who are not, finding a job is practically hopeless.

Are prospects for the future brighter? After all, real GDP in Hungary has been again increasing since 1994 and in 2000 it reached its 1989 level. Based on an econometric analysis of Hungarian exporting firms, however, Körösi (1998) finds a weak relationship between production and labour demand. His conclusion: "... increasing production will only create very few jobs, and very slowly Wage increases, on the other hand, may easily have larger negative influence on employment than increasing output ... As real wages seem to increase almost parallel with economic growth after 1996, the two effects may just neutralize each other, leaving net job creation at a very low level."

Deep changes in the level and structure of employment have been accompanied by no less significant variations in relative wages:

Table 3.

RELATIVE WAGES BY GENDER AND EDUCATIONAL ATTAINMENT

EDU. ATT.	1 9 8 6			1 9 9 8		
	MALE	FEM.	BOTH	MALE	FEM.	BOTH
5-7 years	98	72	87	64	50	58
compl.primary	105	75	90	71	58	64
vocational	108	78	101	82	63	77
baccalauréat	121	89	103	114	94	102
university	161	123	145	211	136	171
ALL	100	100	100	100	100	100
GENDER / TOTAL	114	84	100	110	89	100

Two striking facts may be observed:

1. Wages have become much more differentiated by educational attainment for both sexes. In 1986 a university degree earned

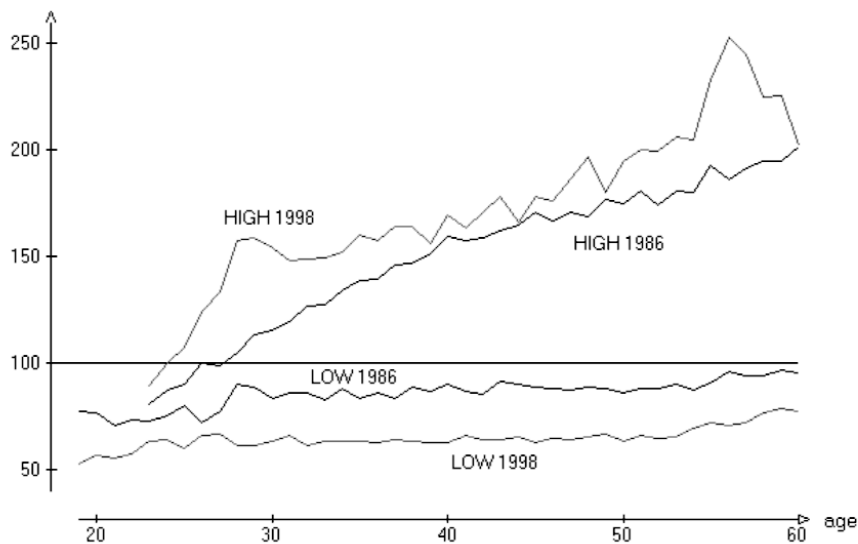
by 64-70 percent more than incomplete primary education. In 1998 average wage in the highest category amounted to 3.3- 2.7 times more than in the lowest category

2. On the other hand, wages have become more equalized between the two genders. Women's handicap decreased from 30 to roughly 20 percentage points around the overall average. The reason, however, is not that they are paid better. The reason is simply that their weight in the employed labour force increased (as demonstrated in Table 1) and

therefore the overall average descended gradually towards the average female wage level.

Changes in the relative wage structure also exhibit an important modification of the age-profile, particularly among employees with the highest educational attainment, as demonstrated by Figure 1.

Figure 1
RELATIVE WAGE AGE-PROFILES
HIGHEST AND LOWEST EDUCATION



In accordance with internationally observable trends, low educational attainment results in a more or less flat age-profile, with some increase after age 55 when most women are already retired, hence men dominate the scene and even among them only the fittest and most experienced remain employed, in ever decreasing numbers.

On the contrary highest education is expected to yield a rather continuous upward tendency as a function of age and, indeed, this can be observed in the 1986 cross-sectional age-profile. In 1998, however, relative wage

jumps to 150 percent of the average already before age 30, a level that was attained in 1986 only after 40. The profile then almost flattens out until around age 45 and reaches an unprecedented peak between 55 and 60. Here again, however, it should be remembered that women of this age are already practically out of employment and the employment rate of men is also low

The new cross-sectional age-profile of relative wages in 1998 obscures an important generational discrepancy. Those younger than 30 acquired their university degrees in the 1990's,

while their older colleagues had been educated before the transition period. The fact that their relative wage level at age 40-45 is practically identical with that of professionals who are 10-25 years younger, indicates a certain devaluation of previously accumulated human capital, at least in relative terms. A study by Kézdi and Köllö (2000), restricted to the private sector of the Hungarian economy finds this tendency even much more conspicuous - the public sector (health care, education, government administration) thus seems to exercise a cushioning effect in this respect. How much of the relative devaluation of older knowledge results merely from the transition to an entirely different social pattern and how much of it will continue to persist due to ever faster technological change is presently unclear. Anyway if nothing else but this issue brings us to the impact of cross-sectional changes on the life-cycle of different generations.

