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Precarious employment among South Korean women: Is inequality changing with time?

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Abstract

Theories of precarious employment based on the constructs of job quality and job stability have highlighted the issue of transitions, linked to gender and age, from long-duration employment in bad-quality jobs, into good-quality stable employment. This article uses Markov chain analysis to study the labour market transitions of South Korean women in different age groups. It shows the importance of differentiating the effects of contemporary labour market conditions, shaped by the forces of the moment, from conditions created by the institutional legacy of the past. Women's traditional position in the labour market has resulted in age-linked gendered precariousness, while the conditions of the moment are generating a tendency towards less precarious employment. Transition matrices are developed for types of precarious employment defined by the combination of job stability and job quality, taking into account duration by age group, time period, and covariates. These matrices yield distributions of asymptotic prevalence, reflecting labour market conditions of the moment. The forces of the moment favour the predominance of stable good-quality employment, whereas observed prevalence at a given date is characterised by the polarisation of the labour market between stable good-quality and unstable bad-quality employment. Asymptotic prevalence reveals a steady increase in stable but bad-quality employment. Older women are observed mostly in unstable bad-quality employment, but labour market conditions

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are tending to attenuate this age cleavage over time, as the conditions of the moment are reducing the proportions of older women in stable bad-quality and unstable good-quality employment. The conclusion is an age-based polarisation, in which older women are faring badly, but where possibilities are now opening up to younger South Korean women, reflected in the sharp break between the situation inherited from the past and the conditions of the moment. But possibilities for younger women will be realised only through a reinforcement of government policies to support career breaks and work–family balance through decent part-time jobs.

JEL Codes: J08, J28, J44

Keywords

Asymptotic prevalence, employment stability, inequality, intergenerational polarisation, job quality, labour market polarisation, Markov chain, precarious employment, quality of employment

Introduction

How among women is precarious employment associated with inequalities? How should these inequalities be measured? How do they change over the life cycle and over time, net of all other covariates? We address these so far unexplored questions for the specific case of South Korea 1998–2008, because the labour market and family behaviour of South Korean women changed rapidly over that period. The increased labour market participation of South Korean women since the 1980s (42.8% of women in employment in 1980, 47.0% in 1990, 48.4% in 2000, and 50.0% in 2005 (Korean National Statistical Office, 2013)) has been accompanied by greater disparity in employment quality (Kim and Hong, 2009; Min, 2008). The Korea Labour Institute (KLI) (2012) estimates at 21% the proportion of female workers holding well-paid positions in 2011, while the remainder are concentrated in casual or temporary jobs (Kim and Park, 2006). In this context, many women leaving the traditional family role to enter the labour market experience precarious employment. Keum and Yoon (2011) claim that the polarisation between high-quality stable employment and precarious employment explains the 'partial success' of women's employment in South Korea.

However, this sudden influx of women onto the labour market modifies inequalities inherited from the past. Should we measure these latter inequalities, or those associated with the change? These are two facets of women's conditions, themselves affected by socioeconomic covariates and changing over time and with age. Measuring the forces of change is essential to the South Korean administration, which, under President Park Geun-hye, declared its objective to increase the women's employment rate while improving women's living conditions (project 'Roadmap to 70% Employment Rate', launched on 4 June 2013, Ministry of Employment and Labour, 2014).

Precariousness is a measure of the low quality of employment (Burgess and Campbell, 1998). Kalleberg et al. (2000) for the United States, McGovern et al. (2004) for Great Britain, and Gottfried (2008) for Japan have shown that unstable employment,

that is, work taken for a limited, often short, period of time with no guarantee of re-employment, is associated with low job quality resulting from low wages and limited social benefits and statutory entitlements. Consequently, unstable employment has been considered as precarious employment (Fuller and Vosko, 2008; Shin, 2013). Fuller and Vosko (2008) for Canada have shown that increased employment instability combined with low job quality worsen inequalities in the labour market, notably with regard to income. Kalleberg (2011) has shown that inequalities among workers widen as precarious employment increases. Standing (2011), Quinlan (2012), and Wilson and Ebert (2013) consider precariousness in employment and its associated inequalities as a major concern.

Labour market inequalities and job precariousness affect women in particular. They have entered the labour market massively, but at the cost of precariousness (Kim et al., 2006; Shin, 2013), with employment instability as its main cause and income inequality as a major consequence. The relative rarefaction of middle-level employment has tended to leave women in either good or bad jobs. That is why the South Korean female labour market has been described as polarised between stable employment of good quality and unstable employment of poor quality (Kim et al., 2006). To confirm the association between precarious employment and rising inequalities among South Korean women, Park (2004), Kim et al. (2006) and Min (2008) addressed the difference in wages and working conditions between those in permanent full-time employment and those in precarious employment. They found that growing polarisation of employment is increasing inequalities among female employees. Although these authors capture part of the current inequalities on the South Korean labour market, they overlook the fact that income inequality and precarious employment are measured on observed prevalence, which as a matter of fact cumulates the employment histories of women since their first entrance in the labour market, and, for this reason, may not yet reflect the gradual but profound transformation of women's place in South Korean society since the late 1990s. We shall return to this point in section 'The condition of women in South Korea since the 1990s'.

Our hypothesis is that precarious employment, and the income equalities associated with it, may not accurately reflect changes in labour market conditions for women. The transformation of women's status in South Korean society may have been accompanied by more egalitarian conditions, but this phenomenon will not necessarily show up in measurements of observed inequalities, which are dominated by the cumulative inheritance of past inequalities and precarious employment conveyed in individual trajectories. In Europe, more egalitarian conditions have led to higher employment quality (Lopes et al., 2014).

Chang (2001), Yoon and Chun (2008), and Shin (2013) portray inequalities among South Korean women as resulting from their persistent overrepresentation in unstable low-quality employment but do not consider the possibility that this situation may in fact be changing. Work is expected to be an integrative force, at the price of precariousness (Ebert, 2011; Wilson and Ebert, 2013). The changing social division of labour has two facets: the distribution of the prevalence of precariousness (reflecting the persistent effects of tradition) and the forces which are driving change (the de-traditionalisation processes (Ebert, 2011)). The former should be considered when assessing the overall situation, while the latter should be taken into account when assessing the effect of a policy.

