Economic Performance in Three Labor Market Models: Flexibility, Rigidity, and Flexicurity

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ABSTRACT

The aim of this paper is to show the superiority of flexicurty model through comparing the economic performance of the three labor market models: flexibility, rigidity, and flexicurity. The analysis is composed of two parts. The first is the classification analysis of labor markets. The second is regression analysis of the impacts of labor market institutions on the economic performance. EPL index (EPL) was used as a major indicator of labor market flexibility, while the expenditure on active labor market policies as percent of GDP (ALMP) was used as an indicator of labor market security.

In the regression equations, employment rates, unemployment rates, poverty rate, and Gini coefficient were included in dependent variables as the indicators of economic performance, while EPL, ALMP, unemployment replacement rate, duration of unemployment benefit, union density, and collective bargaining coverage, tax wedge, and rate of inflation were included in independent variables. Pooled data of independent variables and dependent variables for 4 years (1990, 1995, 2000, 2005) in 19 OECD countries were used. Estimations were made for both random effects model and fixed effects model.

Unemployment rate was the highest in rigidity model 1(high EPL and high ALMP) and was the lowest in flexibility model. Employment rate was the highest in flexibility model and the lowest in rigidity model 2(high EPL and low ALMP). Income inequality measured by Gini coefficient and poverty rate was the highest in flexibility model and was the lowest in flexicurity model. This means that while flexibility model shows the best performance in terms of quantity of employment, flexicurity model shows the best practices in income equality and better employment performance than rigidity model. Thus it can be concluded that flexicurity model is superior to both rigidity model and flexibility model.

Major findings from the regression analysis are as follow. Flexible labor market decreases unemployment rate and increase employment rate. ALMP is found to have no significant effect on unemployment and employment. But, interaction between

flexible labor market and ALMP, which represents the extent of flexicurity, is found to reduce unemployment rates and increase employment rates. Especially, it has a stronger effect on reducing long-term unemployment rate. This means that not only flexible model (with low EPL) but also flexicurity model (with low EPL and high ALMP) has good employment performance, that is, low unemployment rate and high employment rate.

Flexible labor market is found to increase Gini coefficient. ALMP is found to decrease Gini coefficient and to reduce poverty rate. Duration of unemployment benefits is also found to decrease Gini coefficient and to reduce poverty rate. These results suggest that flexible labor market tends to aggravate income inequality, while rigid labor market tends to decrease income inequality. They also suggest that active labor market policies and generous unemployment benefits tend to improve income distribution. It is notable that ALMP is found to have a stronger effect to reduce income inequality than EPL.

In this paper I clarified that the reason why flexicurity model shows superior economic performance isthat it combined low EPL with high ALMP. Low EPL as well as 'low EPL with high ALMP' can decrease unemployment rate and to increase employment rate. Unemployment replacement rate had no significant effect on unemployment and employment. This analysis implies that among the "Golden Triangle" of the Danish flexicurity model, flexible labor market and active labor market policies, rather than generous welfare systems, are more important factors in high economic performance. This paper suggests that flexicurity model could be a third way for sustainable growth with innovation and social cohesion in the era of globalization and knowledge-based economy.

1. INTRODUCTION

Until the 1990s, there have been two labor market models in the advanced economies: flexible labor market with low employment protection and rigid labor market with high employment protection. From 2000's on, flexicurity model had emerged as the 'third way' of the labor market model, in which flexibility and security are coupled. The flexicurity model in Denmark is highlighted as a best practice, which contributes to sustainable growth through facilitating both innovation and social cohesion in the era of globalization and the knowledge-based economy[1](Kim 2008).