1.2. Longitudinal approach to pension outcomes

The combined impact of changed conditions with respect to employment and relative wages over the earning span affect deeply the prospects of old age in terms of acquired pension claims. Obviously, however, these changes affect people differently depending on their age. In general, it is becoming a widely accepted view that labour as well as pension issues should be explored longitudinally, considering the life-cycle of various consecutive generations or birth cohorts (E.g. Blomquist 1976, Falkingham and Johnson 1993, Nelissen 1995, Prinz 1996, Johnson and Rake 1997).

Therefore, despite the briefness (13 years) of the reference period for which annual, cross-sectional data are available, we constructed - or rather sketched illustratively -

a few birth cohorts' earning careers. Our oldest cohort is the one born in 1933. They were 53 years old in 1986, presumably entirely on the labour market (except for voluntary non-employment and disability). They were 65 in 1998, practically retired. In other words, they exited the labour market during our reference period. Our youngest cohort was born in 1973. They were just 13 in 1986, their vast majority still enrolled in primary education. But they were 25 in 1998, working for years or having graduated from universities a few years earlier. They entered the labour market during the reference period. To bridge the gap of forty years, we calculated the earning careers of birth cohorts 1943, 1953 and 1963, all within their earning span during the period between 1986 and 1998.

To evaluate the impact of life-time earnings on pensions, one obviously needs a pension scheme. Applying any of the actually existing pension schemes for our purposes, however, would be hopeless. Pension formulae are usually too complex, they require plenty of information about the individual, they are full of exceptions and exceptions to the exceptions. Besides, any particular country's system would make the results irrelevant in a more general, internationally comparative framework.

Therefore, we apply the simplest possible imitation of an actuarially fair pension insurance scheme, a robust point-system:

One year in full employment at average wage yields one pension point. Fragmented employment and lower or higher wage yield proportionally less or more fractions of a point. Points are cumulated over the earning span - assumed to last from age 19 to 62 - and the sum of acquired points will determine the pension benefit invariably, all over the

retirement span, always in terms (as percent of) the currently prevailing average wage.

This system is actuarially fair in the sense that there is an absolutely tight contribution-benefit link. Yet it is an insurance scheme, as life-long benefits are provided, the mortality risk is shared among individuals. On the other hand, the currently prevailing average wage as *numeraire*, in the accumulation period as well as in the retirement span, makes the system robust to cyclical and other economic oscillations. In this sense, it ensures equity among generations: workers and pensioners share the fruits of growth or the misfortune in bad times.

Calculating in points rather than in currency units implies great computational convenience. We do not have to make fancy assumptions about growth rates, inflation, real wage

increase, rates of return on capital, etc. At the same time, the customary, simplistic assumption about all these rates, i.e. assuming them to be constant over time, would translate our system into an actuarially fair scheme, either public or private, funded or unfunded.

For the selected birth cohorts we calculated the number of pension points acquired in each year of age and the sum cumulated until (including) that year of age. Then we looked at two, different averages: (a) *the employee average*, i.e. the average number of points of individuals who happened to be full-time employed over all the entire earning span, and (b) *the cohort average*, the number of collected points divided by the surviving population of the given cohort in the respective year of age. The relationship between these two indicators is absolutely simple:

$$\frac{\text{number of points}}{\text{number of employed}} \times \frac{\text{number of employed}}{\text{number of survivors}} = \frac{\text{number of points}}{\text{number of survivors}}$$

employee average
employment rate
cohort average

Clearly, the *employee average* depends solely on relative wages, as only fully employed people are considered. This is reflected in Table 4. which is, in this sense, a mirror image of Table 3. except that it reveals the

longitudinal impact on cohorts. The relative decline of wages in all educational categories, in favour of the highest, university degree, is becoming more and more explicit as we proceed from older to younger cohorts.

Table 4.