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The dichotomy is then between stocks and flows, between conditions inherited from the past and conditions of the moment. The stocks and flows distinction corresponds to the distinction made in epidemiology between observed and asymptotic prevalence, or in demography between proportion surviving at each age (from birth to present) and period survival (a fictitious cohort submitted to the mortality conditions of the moment). In our application, this dichotomy is present in the question of which phenomenon is more important: the burden of the historically inegalitarian structures of South Korean society, or the current mobility between precarious employment types that is leading to a more egalitarian society? Both phenomena are important, but the latter is often overlooked, because less easy to observe from direct measurements. The alternative hypothesis is that, despite changes in legal frameworks and social attitudes, precarious employment and the associated inequalities persist and that the conditions of the moment maintain and even reinforce the conditions of the past, a scenario which if confirmed would indicate an ineffectiveness of sex discrimination reforms to improve the position of women in the labour market.

To test this hypothesis, we shall disentangle the moment conditions of precarious employment and estimate the inequalities implied by these conditions of the moment, for comparison with the observed inequalities. We use a follow-up of women in their precarious employment status between at least two dates. For this, we use the Korean Labour and Income Panel Study (KLIPS) containing annual waves from 1999 to 2008 (section 'Data and method'). The available covariates (age class, period, education, marital status, part- or full-time employment, total number of children, presence of children under 6, type of occupation, percentage of gross domestic product (GDP) in public social expenditure for family, discretised into four classes, and the mean unemployment rate for this configuration put in categories) empirically constitute 8860 combinations. For each of them, the forces of transition are gathered in a Markov transition matrix (then we compute 8860 matrices). The right eigenvector of this matrix associated with the dominant eigenvalue, equal to 1, yields the distribution of asymptotic prevalence, with associated income values (section 'Observed and asymptotic prevalence distributions'). Lorenz curves and Gini coefficients characterise the inequalities associated with these asymptotic distributions (section 'Income inequalities associated with prevalence of precarious employment'). We shall show that while current labour market trends are driving women towards stable good-quality employment, the largest proportion of women is observed in unstable poor-quality employment. We show that forces of the moment lead to the predominance of stable good-quality jobs, while observed prevalence at a given date is above all characterised by the polarisation of the labour market between stable good-quality and unstable poor-quality jobs. We reveal a steady increase in stable but poor-quality employment. We show that the forces of the moment tend to attenuate an age cleavage, with older women increasingly moving into either stable bad-quality or unstable good-quality jobs, and less into unstable bad-quality jobs which until recently were the most prevalent.

The condition of women in South Korea since the 1990s

Changes in demography, sex discrimination, and employment

How have inequalities and precarious employment been affected, if at all, by the major changes in the condition of South Korean women since the 1990s? According to the

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Korean National Statistical Office (2013), the total fertility rate has declined to low levels, from 1.63 in 1995 to 1.47 in 2000, 1.08 in 2005, and 1.23 in 2010. The mean age at first childbearing has increased from 26.7 years in 1996 to 27.7 in 2000, and 29.1 in 2005; the percentage of women never married at age 30 has increased from 1.9% in 1995 to 2.6% in 2000, 3.6% in 2005, and 6.6% in 2010. The percentage of women over 25 with a college or university degree has risen from 8.3% in 1990, to 13.1% in 1995, 18.0% in 2000, 25.4% in 2005, and 32.1% in 2010. Since the 1990s, women have increased their presence as wage-earners: dual-income families represented 33.4% of all households while families with a single income earned by the woman were 2.3% in 1995; the respective proportions were 35.4% and 3.7% in 2000; and 35.2% and 4.0% in 2005.

Sex discrimination in the South Korean labour market was outlawed by the Equal Employment Act of 1987 (Kim and Voos, 2007; Park, 2010). This legislation resulted from the campaign for gender equality in the democracy movement of the 1980s (Kim, 2006; Park et al., 2009).[1] It establishes the principle of equal pay for equal work, prohibiting discrimination in recruitment, promotion, training opportunities, and dismissal, and protecting against discrimination over marital status, pregnancy, childbirth, and maternity leave. Since an amendment in 2005, affirmative action has been introduced requiring public and private firms to employ more female workers and managers, with some effect: Park et al. (2009) report that female executives became more numerous in firms following affirmative action, and that women's earnings as a proportion of men's rose from 45.4% in 1985 to 52.9% in 1990, 64.2% in 2000, and 64.2% in 2008. Firms employing less than 60% of the industry average for female employees, both workers and managers, were required to hire more women. Since 1987, the gender wage gap has narrowed (Monk-Turner and Turner, 2004), more married women have entered the labour force (Kang, 2007; Park, 2010), and occupational segregation has decreased (Kim, 2000), even after the economic crisis of 1997 (Kim and Voos, 2007).

The increasing participation of married women in the labour market since the 1980s has challenged the traditional child care–centred role of women laid down in Confucian teaching (Roh, 1994). The Child Care Act of 1991 and its revisions were devised to facilitate reconciling family life with women's employment, through developing professional child care and government support (Kim, 2006; Kim and Moon, 2009). Since the 1990s, aspiration for personal achievement has been cited as one of the main reasons for women undertaking paid employment (Shin, 1998). Women are no longer motivated solely by earning money for family purposes: in 1988, 16.7% of all women aged over 15 wished to continue their careers regardless of family situation; in 1998, the proportion was 30.4%; and in 2006, 50.4% (Korean Women's Development Institute, 2006, 2013).

The higher proportion of educated women, together with the democratisation of South Korean society, has contributed much to narrow the gender wage gap (Kim and Voos, 2007) and to broaden women's access to professional and managerial positions (Bae, 2009; Kang, 2007). While the economic crisis of 1997 drove more women than men to take unstable low-quality jobs, women's position in society has continued to improve. Cheon (2007) shows that, from 1996 to 2006, the total number of women in high-paid jobs has risen more than twice as fast as the number in low-paid jobs. Women are less willing to accept the gender roles they did in the past. The 'male breadwinner' model is being replaced by the 'double income family' model (Kim and Finch, 2002).

