2 WOMEN IN THE HUNGARIAN LABOUR MARKET – TRENDS IN THE PAST TEN YEARS

2.1 LABOUR FORCE PARTICIPATION, EMPLOYMENT, UNEMPLOYMENT AND WAGES

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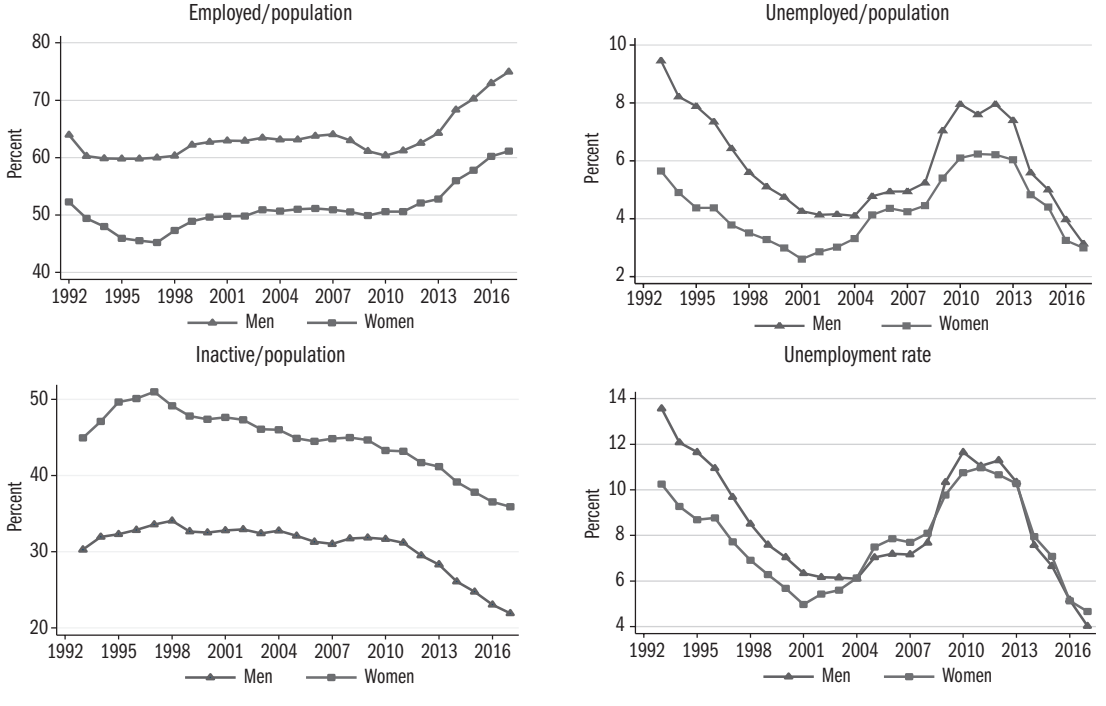
The key time series of male and female labour market participation are presented in *Figure 2.1.1,* using data and definitions from the Labour Force Survey (LFS) of the Hungarian Central Statistical Office (CSO). The two top panels and the bottom left panel of the Figure show the share of those in employment, unemployment and inactivity in the population aged 15–64, while the bottom right panel shows the evolution of the unemployment rate (i.e. the share of the unemployed in the labour force).

Figure 2.1.1: Selected indicators of employment, unemployment and inactivity in the population aged 15–64, 1992–2016 (percentage)



Note: The categories reflect the CSO classification.
Employed: a person who undertook at least an hour of gainful work during the week prior to the survey, or was temporarily away from their job.
Unemployed: a person who has no job but searched for a job actively during the month prior to the survey and would be able to start a job if he/she found one.
Inactive: neither employed, nor unemployed

Unemployment rate: unemployed/(employed + unemployed)
The points marked on the curves indicate the unweighted average of the four quarterly observations in the year concerned. The data on employed persons include public works participants and those working abroad.
Source: *LFS*.

After the transformational recession, the *employment to population ratio* followed an upward trend, which was interrupted by the global financial and economic crisis, especially in the case of men, who worked in the private sector in a higher proportion, including some industries highly affected by the crisis (for example the motor industry, construction, and transportation). By 2013 the employment rate of both genders had returned to the original trend, then started to grow rapidly, although this was largely due to the expansion of the public works scheme, increase in employment abroad and the shrinking working-age population of Hungary (i.e. the population in the denominator of the employment ratio). The long-term impact of these elements between 2000 and 2017 is presented in *Table 2.1.1*.