NUMBER OF PENSION POINTS AT AGE 62 EMPLOYEE AVERAGE

	COHORT 1933	COHORT 1943	COHORT 1953	COHORT 1963	COHORT 1973
M 5-7 years	40.4	36.9	34.3	30.4	27.1
M compl.primary	45.7	41.0	37.3	34.0	31.7
M vocational	48.8	45.7	42.6	39.9	38.0
M baccalauréat	56.1	54.0	52.1	50.5	50.5
M university	68.9	74.9	77.6	81.1	85.7

	COHORT 1933	COHORT 1943	COHORT 1953	COHORT 1963	COHORT 1973
F 5-7 years	30.4	27.8	25.8	24.0	22.2
F compl.primary	32.6	29.9	28.0	26.3	25.1
F vocational	39.3	32.9	31.1	29.0	27.9
F baccalauréat	44.4	44.0	43.1	42.4	43.0
F university	59.4	58.1	57.3	57.1	58.0
B 5-7 years	37.1	34.1	31.5	28.4	25.5
B compl.primary	39.3	35.6	32.8	30.3	28.5
B vocational	46.9	43.0	40.1	37.5	35.8
B baccalauréat	50.0	48.5	47.0	46.0	46.3
B university	66.1	69.9	70.2	71.2	73.4
ALL MALES	52.0	54.0	52.8	51.8	51.1
ALL FEMALES	40.7	40.2	40.1	39.8	40.1
TOTAL	46.9	48.7	47.9	47.2	46.9

One, seemingly intriguing question remains to be asked about Table 4. Relative wages in each calendar year are expressed in terms of the overall average of the year in question. Therefore, one would expect an earning span of 44 years (from age 19 to 62, both inclusive) to yield exactly 44 pension points on the overall average. To the contrary in the last row of Table 1, we see 47-49 points. How is this possible?

The answer is in the age-profile of relative wages, which is increasing sharply in case of the highest educational attainment (as demonstrated by Figure 1.), but to some extent also in lower (except the lowest) educational categories. In other words, most people normally proceed over their earning career from lower to higher relative wages and the sooner they cut through their own life-time average, the higher is their chance to collect more pension points. Ábrahám and Kézdi (2000) have also found that "... age-earnings profiles are ... a lot steeper in a longitudinal setup than they seem in cross-section." Since age-specific wage differentials were decreasing in the 1986-98 reference period, the effect has been somewhat weakening for consecutive cohorts, as reflected in the decrease of the overall average

(last row) from 48.7 points of cohort 1943 to 46.9 points for cohort 1973.

The difference may not seem striking in terms of points but the longitudinal total is by some 10 percent higher than the cross-sectionally indicated 44 points, although only 13 calendar years of dynamic changes can be accounted for. Our cohorts' earning career is unfortunately due to lack of data, stationary before 1986 and after 1998. This should be considered as a strong argument for the longitudinal approach and against the customary stationary assumptions. (Obviously in case of a fully stationary population and economy the longitudinal yield of a 44-year long earning span would be exactly 44 points.) This is also a strong argument against drawing far-reaching, longitudinal conclusions with respect to pension issues from cross-sectional data of a brief period.

Cohort average is the product of employee average and the employment rate, it reflects the effect of both. No matter how many points fully employed members of the cohort collect over the earning span, the question is how

many are fully or partially employed. Unfortunately cohort average cannot be calculated by educational attainment, because

the latter is registered by years of age only for full-time employees, not for the entire population.

Table 5.

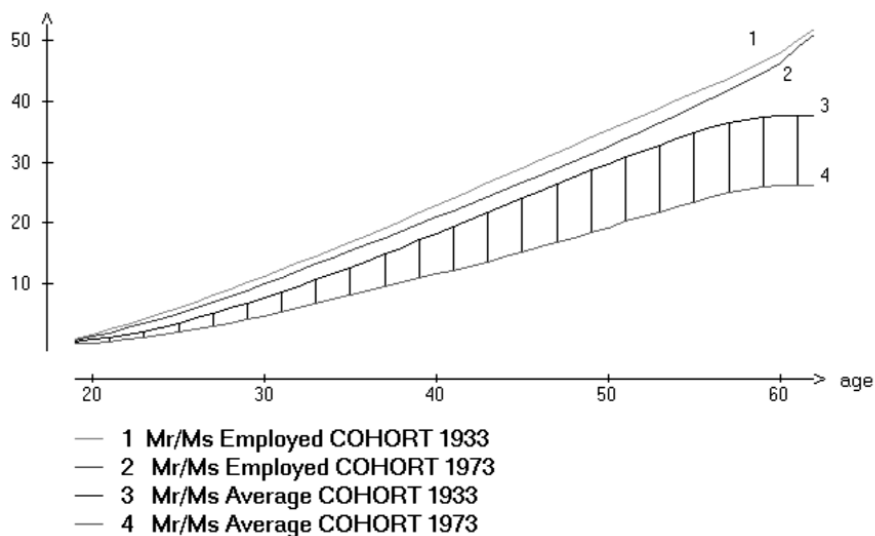
**NUMBER OF PENSION POINTS AT AGE 62
COHORT AVERAGE**

	MALE	FEMALE	BOTH
Cohort 1933	37.7	22.1	29.7
Cohort 1943	35.7	22.0	28.7
Cohort 1953	31.7	21.2	26.3
Cohort 1963	27.8	18.7	23.1
Cohort 1973	26.2	18.3	22.1