Thus, three labor market models by the differences of labor market institutions

[1] Innovation, especially radical innovation, needs labor market flexibility while labor market security is necessary for social cohesion. For innovation with social cohesion, flexicurity is needed.

can now be classified: flexibility model, rigidity model, and flexicurity model. Employment Protection Legislation (EPL), unemployment benefits, active labor market policies (ALMP), and collective bargaining system are major institutions of labor market which have molded three different labor market models. These institutions might impact the economic performance. There are numerous studies which analyzed the correlations between these labor market institutions and economic performance such as the employment rates and unemployment rates (i.e., Nickell 1997, Heckman and Pages 2000, OECD 2004, Amable et al, 2006, Bradley and Stephens 2007)

Most of the previous researches show that EPL reduces employment rates, while ALMP reduces unemployment rates. Moreover, centralized wage bargaining reduces income inequalities. From this, an implication can be derived that increased flexibility by reducing strictness of employment protection, if combined with enhanced security by intensifying active labor market policies[2], can realize flexicurity model with both achieve high employment performance and high employment security. In this regard, flexicurity model was considered as an alternative labor market model.

Are the economic performances of flexicurity model superior to the other two models, that is, flexibility model and rigidity model? What flexicurity model factors make its performance superior to flexibility model or rigidity model? This paper aims to answer these questions.

2. BACKGROUND

With respect to the economic performance of the labor market institutions, the focus of analysis has shifted from the corporatist view of the 1980s to the neoliberalist view of the 1990s. The corporatist view emphasized the positive impact of specific labor market institutions, such as the centralized wage bargaining (Brunetta, R. and C. Dell'Aringa eds. 1990), while the neoliberailst view stressed the negative effect of rigid labor market institutions, such as strong employment protection legislation (Nickell 1997). In contrast to the corporatist view which tried to defend coordinated market economies with labor market regulation, the neoliberalist view attempted to support liberal market economies with labor market deregulation. The neoliberalist view prevailed throughout the 1990s. Thus, most researches highlighted the negative impact of EPL on both employment and unemployment

From 2000's on, as the flexicurty model emerged, the third way view beyond the corporatist view and neoliberalist view appeared. The third way took account of the need for flexibility as well as and security of the labor market (European Commission 2003). Special attention was paid to the Danish flexicurity model which is the combination of flexible labor market, generous welfare systems, and active labor market policies (Wilthagen and Tros 2004, OECD 2004, Boyer 2006). The so-called

[2] In addition to active labor market policy, social security system with generous unemployment benefits is another core factor of flexicurity model.

"Golden Triangle" of flexicurity is considered as a best practice exhibiting both high labor market dynamism and high social protection.

Phlips and Eamets (2007) analyzed flexicurity in regards to European Union states. They classified EU Member States into six groups based on flexicurity models through factor and cluster analysis. They showed that Nordic countries (Denmark, Finland, Sweden) achieved best practices in terms of flexicurity. Even though their classification analysis is comprehensive and systematic, they did not analyze which factors of flexicurity contributed to the various elements of economic performance. In order to obtain this information, a regression analysis in addition to classification analysis is needed.

3. METHODS

The analysis in this paper is composed of two parts. The first involves the classification analysis of labor markets. The second involves regression analysis of the impacts of labor market institutions on the economic performance. For the classification analysis, EPL index (EPL) was used as a major indicator of labor market flexibility, while the expenditure on active labor market policies as a percentage of GDP (ALMP) was used as an indicator of labor market security[3]. Using these two indicators, I classified labor markets in 19 OECD countries into three labor market models. Rigidity model (France, Germany, Norway, Spain, Sweden, Austria, Italy, Portugal) has high EPL and high or low ALMP. Flexibility model (Australia, Canada, Japan, New Zealand, Switzerland, U.K., U.S.) has low EPL and low ALMP. Flexicurity model (Denmark, Netherlands, Finland, Belgium) has low EPL and high ALMP.

For the indicators of economic performance four variables were selected: employment rates, unemployment rates, Gini coefficient, and poverty rate. I will show whether the economic performances of the flexicurity model are superior to those of the flexibility and rigidity models. I will also analyze which changes in economic performance have occurred over the period from 1990 to 2005.