The post-feminist image of the hedonistic woman has superseded that of the woman as devoted wife and mother, in South Korean social attitudes.

Inequalities and the polarisation between 'good' versus 'precarious' employment

According to Morris et al. (1994), the transition to a service-based economy generates more highly paid and stable employment, with more occupational mobility, and more low-paid, low-skill, unstable jobs, to the detriment of middle-level jobs. This polarisation between stable, good-quality jobs and precarious employment is thought to be the cause of the rise in income inequality (Goos and Manning, 2007; Morris et al., 1994; Wright and Dwyer, 2003). For South Korean women, Park (2004) documents that, between 1999 and 2002, women in unstable employment, although working the same number of hours as those in stable employment, earned 42% less, and four out of five women in unstable employment were neither receiving statutory benefits nor covered by social protection or pension plans. Accordingly, South Korean people are aware of precarious employment and equate good jobs with permanent full-time positions (Lee, 2006; Song, 2010). Kim et al. (2006) show that the labour market for women in South Korea is 'polarised' between high-paid stable jobs filled by highly educated young women and low-paid unstable jobs filled by older women of low educational attainment. Min (2008) also defines polarised employment on the basis of earnings by occupation. Kim and Shin (2008) focus on married South Korean women and find a similar polarisation linked to precarious employment that produces income inequalities.

However, to define polarisation simply in terms of employment stability overlooks the persistence of inequality within the group of well-paid stable jobs. Chan (2013) shows that different levels of precariousness exist even in so-called 'professional' occupations. Burgess and Campbell (1998), and Cranford et al. (2003) advocate using the term 'precariousness' as a multidimensional measure of employment quality. Paugam (2000) establishes a typology of precarious employment based on employment stability and on the subjective evaluation of employment as an indicator of quality. Kim (2015) uses this typology to examine the determinants of the transitions for South Korean women between the various precarious employment types from 1999 to 2008. We use this author's estimates of transition rates (Kim, 2015) to estimate the transition matrices between types of precarious employment by combinations of covariates and deduce the inequalities associated with the conditions of the moment.

Data and method

We exploit the follow-up data from the KLIPS, a nationally representative panel survey conducted annually between 1999 and 2008. The database contains 10 waves, yielding a dataset of 6145 women between 16 and 64 years of age for our purpose. It gathers information about household formation, household income and assets, and individual employment, income, education, and social welfare benefits. We use the weights provided by the KLIPS.

Paugam (2000) identifies four types of precarious paid employment, presented in Table 1: 'stability-good quality' (SG), 'instability-good quality' (IG), 'stability-poor quality'

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Table 1. Paugam's (2000) types of precarious employment: '+' indicates 'above the mean', and '–' indicates 'at or below the mean'.

Paid worker			Unpaid worker, unemployment, inactivity
Four types	Employment stability	Employment quality	Non-type (NT)
Stability–good quality (SG)	+	+	
Instability–good quality (IG)	–	+	
Stability–poor quality (SP)	+	–	
Instability–poor quality (IP)	–	–	

Source: Calculated from KLIPS (the Korean Labour and Income Panel Study).

(SP) and 'instability-poor quality' (IP). These are based on women's self-evaluation of employment stability on the one hand, and employment quality measured from the responses to eight items on job satisfaction, on the other hand. Scoring above or below the mean for these two criteria defines the four types of precarious employment.

Table 2 presents the distribution of female respondents in KLIPS by age class and date. Kim (2015) estimates the probabilities of transitions between SG, IG, SP, IP and NT as functions of date, age, marital status, number of children under 6, education, duration of paid work experience, occupation, and duration spent in the starting state. The author uses a multilevel discrete-time hazard model, allowing for correlation between repeated episodes from the same woman and for a random effect representing unobserved risk factors shared by each woman w in episode s from date t to date $t+1$. The probability $p^{w,s}_{P_1,P_2}(t)$ of being in type of precariousness P_2 at the beginning of date $t+1$ for those in type of precariousness P_1 at the beginning of date t is (Lillard et al., 1994; Steele, 2008, 2011)

$$\text{logit } p^{w,s}_{P_1,P_2}(t) = \beta_D D_{ws}(t) + \beta_a a_{ws}(t) + \beta_t t + \beta'_X X_{ws}(t) + u_w + u_{ws} \tag{1}$$

where t is the discrete-time unit, a year in our case, β_D, β_a, and β_t are coefficients of duration, age and date, respectively, and β_X a vector of coefficients. All these coefficients depend on the transition P_1 to P_2 considered. $D_{ws}(t)$ is the sojourn time in P_1 at date t, u_w is the woman-specific perturbations, u_{ws} is the episode-specific perturbations for woman w, and $X_{ws}(t)$ are the values taken by other explanatory variables. Tables 2 to 5 in Kim (2015) present the estimates of the coefficients of duration, age and date, controlling for other variables, obtained in the regression (1). The expected probability of a woman w during spell s and in precarious state P_1 after $D_{ws}(t)$ years in this state, from date t to date $t+1$, age a at the beginning of t, and explanatory variables $X(t)$ to be in state $P_2 \neq P_1$ at the beginning of year $t+1$, after eliminating the variations inherent in individuals and spells, is

$$p_{P_1,P_2}(t,a,D_t,X) = \frac{\exp(\beta_D D_t + \beta_a a + \beta_t t + \beta'_X X)}{1+\exp(\beta_D D_t + \beta_a a + \beta_t t + \beta'_X X)} \tag{2}$$

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Table 2. Distribution of person-years in employment types by age and date in the Korean Labour and Income Panel Study (KLIPS), 1999–2008 ($N = 6145$ women = 33,106 person-year observations).