The difference from the 47-49 points of employee average is striking and, unlike the latter, the cohort average of pension points (claims) cumulated until age 62 has been dramatically sinking for consecutive cohorts, particularly for men. *This is the core of our longish story.* The reasons must be clear from what has been presented concerning the sharp decline of employment rates during the 1986-98 reference period.

If so wished, employee and cohort averages may be thought of as representing two, hypothetical individuals. The former stands for Mr/Ms Employed who is fortunate enough to have full-time jobs over the entire earning span, the latter represents Mr/Ms Average who is sometimes employed, sometimes not, sometimes full-time, sometimes part-time - exactly according to the average employment rate, characteristic of his/her cohort in each year of age.

**Figure 2
CUMULATION OF PENSION POINTS OVER THE EARNING SPAN
THE EFFECT OF EMPLOYMENT**



The accumulation of pension points over the earning span by two such persons, in case of cohort 1933 and cohort 1973, is shown in Figure 2. It can be observed that there is no significant difference between the two Employed persons who belong to our oldest and youngest cohort. Naturally on their part, they represent the average of genders and educational categories at their own cohort's level - a more detailed picture

would be much more differentiated. Mr/Ms Average of cohort 1973, however, is increasingly lagging behind Mr/Ms Average of cohort 1933 over the life-cycle. The lined area between their respective accumulation paths indicates the effect of the decreased employment rates.

In an actuarially fair pension scheme the following identity should be satisfied for each cohort:

$$c \times ACP = r \times EXP$$

where **c** contribution rate
ACP number of accumulated pension points at retirement
r replacement rate (pension over average wage)
EXP life-expectancy at retirement

In the point system ACP represents life-time labour income in terms of the average wage, hence life-time contribution is represented by $c \times ACP$. Pension benefits will be r times the currently prevailing average wage (taken as unity) and it will be granted for EXP years.

For a numerical example, assume $c = 25$ percent (usually considered very high) and $EXP = 16$ years (average of male and female, because in mandatory pension schemes - even if funded and privately managed - discrimination between genders according to life-expectancy is usually not tolerated). This results in the following replacement rates:

Table 6.

**REPLACEMENT RATES
 (AVERAGE PENSION OF THE GROUP AS PERCENT OF AVERAGE WAGE)**

	COHORT 1933	COHORT 1943	COHORT 1953	COHORT 1963	COHORT 1973
<u>FULLY EMPLOYED FOR 44 YEARS</u>					
M 5-7 years	63.2	57.7	53.7	47.5	42.3
M compl.primary	71.5	64.2	58.3	53.2	49.5
M vocational	76.3	71.5	66.6	62.3	59.4
M baccalauréat	87.7	84.5	81.4	78.9	79.0
M university	107.7	117.0	121.3	126.8	133.9
F 5-7 years	47.6	43.5	40.4	37.5	34.8
F compl.primary	51.0	46.8	43.8	41.1	39.3
F vocational	61.5	51.4	48.5	45.3	43.7
F baccalauréat	69.5	68.8	67.4	66.3	67.2
F university	92.9	90.9	89.6	89.2	90.7

	COHORT 1933	COHORT 1943	COHORT 1953	COHORT 1963	COHORT 1973
B 5-7 years	58.0	53.3	49.3	44.5	39.8
B compl.primary	61.4	55.7	51.3	47.4	44.6
B vocational	73.4	67.2	62.7	58.6	56.0
B baccalauréat	78.2	75.8	73.4	71.9	72.4
B university	103.4	109.2	109.7	111.3	114.7
All males	81.3	84.5	82.6	80.9	79.8
All females	63.6	62.9	62.7	62.3	62.7
Total Fully Employed	73.3	76.1	74.8	73.7	73.3
<u>COHORT AVERAGE</u>					
MALES	58.9	55.8	49.5	43.4	41.0
FEMALES	34.5	34.5	33.1	29.3	28.7
TOTAL	46.4	44.9	41.1	36.1	34.6

Conversely if a moderate but sensible 60 percent (overall average) replacement rate is desired, the necessary contribution rate would have been 32 percent for cohort 1933 but already a rather impossible 43 percent for cohort 1973.