Table 2.1.1: The contribution of public works, employment abroad and population decline to the increase in the employment rate between 2000 and the first quarter of 2017

	Employment rate	Employment including public works and employment abroad	Employment without public works and employment abroad	Employees in domestic market jobs as a percentage of the total of those in employment	Population aged 15–64 living in Hungary
	(percentage)	(thousand persons)	(thousand persons)	(percentage)	(thousand persons)
Men					
2000	61.7	2057	2037	99.0	3334
2017	73.7	2352	2174	92.4	3188
Change (logarithmic difference)	0.178	0.134	0.065	–0.068	–0.045
Women					
2000	49.2	1722	1713	99.4	3500
2017	60.5	1970	1836	93.1	3253
Change (logarithmic difference)	0.207	0.134	0.069	–0.065	–0.073

Source: *LFS,* 2000 and 2017 Q1.

Employment rate (e) is the ratio of employed persons (E) to the working-age population (P) ($e = E/P$). Part ($1 - a$) of employment represents market jobs in Hungary, while part a represents public works and employment abroad. Hungarian, 'market-based' employment, excluding public works participation or working abroad is: $E_k = (1 - a)E$. Relying on the definitions above, the employment rate is expressed as formula (1) in a reference period (0 in superscript) and in the period considered (1 in superscript). In this calculation the reference period is the first quarter of 2000 (data on public works and employment abroad have been available since then), while the period considered

is the first quarter of 2017. Equation (2), based on the definitions, quantifies the contribution of the changes (measured on a logarithmic scale) that took place in Hungarian, market-based employment, the joint importance of public works and employment abroad as well as population size.

$$e^1 = \frac{E^1}{P^1} = \frac{E_k^1/(1-a^1)}{P^1} \text{ and } e^0 = \frac{E^0}{P^0} = \frac{E_k^0/(1-a^0)}{P^0} \quad (1)$$

$$\Delta \ln e = \Delta \ln E_k - \Delta \ln(1-a) - \Delta \ln P \quad (2)$$

It is apparent that the three components have been contributing roughly equally to the growing employment rate since the millennium. It is only the contribution of population decline (aging out of the working age population) which is different for men and women.

As for *Figure 2.1.1*, the top right panel reveals that at the low point of the transformational recession 8–10 per cent of working-age men were *unemployed*. This percentage was considerably lower, 4–6 per cent, in the case of women. The difference decreased steadily except for the years of the 2008–2010 crisis and has by now essentially disappeared: the unemployment to population ratio was 3 per cent in 2017 for both genders.