	Stability–good quality	Instability–good quality	Stability–poor quality	Instability–poor quality	Non-type
Age in years					
16–25	939	577	222	1014	5683
26–30	1023	473	216	770	2444
31–35	695	329	151	626	2532
36–40	484	290	166	831	1799
41–45	419	293	193	1115	1481
46–50	332	201	147	847	1512
51–64	324	221	151	1231	3375
Period					
1999–2001	906	793	407	1185	2911
2002–2004	1253	716	335	2349	5853
2005–2008	2057	875	504	2900	10,062
Total number of person-year observations	4216	2384	1246	6434	18,826
Total number of episodes	2660	1969	1106	3806	6246
Total number of women	1936	1588	932	2659	4932

These coefficients vary with the transition P_1 to P_2 considered. For a duration of up to 7 years and the five types IG, IP, NT, SG and SP, the 35×35 transition matrix $M(t,a,X)$ at age a and value X of explanatory variables can be expressed as a 5×5 matrix whose rows and columns represent the five types of precariousness and whose elements are 7×7 matrices $M_{P_1P_2}(t,a,X)$ allowing us to transit from a type-duration (P_1,D_1) at t to another (P_2,D_2) at $t+1$, $D_1,D_2=1,...7$. For $P_1\neq P_2$, $M_{P_1P_2}$ is filled entirely with zeros, except the first row filled with $p_{P_1,P_2}(t,a,j,X)$ in the jth column, $j=1,\ldots,7$, which is the probability to move from type-duration (P_1,j) (duration in P_1 between $j-1$ and j years except for 7, which includes duration of 6 years and over) to type-duration $(P_2,1)$. For $P_1=P_2$, $M_{P_1P_2}(t,a,X)$ is filled entirely with zeros, except the first sub-diagonal filled with $p_{P_1,P_1}(t,a,j,X)$ in the jth column $j=1,\ldots,6$, which is the probability to move from type (P_1,j) (duration between $j-1$ and j years) to type $(P_1,j+1)$, and except the cell (7, 7) filled with $p_{P_1,P_1}(t,a,7,X)$, as column 7 includes all durations equal or longer than 6 years.

The total number of women in type of precariousness-duration i ($i=$(IG, 1 year), (IG, 7 years), (IP, 1 year),…, (IP, 7 years), (NT, 1 year),…, (NT, 7 years), (SG, 1 year),…, (SG, 7 years), (SP, 1 year),…, (SP, 7 years)) at time t is $n_i^{(t)}(0)$. The population vector is $n^{(t)}(0)=(n_1^{(t)}(0),...,n_{35}^{(t)}(0))'$, and $n^{(t)}(k)=M(t,a,X)n^{(t)}(k-1)$. The matrix $M(t,a,X)$,

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being column stochastic, has a dominant eigenvalue equal to 1. The existence of a dominant eigenvalue implies the convergence of the iterates $M^{k+1} = MM^k$ of the matrix $M := M(t,a,X)$, $k = 1,\ldots$, and the convergence of the distribution of $n^{(t)}(k)$ towards the first right eigenvector V of M (Cohen, 1979). This vector yields the distribution of asymptotic prevalence, which depends only on the transition matrix, not on the distribution of precarious employment at the starting date. This distribution of asymptotic prevalence reflects the conditions of the moment, because it synthesises the transition probabilities in terms of prevalence. It is also the distribution of prevalence that would be observed if these conditions of the moment persisted for long enough. It thus has a degree of predictive power, provided conditions in subsequent periods do not change much. The rate at which the observed distribution converges to the asymptotic distribution, if the conditions of the moment were maintained constant, is asymptotically given by the logarithm of the 'damping ratio' $\lambda_1/|\lambda_2|$ (Cohen, 1979), where λ_1 is the first eigenvalue, here equal to 1, and λ_2 the second eigenvalue. In the case of the KLIPS, the rates $-\ln\left(\lambda_1/|\lambda_2|\right)$ of convergence to asymptotic prevalence vary little by age and date, and are equal to −0.22 (standard deviation (SD) = 0.11) on average. After one 3-year interval, the distance of $n^{(t)}(1)$ to the right eigenvector has decreased by a factor $\exp(-0.22) \approx 0.8$, then by 20% on average; after 9 years or three 3-year intervals, it has decreased by a factor $\exp(-0.22 \times 3) \approx 0.51$ then, almost 50%.

The vector gathering all right eigenvectors $V(t,a,X)$ weighted by the probabilities $\Pr(X = x)$ that the covariates X take the values x

$$V(t,a) = \sum_x \Pr(X = x) V(t,a,X) \tag{3}$$

keeps the structure of the dataset in covariates X, but replaces the observed prevalence in precarious types IG, IP, NT, SG and SP by the asymptotic prevalence. We do not address the problem of how the structure in X will change, but, given the structure in X, investigate the prevalence distribution associated with the forces of transition of the moment. Practically, the KLIPS dataset contains 8860 configurations, combining age, period, education, marital status, part- or full-time employment, total number of children, presence of children under 6, type of occupation, percentage of GDP in public social expenditure for family, discretised into four classes, and the mean unemployment rate for this configuration. The SAS program producing the vectors $V(t,a)$ takes 7 hours to run on a Dell Precision M6600.

Results

Observed and asymptotic prevalence distributions

Figure 1 upper panel shows the example of the observed distribution of women in 1999–2001 by age among the four types (the 'non-type' is ignored for the sake of clarity) from the KLIPS dataset: in this example, women aged under 40 are concentrated in the 'stability-good quality' type, compared to those over 40, who are distributed more evenly between 'stability-good quality' and 'instability-poor quality'. The same is true for