It should be noted that these rates have not been calculated on a cross-sectional basis. Replacement (contribution) rates do not decline (increase) here because “there will be too few young people to support too many elderly”, as the usual argument goes. The issue of the cross-sectional financial balance of the pension scheme has not even been raised. Rates in this simple but actuarially fair scheme are changing simply because employment has drastically decreased and relative wages have become partly more differentiated (by education), partly more equalized (by gender) in the accumulation period (the earning span).

It can be argued, of course, that there is no such person as Mr/Ms Average. Some people are more-or-less continuously employed, others are out of jobs most of the time. However, this just sharpens the problem: what will happen in

old age to those who are not employed at all, or at a very low, randomly oscillating level?

It would be a fallacy to believe that in more complex, realistic pension schemes the story would be entirely different. As already mentioned, the number of accumulated pension points at retirement is a fair estimation of life-time labour income. Most pension formulae in public schemes start from the number of years served and wage earned, even if the count of years and/or the valorization of earnings by inflation may not be always quite linear. In funded schemes the stock of money on individual accounts at the time of retirement may have been distorted by rates of return which changed haphazardly changing over the earning span. In public schemes there may be a stronger or weaker tendency for redistribution in favour of the poor: they might provide less than proportionate (to life-time contribution) benefit to Mr/Ms Employed, particularly to high earners, and more than proportionate to Mr/Ms Below-the-Average. All these niceties, however, cannot change the basic fact: *pension claims – all forms of them – decline in earnings-*

related pension schemes if employment declines.

1.3 About the question mark

Is the above story indeed nothing but a transition story?

The absolute decrease of production and the drop of full-time, formal employment hit the transition countries of Central-Eastern and Eastern Europe with a force and speed, comparable only to the Great Depression of the early 1930s. The reference period of our Hungarian story 1986 to 1998, has been selected with respect to the availability of data by years of age, with the intention to make the actual, “dynamic” period as long as possible for the construction of longitudinal cohort profiles. Actually much of what happened, happened in a considerably briefer period, practically between 1990 and 1995. The absolute decline and the speed are transition phenomena.

Similar qualitative trends, however, seem to be observable all over the Western world. For the employment environment to change

there does not have to be a severe contraction of output, nor even a dramatic slowdown in the growth rate. *Relatively* declining employment, the accompanying changes in labour market arrangements, in the structure of labour demand and relative wages by gender, educational attainment and age, seem to be quite general trends, even if working at a slower pace than in the transition countries. These trends are certainly well known to the reader. A few scattered citations will suffice here to demonstrate that the “transition story” is in fact the story of adjustment to prevailing Western trends.

In our reference period, from 1986 to 1998, real GDP in Western Europe increased by 34 percent and total employment by 9 percent. (Source: Economic Survey of Europe, 2000. No. 2/3, pages 149 and 157.) There cannot be any reference to “evil demography” in this period - baby-boomers have been well within their earning span and their children have just entered the labour market. Total employment, however, does not tell the whole story

Table 7.

**PROPORTION OF PART-TIME TO TOTAL EMPLOYMENT
SELECTED EUROPEAN COUNTRIES**

	1990	1996
Austria	8.9	15.0
Belgium	10.9	14.0
France	11.9	16.0
Germany	15.0	16.8
Italy	4.9	6.6
Netherlands	31.6	36.5
Spain	4.9	8.0
United Kingdom	21.3	24.0

Source: The Four Pillars, 23 August 1998. Geneva Association.

“Until last year, virtually all the net creation of jobs in the 1990s has been part-time positions. . . . In fact the full-time equivalent (FTE) employment rate in Europe lies now around the same level as it was in 1985 . . . it may be that a new wave of growth might not reduce unemployment to any significant degree: Europe might enter a phase of jobless growth.” (Ducatel and Burgelman 1999, p.12)

“In the EU, 9.3 percent of total employment is under temporary contract. . . . In the period 1983-91, the average proportion of workers on a temporary contract increased by 5.4 percentage points. This means that the growth rate of temporary employment has been substantially higher than that of part-time employment.” (De Grip et alia, 1997.)

According to Korenman and Neumark (1998), fewer young people will not solve the problem of youth employment. “. . . countries currently experiencing a crisis in youth employment - which includes a number of European nations - should not expect demographics to come to the rescue.” . . . They note that between 1970 and 1994, unemployment rates for the 15-24 year-old age group in 11 European countries rose, on the average, 16 percentage points, from 4.2 percent to 20.6 percent. “. . . the evidence does not provide cause for optimism that demographic developments - in particular, projected declines in the size of the youth labor pool - will improve youth labor markets.” They continue by pointing out that many countries experienced baby busts in the 1960s, but while this meant fewer and fewer youths competing for jobs, youth labor markets continued to deteriorate.