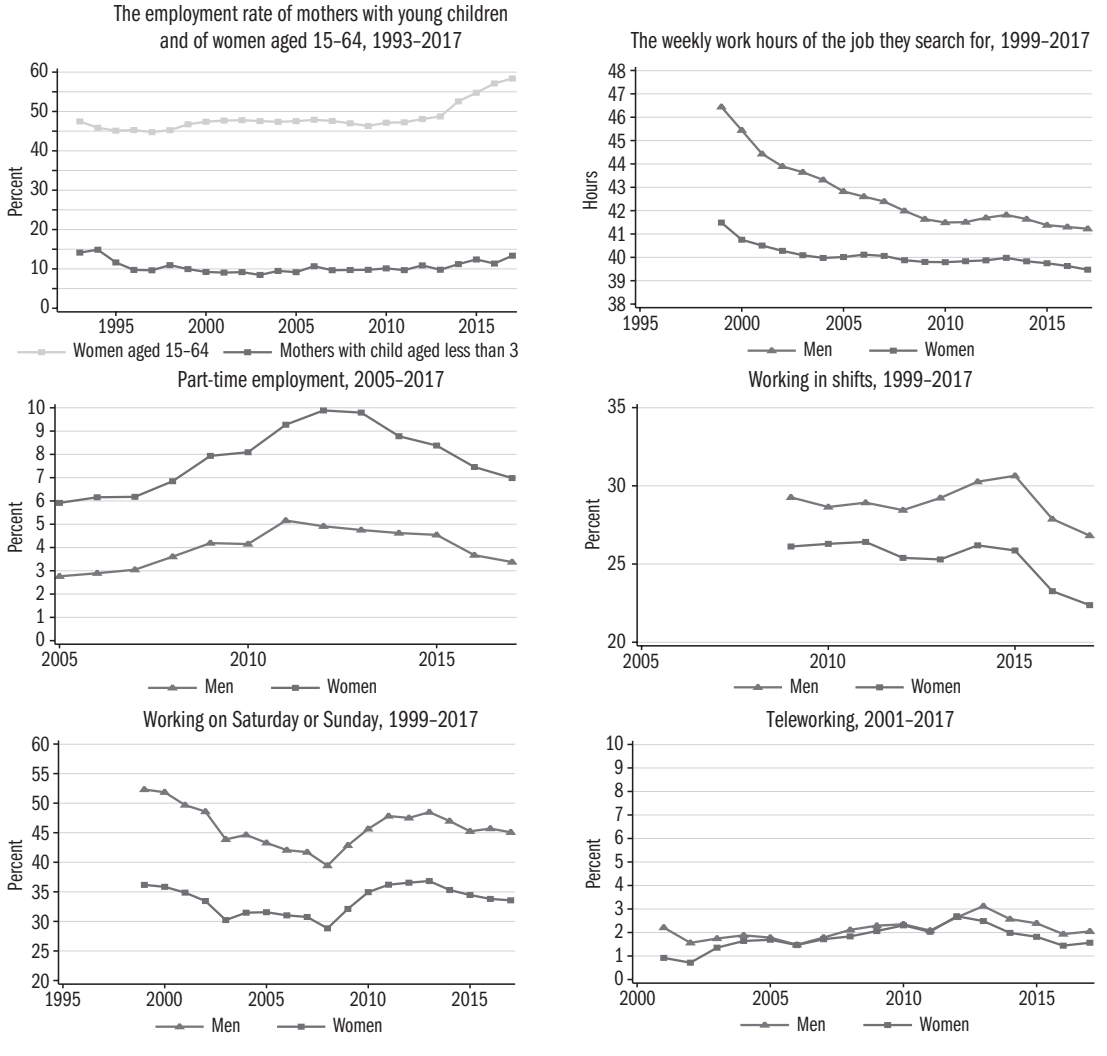
The share of *inactive* people grew in both genders until the late 90s: at that time one third of working-age men and one half of working-age women neither worked nor looked for a job. The gradual increase of the retirement age, regulations restricting disability retirement and those supporting employment during parental leave and motivating the registered unemployed to search for a job significantly reduced inactivity among men and women, although somewhat more in the case of men. In 2017, less than a quarter of working-age men and slightly more than a third of women was inactive according to CSO surveys (*Figure 2.1.1*, bottom left panel).

It must be noted that these surveys regard full time pupils and college or university students as inactive. In the first quarter of 2017, 46 per cent of inactive working-age men and 28 per cent of women were in fact in education. The percentage of men not in education, employment and not searching for a job was 'only' 14, while that of women was 28 percent (23 percent if women on parental leave are excluded).

The bottom right panel of *Figure 2.1.1* shows the evolution of the *unemployment rate*, the most often used labour market indicator. The rate (u) shows the proportion of the unemployed as a percentage of the labour force, which consists of those in employment (E) and the unemployed (U), that is $u = U/(E + U)$. This indicator has shown no significant difference for men and women since 2004. Compared to the males, the female unemployment rate is reduced by the lower number of unemployed among women and it is increased by the lower number of women in work. The equality of the rates hides major inequalities between their components.

Figure 2.1.2 highlights some of the characteristics of female employment. It is well-known and also analysed in the later chapters of *In Focus* that an extremely low share of mothers with young children are in employment by international comparison. The employment rate of mothers with a child aged less than three years has been around 10 per cent since the mid-90s and has hardly increased as a result of regulations permitting employment when on parental leave.