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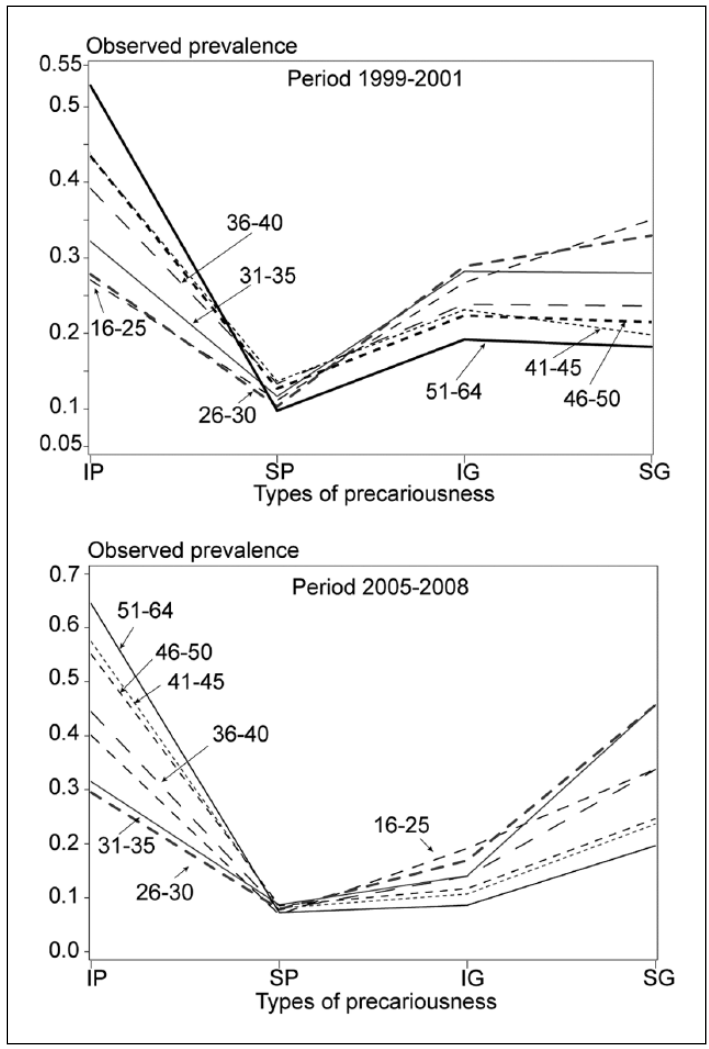

Figure 1. Observed prevalence of precarious employment types by age for two periods.
IP: instable employment of poor quality; SP: stable employment of poor quality; IG: instable employment of good quality; SG: stable employment of good quality.

subsequent periods, with the difference that more women are in the 'instability-poor quality' category in 2002–2004 and 2005–2008 than in 1999–2001 (Figure 1, lower panel representing the observed prevalence in 2005–2008). These distributions of observed prevalence are consistent with the description of the South Korean female labour market as polarised between unstable poor-quality and stable good-quality employment. These distributions depend on education, marital status, part- or full-time employment, total number of children, occupation, expenditure on family support policies, as shown by Kim (2015).

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An examination of all observed prevalence distributions by age and period shows a decrease in the frequency of women in the 'stability-poor quality' type from 1999–2001 to 2002–2004 on average (−36%), then a slight increase from 2002–2004 to 2005–2008 (+8%); and a decrease of the frequency of women in the 'instability-good quality' group (−40% from 1999–2001 to 2002–2004 on average, −5% from 2002–2004 to 2005–2008), as it is visible from Figure 1 upper panel (period 1999–2001 compared with Figure 1 lower panel, 2005–2008).

The similar figure for 2002–2004, not shown, is coherent with the decreasing trend of these frequencies, which reveals an increased polarisation over the period 1999–2008. The prevalence of women in 'instability-poor quality' jobs increases for all age classes from 1999–2001 to 2002–2004 (+37% on average) then decreases (−11% from 2002–2004 to 2005–2008); the prevalence of the 'stability-good quality' category increases for all age classes up to age 45 (+4% on average from 1999–2001 to 2002–2004, +25% from 2002–2004 to 2005–2008); and decreases then increases after age 45 (−12% then +22%). Figure 2 shows this variation across ages for two periods.

Figure 1 upper and lower panels are also consistent with an age cleavage, whereby women aged over 35 are more frequent in the 'instability-poor quality' category and women under 35 are more frequent in the 'stability-good quality' group. This is because women in their 30s are more likely to take unstable employment, which is often associated with exclusion from social insurance and statutory benefits, and with low wages (Jung, 2006). South Korean women tend to interrupt their careers and exit the labour market after childbirth in their late 20s and early 30s. They return to work in their late 30s and early 40s when their children are attending school full time (Keum and Yoon, 2011). These interruptions prevent women from accessing well-paid stable employment (Eun, 2009; Park, 2003). For example, Hwang (2003) shows that married women aged over 35 are primarily employed in services, sales and manual occupations, while women aged under 35 are employed mainly as professional, semiprofessional or clerical workers. This helps to explain the age cleavage between satisfactory levels of job stability and quality for women under 35 and the unstable poor quality jobs of those over 35.

Figure 3 shows the distributions of asymptotic prevalence for all age classes in 1999–2001 and 2005–2008 (the figure for 2002–2005 is similar), and Figure 4 for two exemplary age classes followed over time. Table 3 presents a synthesis of the mean prevalence. The conditions of the moment tell a different story from observed prevalence.

First, for all ages and all periods, the asymptotic prevalence in 'instability' types is lower than observed prevalence, which indicates that the conditions of the moment are favouring stability in female employment.

Second, 'instability-poor quality' predominates in the observed distribution, while 'stability-good quality' does so in the asymptotic prevalence (Table 3). This indicates that the forces of the moment are working against the situation inherited from the past.