In Germany “. . . a general overtime reduction is unlikely to create a considerable

number of new jobs for the group that suffers most from the unemployment problem on the German labour market: the unskilled workers.” (Bauer and Zimmermann 1999.) “Women working in . . . their husband’s or partner’s firm, or having a share in the business are better off than female employees in regular employment. However, one particular problem related to women without remuneration, is the lack of social security coverage.” (Wunderlich, 2000.) “. . . evidence can be found that men are faced with more job insecurity. Their jobs are more likely to end because of layoffs over the last years. A similar albeit insignificant development can be observed for women. . . . The obvious explanation is the increased globalization and technological innovation process.” (Bergemann 1999.)

In Norway over the period 1972-95 the participation rate of men aged 16-74 years have decreased from 78.1 % to 75.2 %. The female participation rate however, has increased from 44.7 % in 1972 to 64.9 % in 1995. (Cf. Dahl et alia 1999.)

On relative wages in the U.S.A.: “Previous studies have found positive correlations between technological change and the ratio of the earnings of more educated relative to less educated workers.” (Bartel and Sicherman 1999.) “U.S. educational wage differentials have expanded over the past forty years despite continued and large increases in the relative numbers of more educated workers.” (Goldin and Katz 1997.) “The 1980s and early 1990s have seen tremendous progress in the equalization of wages of males and females.” Yet, “. . . the average 1990s two-earner family . . . can be said to be worse off than it would have been in the early 1980s. . . . the wage of the average primary wage earner (the

husband) has fallen by more than the wage of the (typically) secondary wage earner (the wife) has risen.” (Hotchkiss et alia 1997.)

All in all, labour saving technologies and job saving labour market arrangements undermine the capability of economic growth to absorb labour and to provide remuneration for a large portion of the population. This is not a transition story. Transition countries might prove just the testing ground for harmful social consequences.

2. THE MORAL OF THE STORY

Pension reforms are in the foreground of public and political debate in most European countries. The debate, however, seems to be largely misplaced on two accounts.

Firstly demography - the ageing of the population - is generally seen as the primary culprit for present and/or projected financial imbalance of the existing public pension schemes, and given as the primary reason for unavoidable pension reforms. But is the demographic outlook indeed that frightening?

True, the population of the European Union is ageing: the ratio of people aged 65+ over the whole population is expected to rise from 15.4 percent in 1995 to 20.7 percent in 2020. The pace of the process, however, is not necessarily and not everywhere accelerating. Moreover, the overall “burden” on the working-age population does not consist merely of the elderly children and young people must also be taken into account and their relative share is going to decrease. The increase in the percentage of the elderly “. . . should not, on the average, be any faster than it has been over the last 35 years . . .” and the total - as distinguished from the old-age - “. . . demographic dependency ratio will be no

higher when the baby-boom generation enters retirement than when they were at school.” (Concialdi 2000.)

Secondly the debate is increasingly focused on important but secondary issues: the mode of finance (pay-as-you-go versus funded), and the form of management (public versus private). These two issues are generally seen as yes-or-no dichotomies while in reality there are several intermediate forms in both respects. Moreover, the two aspects are usually believed to be tied together: pay-as-you-go is public, funded is private. This is not the place to cite a large number of counter-examples from Malaysia’s public funded system to private, pay-as-you go occupational schemes in the U.S.A. Moreover, the resulting single dichotomy is further obscured by adding the defined contribution versus defined benefit attributes which are practically meaningless: neither contributions nor benefits are exactly “defined” in any scheme, they depend on several legal, institutional and individual factors, and, most importantly, benefit is related to contribution in most existing pension schemes, whether public or private, pay-as-you-go or funded.

Neo-liberal economics has always favoured the privatization of pension insurance and since the milestone publication “Averting the Old Age Crisis” (World Bank 1994) the campaign for funded, private schemes has acquired new dimensions. A number of European countries have taken more or less bold steps in this direction, from Sweden to Hungary and Poland while several other governments seem to be contemplating the idea. Arguments and counter-arguments are abundant in the pension literature, issues from old-age income security to the impact on

aggregate saving are amply discussed. (E.g. Beattie and McGillivray 1995, or one of the most recent and most interesting voices, Orszag and Stiglitz 1999. Müller 1999 provides an excellent discussion of the political economy of Central-Eastern European reforms.) It would be hopeless and unnecessary to try to summarize the controversy here.

Just one point is worth mentioning, as it relates to the first misplaced component of the pension debate, i.e. demography. Private, funded schemes are presented by their proponents as a panacea for all damages supposedly caused by population ageing - while it is indeed difficult to perceive, how exactly the re-channelling of contributions from the public to the private pillar could affect the ratio of elderly to the working age generation? Depletion of privately owned pension funds around 2020, when baby-boomers retire, would have exactly the same macroeconomic consequence (reduced aggregate saving) as deficits in public schemes. There is no cure against that but it will not be the end of the world.