Figure 2.1.2: Some characteristics of male and female employment



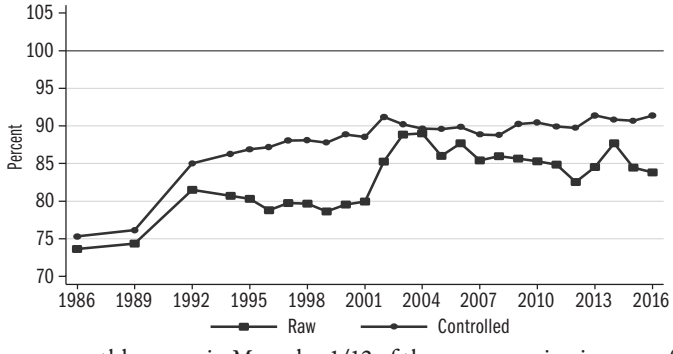
Note: A mother with a young child is someone who has at least one child aged less than three years. Working on Saturday or Sunday: at least occasionally. The periods considered are limited by the availability of data.
Source: *LFS*.

The large majority of women search for full-time jobs: they seek jobs with working hours of nearly 40 hours a week on average and this lags only one and a half hours behind the average time for men. In spite of this, the share of women employed part-time is double the share of men (7 and 3.2 per cent in 2017 respectively). It indicates the additional constraints on female employment that a much smaller proportion of women work shifts (26 versus 36 per cent in 2017 respectively) or at weekends (34 versus 45 per cent at least occasionally in 2017 respectively). Despite the difficulties of working long hours away from home, the share of those teleworking still does not exceed 2 per cent and it is slightly *lower* among women than among men.

Remarkably, in the 15–25-year periods concerned, differences between the genders or differences between women with and without young children changed very little. Only the number of work hours of jobs sought by men and women has converged – in other cases the curves are parallel.

Changes in the *gender wage gap* are presented in *Figure 2.1.3*, using Wage Survey data from the period between 1986 and 2016. In 1986, women earned less than 75 per cent of the average wages of men. The raw difference continuously decreased until 2001, and especially in the period 2002–2004. Then the disadvantage of women started to increase and stabilized at a level of about 15 per cent after 2007.

Figure 2.1.3: The wages of women compared to those of men, 1986–2016 (percentage)



Wages: gross monthly wages in May, plus 1/12 of the non-recurring income of the previous year, minus the non-recurring income received in May.

Raw: earnings of women, taking men's earnings as 100.

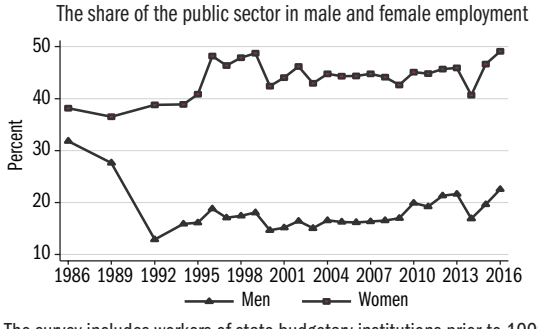
Controlled: Earnings of women compared to those of men, with identical labour market experience, educational attainment and sector.

The difference was calculated by a regression equation with the dependent variable being the logarithm of wages, while the independent variables are gender, labour market experience and its square, the estimated number of years spent in education and a binary variable representing the private sector. Instead of the parameter b for genders, figures are given in percentage term (e^b). All parameters are significant at the 0.01 level, the confidence intervals are so narrow that they would not be visible in the graph.

Source: Wage Surveys, 1986, 1989, 1992, 1994–2016.

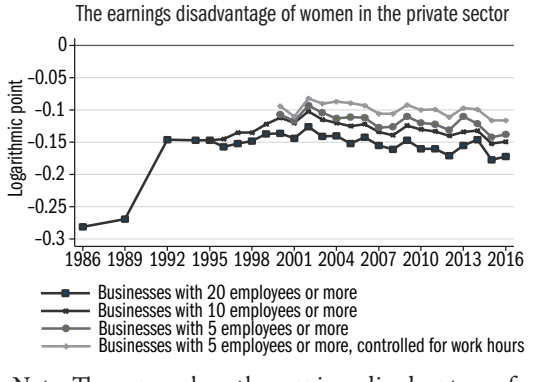
The *'controlled'* curve of the Figure presents the estimated earnings disadvantage of women when labour market experience, educational attainment and sector (private vs public) are controlled for. As for the method of calculation, see the Notes to *Figure 2.1.3.* The difference calculated in this way decreased until 2001 and then stabilised at 10 percentage points. To understand this unique dynamic and the difference between the raw values and those controlled for basic characteristics, one should consider the wage differences between the public and private sector and the gender gap within sectors. Changes in the gender wage gap are highly influenced by the facts that a) the public sector plays a more significant role in female than in male employment, b) the wage level of the public sector has fluctuated excessively in the past thirty years, c) the earnings disadvantage of women was different *within* the public and the private sectors after 1992 and changed differently over time. The temporal variations in these factors are presented in *Figure 2.1.4.*