Third, the state 'stability-poor quality', although not predominant, sees its asymptotic prevalence increase steadily from 1999 to 2008 for all ages, while 'stability-good quality', although predominant, decreases. The sum of the asymptotic frequencies in stability types is constant for women under 40 (by summation in Table 3: 78% in 1999–2001, 77% in 2002–2004, and 78% in 2005–2008), and for women over 40 (75%, 73%, and 75%). The quality of employment has decreased steadily over the period (by summation in Table 3, the asymptotic prevalence in types of poor quality is 23% in 1999–2001, 25%

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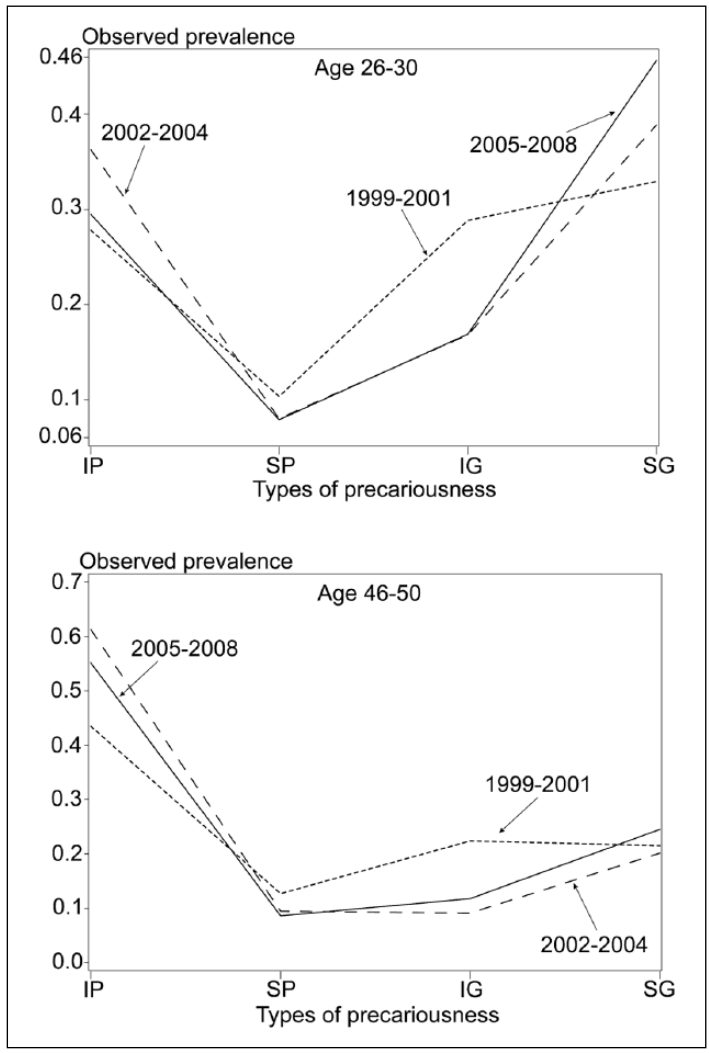

Figure 2. Observed prevalence of precarious employment types for two age classes.
IP: instable employment of poor quality; SP: stable employment of poor quality; IG: instable employment of good quality; SG: stable employment of good quality.

in 2002–2004, 30% in 2005–2008 for women under 40, and 23%, 25% and 27% respectively for women over 40). The transitions in the labour market have preserved employment stability for women, but employment quality has deteriorated. The corresponding observed frequencies do not reflect this movement: the prevalence of poor quality increases then decreases, while the prevalence of stability decreases then increases.

Fourth, observed prevalence values indicate women over 40 as considerably more numerous than under-40s in the state 'instability-poor quality' (47% vs. 31% in 1999–2001, 62% vs. 44% in 2002–2004, 59% vs. 37% in 2005–2008), and less numerous in

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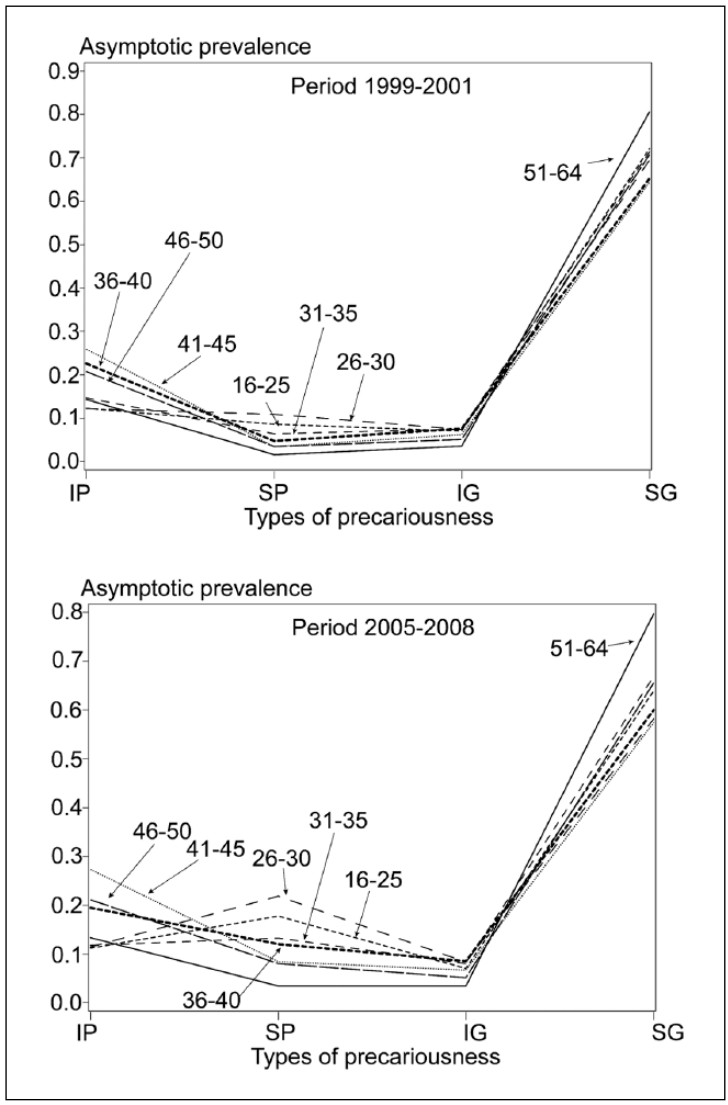

Figure 3. Asymptotic prevalence of precarious employment types by age for two periods.
IP: instable employment of poor quality; SP: stable employment of poor quality; IG: instable employment of good quality; SG: stable employment of good quality.