What are the major issues for the future of pensions in Europe, if neither demography nor funding and privatization?

A team of economists from Britain, Hungary, Italy, Poland and Sweden analyzed and compared their countries' pension systems in 1996, with the help of a Phare-ACE grant. They concluded that "The main reason for discontent with pension systems . . . is the structural problem of pension system design: the loose relationship between contributions and benefits, mainly resulting from the dichotomy of social assistance versus social insurance. . . . Clearly, the ends and means of

these two basic concepts are conflicting, nevertheless, public pension systems are typically called upon to perform both roles. This results in a lack of transparency . . . in adverse labour market incentives, particularly by encouraging early retirement, sometimes voluntary but often as an escape route from unemployment. It creates disincentives to contribute and in turbulent economies this can lead to massive contribution-evasion." (Augusztinovics 1999b.)

A similar argument is expanded by Schmähl (2000), who concentrates on taxes and contributions, as adequate sources of finance for the two conflicting objectives, social protection and social insurance. He comes closer than the five-country team to the employment problem, when he points out that ". . . labour as a factor of production should not be burdened further with financing tasks that are not linked to employment. Otherwise there will be negative employment effects. However, . . . positive labour market effects from changing the structure of social insurance finance should not be overestimated." He also stresses that a pension scheme should not be burdened with too many different aims but, admitting that transparency will not always be a major goal in the political process, compromises by seeking options to ensure adequate financing of pension claims that are not really compatible with pension insurance.

Schmähl comes closest to the conclusion of this paper, when he proposes that the state budget should pay contributions for whatever goals that are deemed politically desirable to be promoted by pension entitlement without individual contribution, e.g. years spent by raising children, or in unemployment, or in higher education. Attention! The proposal

does not call for the budget to finance the resulting deficit in the pension scheme when the respective persons are already retired and cash in on their entitlement, the proposal is for the budget to pay *contribution when and where* the prospective beneficiary does not - is not in the position to – contribute.

These and similar discourses, however, still take it for granted that the insurance function of pension systems (contribution-based replacement of previous income) is the primary one, it is for the “regular” majority of the working population, while social assistance (solidarity or poverty relief by other names) is meant for more or less marginal, even if relatively numerous, groups in their old age. In the twentieth century, until the very end of it, nobody contemplated seriously the possibility that non-employment (whether officially termed unemployment or not) might once become the “regular” way of life for the majority. Today however, prophecies about a 50:50 society, meaning that fifty percent will work and the other half will have to be fed and entertained, might be considered almost optimistic, as already a doomsday scenario of a 20:80 society has been put forward (Martin und Schuchmann 1977).

If present trends continue to prevail, as they probably will, the *contribution-wage link* might become even more crucial for pension systems than the contribution-benefit link. The real contribution base is already shrinking, either in absolute or in relative terms, because the “normal”, full-time employment is losing ground, employment rates are declining, “atypical” forms of work are spreading, as discussed in the previous section. The traditional employer-employee link is weakening, if not disappearing. The very

foundations of the typical, “Bismarckian” pension systems of continental Europe seem to be eroding - and not because of evil demography but because of developments on the labour market in an increasingly globalized economy.

How could income security in old age be granted for the majority of the population in such circumstances? It is difficult to avoid the conclusion that *the link between labour income and pension will have to be broken*, income in old age will have to be independent from previous wages and salaries.

One obvious, often promoted solution is a non-contributory flat-rate – or rather, more precisely, lump sum - basic pension on citizens’ (residents’) right, financed from general taxation. Although the catchname is Beveridge, in fact the concept is older. (Schmähl 1993 describes the century-long history of the respective debate in Germany.) The solution, however, is not too attractive, several arguments can be raised against it.

Firstly in countries where such pension schemes exist, benefits are usually at a very low level, hardly sufficient for sustenance for people without any other source of income. (One example is UK.) No wonder, as in lack of contribution-based legitimate claims, the basic pension is at the mercy of the current financial situation in the government budget, which seems to be always bad enough to provoke “savings” on the basic pension. If the much-condemned “political risk” is a veritable weakness of public schemes in general, the basic pension is exposed to it most.

Secondly, flat-rate schemes are usually considered expensive, since they benefit also people who do not really need the benefit. On the other hand, means testing is much more

expensive because of the administrative costs. In any case, dignity and self-respect is denied from the elderly as in this case it is really true that they are “supported” by the younger generations through naked intergenerational redistribution.