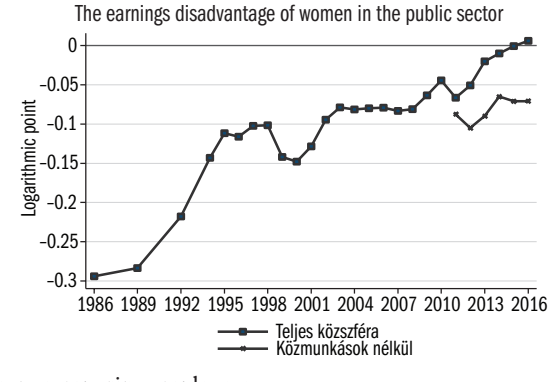
Figure 2.1.4: The importance of the public sector in female employment and wages, 1986–2016



The survey includes workers of state budgetary institutions prior to 1992 and public servants, civil servants, judges, prosecutors and public works participants after 1992 in the category of public sector employees.

Sample: public sector and enterprises with 20 employees or more. The curve shows the earnings disadvantage of workers in the public sector compared to the private sector, comparing employees of the same age and educational attainment, given in logarithmic scale.





Note: The curves show the earnings disadvantage of women, comparing employees of the same age and educational attainment, given in logarithmic scale, in the relevant populations.
Source: Wage Surveys, 1986, 1989, 1992, 1994–2016.

The top left panel of the Figure shows that the share of the public sector in female employment is much larger than in male employment and it increased over time almost continuously, from below 40 per cent to nearly 50 per cent. Its share in male employment fell from 30 per cent before the political changeover to below 12 per cent, and at present (in spite of a continuous increase after 1992) only slightly exceeds 20 per cent.

This disparity would not weigh much if the wage level of the public sector had not fluctuated so excessively compared to the private sector in the past thirty years. As shown in the top right panel, the earnings disadvantage of public sector workers, which was roughly 10 per cent before the fall of state socialism, increased to 30 per cent. As a result of increases in the minimum wage in 2001–2002 and increases in the salary of civil servants and public employees before and after the general elections in 2002, it fell to only 1–2 per cent; however, after continuous deterioration, it has now exceeded 40 per cent. This fluctuation, has necessarily affected the earnings position of an average woman compared to an average man.

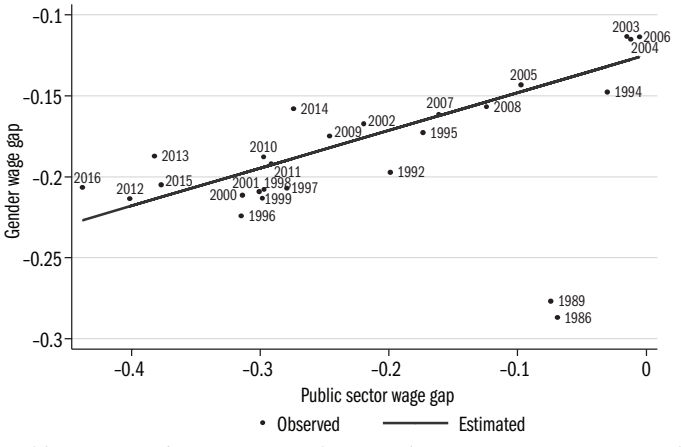
The situation is further complicated by the fact that the earnings disadvantage of women has always been different *within* the two main sectors of the economy. The graphs in the bottom left panel indicate that the earnings disadvantage of women in the private sector (controlled for age and educational attainment) fell from nearly 30 per cent to 15 per cent since the start of the transition; however, their situation did not improve afterwards and even worsened after the millennium.