'stability-good quality' (20% vs. 30% in 1999–2001, 19% vs. 31% in 2002–2004, 22% vs. 39% in 2005–2008) (Table 3). In contrast, the asymptotic prevalence for both 'instability-good quality' and 'stability-poor quality' is almost the same for women aged over 40 as for those under 40 (Table 3). In contrast to observed prevalence, however, asymptotic prevalence shows that there are far fewer women over 40 than women under 40 in the 'stability-poor quality' type. The age cleavage manifests itself through higher

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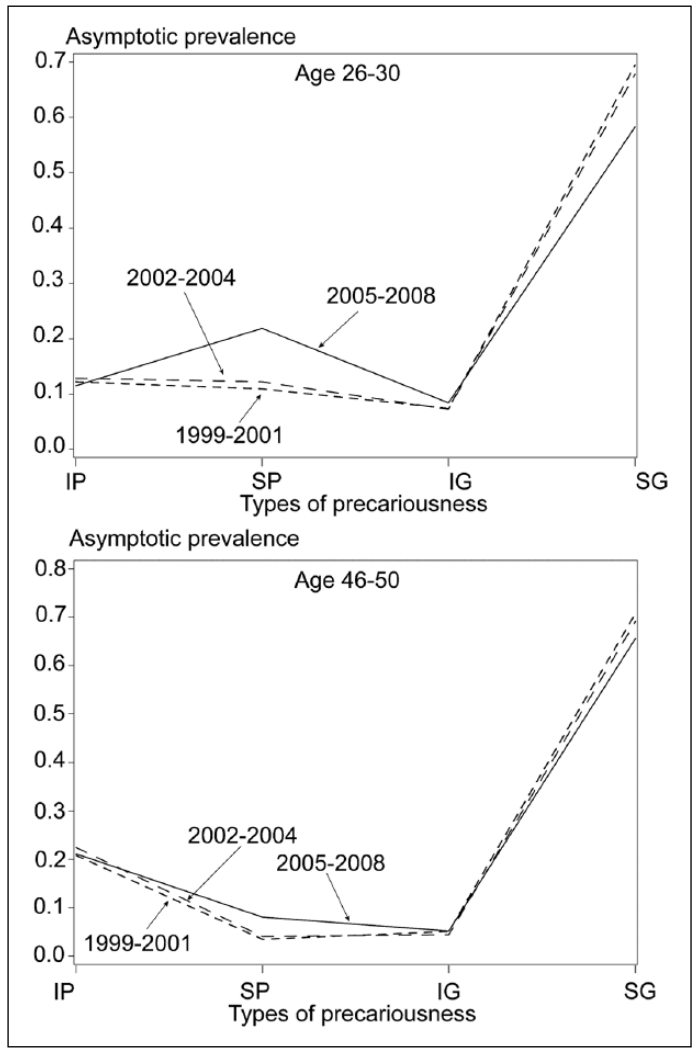

Figure 4. Asymptotic prevalence of employment types over time for two age groups.
IP: instable employment of poor quality; SP: stable employment of poor quality; IG: instable employment of good quality; SG: stable employment of good quality.

observed prevalence for older women in 'instability-poor quality' and for younger women in 'stability-good quality' (Figure 1), even though the transitions of the moment are driving old and young women alike towards 'stability-good quality' (Figure 3): it comes as no surprise that older women continue to bear the imprint of a labour market known to have discriminated against women.

The similarity of asymptotic prevalence at all ages for the two types IP and SG proves that professional mobility is changing the prevalence distribution, and that women of all ages have the same professional mobility with regard to 'stability-good quality' and to

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Table 3. Mean observed and asymptotic prevalence of women's employment types, South Korea, by age and period, in percentage.

Period	Age	Stability–good quality		Instability–good quality		Stability–poor quality		Instability–poor quality	
		Observed	Asymptotic	Observed	Asymptotic	Observed	Asymptotic	Observed	Asymptotic
1999–2001	⩽ 40	30	70	27	7	12	8	31	15
	> 40	20	72	21	5	12	3	47	20
2002–2004	⩽ 40	31	68	18	7	7	9	44	16
	> 40	19	70	11	4	8	3	62	22
2005–2008	⩽ 40	39	62	16	8	8	16	37	14
	> 40	22	68	11	5	8	7	59	20

Source: Korean Labour and Income Panel Study (KLIPS).

Table 4. Expected sojourn time within a life-cycle perspective, by period, in years, South Korean women.

	Stability–good quality	Instability–good quality	Stability–poor quality	Instability–poor quality	Non-type
1999–2001	35.8	2.9	2.5	8.1	0.7
2002–2004	35.0	2.7	2.9	8.7	0.7
2005–2008	32.9	3.0	5.3	7.5	1.2

'instability-poor quality'. The difference, however, arises from the fact that older women start from a more disadvantaged situation. The age cleavage also manifests itself through the lower prevalence of older women in the two intermediary types of precarious employment ('instability-good quality' and 'stability-poor quality'). This indicates that older women do not benefit from a learning phase where they could be 'in-between', and are classified as able to take a stable good quality job only if they have already acquired the resources to obtain it. If, on the other hand, they lack social and professional skills they are relegated to unstable poor quality work.

Table 4 presents expected sojourn times in each state of precarious employment, by period, formally $e_{P_1}(t) = \sum_{a=15}^{63} \sum_{x} \Pr(X = x)\, p_{P_1 P_1}(t, a, X)$, for $P_1 = $ SG, IG, SP, IP, NT, with the structure $P(X = x)$ of configurations of covariates available in KLIPS. This indicator, similar to the period life expectancy in demography, quantifies the time that would be spent by a cohort experiencing the asymptotic prevalence values through successive ages at a given period. It confirms the decrease of 'instability-poor quality', the (asymptotic) predominance of 'stability-good quality', and the increase of 'stability-poor quality'.

Income inequalities associated with prevalence of precarious employment

Lorenz curves and their associated Gini indices characterise the inequalities associated with observed or asymptotic distributions and are routinely computed for income distributions. We adapt this technique to the classification of women in terms of precarious employment types, by associating the mean incomes computed from the KLIPS over the corresponding period.

Figure 5 shows the Gini indices associated with the observed prevalence, that is, the measures of income inequalities inherited from past professional trajectories from labour market entry up to the present. Figure 6 shows the Gini indices associated with the asymptotic prevalence, that is, the measures of income inequalities implied by the transitions of the moment.