A less conventional, but more attractive solution might be an *all-inclusive mandatory pension insurance on citizens' (residents) obligation*, not restricted to employees. Such a scheme could have all the advantages of the insurance principle: self-respectable eligibility based on own contribution, intragenerational risk sharing, actuarial fairness, cross-country transportability and all the rest. At the same time, it could provide full coverage for the entire population and avoid negative labour market effects.

Naturally life-long benefits from such a scheme should be sufficient for a modest, probably well-below-the-average, but humanly acceptable living in old age - otherwise there would be no point in it. Maybe benefits would increase with age, even if not on a continuous scale but beyond, say 80 years, considering the increasing costs of health and other types of care for the “oldest old”. It follows that, unlike a meager basic pension, this would not be a “cheap” solution, it would require contributions compatible with increasing life expectancy. Income security in old age is neither a bargain nor a free lunch. It should be paid for in middle age and in a fair way.

The fundamental question is obviously this: how could people without satisfactory own income - labour or otherwise - be expected to pay the mandatory contribution? Well, the answer is simple: how are they expected to sustain themselves? Somebody, somewhere, somehow provides them with

means of sustenance. In the best cases, it might be the well-to-do or high-earner spouse, parents, etc. In worse, and certainly more numerous cases, it is the state or local government, the unemployment or disability benefit, family allowances, any other forms of social assistance. European societies, as a rule, do not let people die or seriously starve for lack of income. Just one, crucial further step would be required: to accept that sustenance in young and middle age *includes provision for old age*, as it includes explicit or implicit health insurance. If assistance is needed, it should cover pension insurance contribution, *when and where* the income necessary for such contribution is lacking. “Solidarity” should not be postponed, at the expense of future generations, until the prospective beneficiary becomes old; neither should it be exercised through redistribution solely among pensioners.

Would contributions and benefits be lump sum or proportionate to income, whatever the source of income is, with a lower threshold and a reasonable upper ceiling? Calculated in currency units or in terms of a pre-determined *numeraire*, e.g. per capita GDP? In the former case, what about indexation? Would the scheme be funded or PAYG? Public or private? (Probably public, because of the all-inclusive risk-pool, but a constitutionally mandated, independent institution rather than part of the government budget.) Will employers still have some responsibility? (Hopefully not.) National or all-European? In the former case, what about transportability, in the latter case, what about long-lasting income differentials among countries?

These and a vast array of similar questions will not be answered here. This paper is not a

blueprint for pension reform, it is just a bold attempt to reveal the problem and to try to think up at least one, presumably reasonable solution. The field is open and ripe for other, maybe more realistic, or more plausible ideas. Undoubtedly pension system designers in this

century will have to face the challenge induced by conditions of employment and work, entirely different from anything that was previously known and, undoubtedly, they will have to come up with solutions unheard of and unthinkable in the twentieth century

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ANNEX: DATA AND METHODS

Demographic data, i.e. population by gender and years of age, are available for the entire twentieth century from the annual Demographic Yearbooks, published regularly by CSO (Central Statistical Office of Hungary). The Demographic Research Institute of CSO has also published population forecasts until 2050 in various scenarios, of which we selected the so-called medium version.

CSO conducts regular labour market surveys since 1986. The latest available data at the time of preparing calculations for this paper were those of 1998. The surveys extend over 140-160 thousand persons, i.e. about five percent of the total number of full-time employed. The surveys register gender, year of age, educational attainment and nominal gross wage, including employees' but excluding employers' social security contributions. As both type of contributions are proportional to gross wage, the latter is applicable for determining relative wages. CSO provides weights that estimate the approximate size of the group represented by each person in the sample. With the help of these weights, the sample can be re-calculated to express characteristics of the total full-time employed population. The sample is changing in each year, hence it is not applicable directly as a panel. Given the data on age, however, the full-time employment history of birth cohorts from year to year can be followed.

Unfortunately similar details, in particular the year of age, are not available for part-time employed, unemployed, self-employed, unpaid family workers and other economically active groups. Therefore, calculations presented in the first part of this paper are restricted to full-time employment.

For constructing longitudinal cohort histories, these cross-sectional data were used for the period from 1986 to 1998. For years preceeding 1986 we applied the 1986 cross-sectional age-profiles of employment rates and relative wages to the available, actual, gender-specific number of survivors in a given year of age. For the period after 1998 we projected the respective 1998 profiles, applied similarly to the population forecast. Our cohorts' earning histories thus result from a mixed way of quantification: demography "real" for the entire earning span, employment rates and relative wages "real" between 1986 and 1998, but stationary before and after this period. Not quite satisfactory but better than nothing.