The *extent* of the disadvantage depends on the types of businesses assessed. The Wage Survey only covered firms with 20 or more employees until 1995. The size limit was lowered to 10 persons in that year and to 5 employees in 2000. The gender gap in the hours worked also took on more importance after the millennium. Its impact has been measured since 1999. Apparently, the disadvantage of women is the greatest at medium-sized and large enterprises with at least 20 employees, currently about 17 per cent, while in the total population of businesses with more than 5 employees it is only 12 per cent even when controlled for work hours.

While in the private sector the wage gap between men and women of the same age and educational attainment was in the range of 10–15 per cent after the millennium, in the public sector it has continuously decreased since 1986 (with occasional slowdowns) and has by now completely disappeared – as long as employment in public works is considered part of the public sector (bottom right panel). Luckily, public works participants have been identified in the Wage Survey since 2011. If including market-based jobs only, the disadvantage of women still amounts to 6–7 per cent, which is substantially lower than the initial value and about half of that in the private sector, nevertheless not zero.

Figure 2.1.5 presents the impact of wage fluctuations in the public sector on the situation of women. The horizontal axis of the Figure shows by how much a public sector employee earned less than a private sector employee with equal gender, labour market experience and educational attainment. The vertical axis indicates the 'general' earnings disadvantage of women compared to men, irrespective of sector, holding labour market experience and educational attainment constant.

Figure 2.1.5: The earnings disadvantage of women (both sectors) and of public sector employees (both genders), 1986–2016, logarithmic point



Sample: public sector and enterprises with 20 employees or more. The curves show the earnings disadvantage of women and public sector employees, comparing employees of the same age and educational attainment, given in logarithmic scale.
Explanatory variables of the equation for women are: gender, labour market experience and its square, number of years spent in education.
Explanatory variables of the equation for the public sector: public sector, labour market experience and its square, number of years spent in education.
Regressing the earnings disadvantage of women (W) to earnings disadvantage in the public sector (P) (in 1992–2016) gives: $W = 0.23P - 0.12$, $r^2 = 0.77$. The standard error of N is 0.03, the t-value is 8.9. The standard deviation of P is 0.131, that of W is 0.043.
Source: Wage Surveys.

If the size of the two sectors and the share and the earnings disadvantage of women within the sectors did not change, there would be a deterministic relationship between the relative wage level of the public sector and the general gender wage gap. Since both the share and earnings disadvantage of women changed over the years, the relationship is not function-like but the points are placed on a well-fitting curve after 1992: the situation of women as an employee group improved substantially if the wage level of the public sector increased and it deteriorated in the periods of budgetary cuts.

What is remarkable is not the *presence* of this trivial relationship but its *strength*. The slope of the line connecting the points in the period 1992–2016

is 0.23: a unit change in the relative wage level of the public sector results in an approximately one-fourth unit change in the relative wages of women. Taking into account the standard deviation of the two earnings disadvantage indicators (see the notes to the Figure), a one standard deviation difference in the earnings disadvantage of the public sector is associated with a 0.7 standard deviation difference in the earnings disadvantage of women.

The budget cuts in the public sector and the fact that the wages of public servants did not follow (sufficiently) the wage growth accelerating after 2013 in the private sector played a key role in the halt of an improvement in the earnings position of women. The earnings position of the average woman was worse in 2016 than in 1992.

As pointed out in one of the studies (*Köllő,* 2014) of The Hungarian Labour Market 2014, the excessive fluctuation of the relative wage level of the public sector in Hungary, and the resulting volatility of the gender wage gap, is anything but natural. Such fluctuation of the wage difference between sectors was unprecedented in Europe prior to the financial and economic crisis starting in 2008. Even afterwards it was only in Romania that a comparable decrease in disadvantage took place (*Vasile,* 2012). The difference between the minimum and maximum values of the wage difference did not exceed 6.5 percentage points between 1993 and 2000 in Europe except Greece and France (*Campos–Centeno* 2012), while in Hungary it was 18.2 percentage points at that time and 29.5 percentage points in the next eight years. It must be also noted that the wage advantage in Greece increased monotonously in the 12.2 percentage point range, while in France the wage gap varied between –3 and +8 percentage points. Rises and falls comparable to the Hungarian ones – and the extreme earnings disadvantage at the low points – are uncommon in developed market economies.[1]

1 At the same time, *Gimpelson–Lukiyanova* (2009) reports a comparable earnings disadvantage (26–28 percentage points according to their regression estimation) in the Russian public sector in the early 2000s.

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