As before, these two sets of curves tell different stories. For asymptotic prevalence, the temporal drift towards less 'instability-poor quality' and more 'stability-good quality' jobs and the increase in the 'stability-poor quality' category implies less inequality than the observed prevalence in terms of the income distribution associated with precarious employment types. Moreover, Figure 5 for observed prevalence shows a steady increase in income inequalities at every age over time, while Figure 6 for asymptotic prevalence, after an increase from 1999–2001 to 2002–2004 at all ages, shows no variation between

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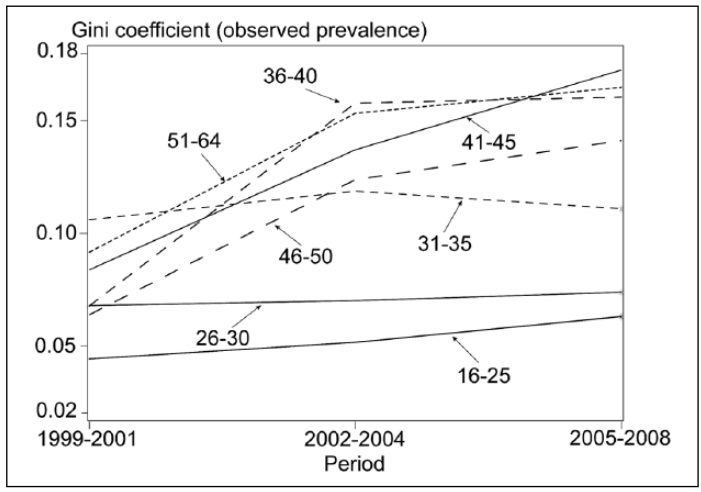

Figure 5. Gini indices for income equality on observed prevalence by age class.

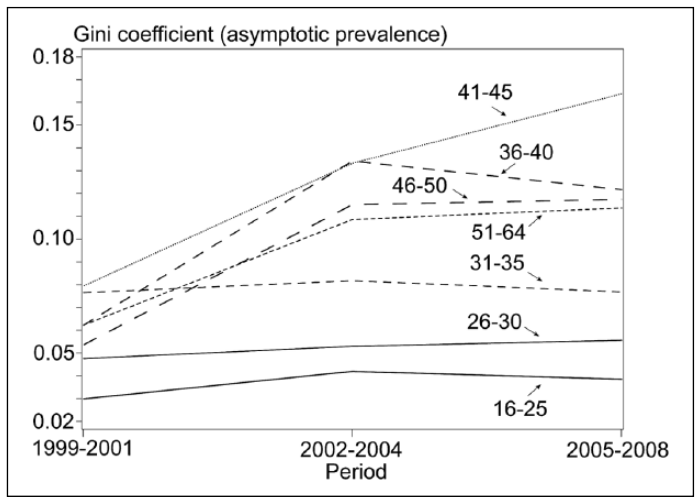

Figure 6. Gini indices for income equality on asymptotic prevalence by age class.

2002–2004 and 2005–2008 for women aged 26–30, 46–50 and 51–64 years, and a decline for women aged 16–25, 31–35 and 36–40 years. The 41–45 years age class is the exception in having increasing inequality over time. Kim and Hong (2009) also find an increasing trend in the observed income inequalities.

One possible explanation for unchanging inequalities among women over 50 is that older South Korean women in paid work tend to be concentrated in low-paid jobs. Kim et al. (2006) point out that the total number of jobs for women aged over 50 has grown rapidly in the three lowest deciles of the income distribution since 2000. Therefore, the

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transitions of the moment could reflect the reality of the generalisation of low salaries for South Korean women, who may prefer to remain in paid employment beyond the average retirement age in the mid-50s.

Conclusion

Our estimate of the distribution of observed prevalence from the KLIPS data confirms the polarisation of the South Korean female labour market. We have also confirmed that observed prevalence distinguishes younger women, more prevalent in the least precarious employment types, from older women, more prevalent in the most precarious types. This is consistent with South Korean women's labour force participation over the life cycle, to which career interruption gives an M-shaped age profile. This interruption accentuates inequalities among women over 40, because women pursuing their careers are more likely to be in well-paid stable employment, while those interrupting tend to end up in low-paid unstable employment, whatever their previous work experience. A consequence is that inequalities, measured by Gini indices, are higher among women aged over 40 than aged under 40. Observed prevalence confirms the legacy of unequal past conditions.

Our picture of the labour market for South Korean women is upturned, however, by measurement of asymptotic prevalence. This reveals what was present but not visible in the hazard rates of the transitions between the types of precarious employment. Women start from a polarised situation, but the conditions of the moment correspond to women moving towards a situation characterised by better stability and better quality employment. This trend affects all ages alike, causing the age cleavage to diminish. In this case, a higher proportion of women in stable good quality employment and a smaller proportion in unstable poor-quality employment reduce inequalities with respect to the mean incomes prevailing in the different types of precarious employment. Increasingly, women are accessing better positions, thanks to social changes affecting the status of women, thanks also to an active public policy of promoting equal opportunities for women. The movement towards more professional, managerial and semiprofessional employment from the 2000s was identified by Kim et al. (2006), and by Keum and Yoon (2011). The possibilities now opening up to South Korean women are reflected in the sharp break between the situation inherited from the past and the conditions of the moment.

Inequalities have two facets, which do not tell the same story. The legacy of the past accounts for women's traditional position in the labour market, resulting in gendered precariousness, while the conditions of the moment indicate that times are changing, and changing for the better (in the conditions of 1999–2008). The current movement is towards less precarious employment. South Korean efforts to reduce women's inequalities are already bearing fruit, as shown by the conditions of the moment, but there is still a long way to go, as shown by the conditions inherited from the past. The government's policy (Ministry of Employment and Labour, 2014) to accompany career interruption and support the work–family balance by favouring decent part-time jobs must be pursued.

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Note

1. The June democratic uprising of 1987 was marked by mass protests (10–29 June) that compelled the South Korean government to hold elections and establish a new constitution, the Sixth Republic, still in force today.

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