In order to clarify the factors which made the economic performance of flexibility model superior to those of the other two models, regression analysis was conducted. In the regression equations, dependent variables are employment rates, unemployment rates, poverty rate, and Gini coefficient, while independent variables are EPL, ALMP, unemployment replacement rates (UBR), duration of unemployment benefit (UBD), union density (UD), and collective bargaining coverage (CBC), tax wedge (TW), rate of inflation (INFL). Pooled data of independent variables and

[3] In one aspect, EPL index represents the level of security of the labor market in terms of job security. But, viewed from dynamic stability of employment or flexicurity, it can be considered as the extent of rigidity of the labor market. Rigidity means inflexibility. Thus, if we classify the state of labor markets into flexibility and security, the EPL index might be interpreted as an indicator which represents flexibility. The indicators of security include ALMP and social protection (for example, unemployment replacement rates). In this paper, for the classification of labor market, we adopted the ALMP only as the indicator of security.

dependent variables for 4 years (1990, 1995, 2000, 2005) in 19 OECD countries were used. Estimations were made for both the random effects model and the fixed effects model.

4. RESULTS AND DISCUSSION

There are significant differences in the economic performance among the three labor market models. Table 1 shows that unemployment rate is the highest in rigidity model 1 and the lowest in flexibility model. The employment rate is the highest in flexibility model and the lowest in rigidity model 2. This means that flexibility model exhibits the best performance in terms of the quantity of employment. However, the greatest improvement in employment performance was shown in flexicurity model over the period from 1995 to 2005. Income inequality, as measured by Gini coefficient and poverty rate, is highest in the flexibility model and lowest in flexicurity model.

In sum, flexicurity model shows the best practices in regards to income equality and better employment performance than rigidity model. Thus we can conclude that flexicurity model is superior to rigidity and flexibility models.

Table 1. Economic Performance in Three Labor Market Models

	unemployment rates			employment rates			Gini coefficient			poverty rate		
	1995	2005	Δ	1995	2005	Δ	1995	2005	Δ	1995	2005	Δ
Flexicurity	10.67	6.65	-4.02	63.54	69.77	6.23	0.25	0.26	0.01	6.68	7.28	0.60
Flexibility	6.42	4.85	-1.57	71.80	74.39	2.59	0.33	0.33	0.00	11.77	12.03	0.26
Rigidity1	11.19	8.39	-2.81	62.55	67.55	5.01	0.27	0.28	0.01	7.72	8.86	1.14
Rigidity2	7.53	6.88	-0.66	61.47	65.90	4.43	0.32	0.33	0.02	12.07	10.30	-1.77
Total	8.75	6.48	-2.27	66.00	70.28	4.28	0.29	0.30	0.01	9.56	9.92	0.36

Note: Rigidity 1 has high EPL and high ALMP(France, Germany, Norway, Spain, Sweden), while Rigidity2 has high EPL and low ALMP(Austria, Italy, Portugal)
Sources: OECD Statistics database, OECD Labor Market Statistics Database

What made the economic performance of flexicurity model superior to those of the other two models? The answer can be found in the results from the regression analysis. Table 2 and Table 3 show the impact of labor market institutions on economic performance in terms of unemployment rates, employment rates, Gini coefficient, and poverty rate.

First, it should be noted that since we considered EPL as an indicator of flexibility, in our regression equations we included a dependent variable FLEX (negative value of EPL index) instead of EPL itself. Table 2 shows that flexible labor market (FLEX) decrease unemployment rates and increase employment rates. ALMP is found to have

no significant effect on unemployment and employment[4]. But, interaction between FLEX and ALMP, which represents the extent of flexicurity,[5] is found to reduce unemployment rates and increase employment rates. Especially, it has a stronger effect on reducing long-term unemployment rates. This means that not only flexible model (low EPL) but also flexicurity model (low EPL and high ALMP) exhibit good employment performance, that is, low unemployment rates and high employment rates.

Second, flexible labor market (FLEX) is found to increase Gini coefficient (Table 3). Active labor market policies (ALMP) are found to decrease Gini coefficient and to reduce poverty rate. Duration of unemployment benefits is also found to decrease Gini coefficient and to reduce poverty rate. These results suggest that flexible labor market tends to aggravate income inequality, while rigid labor market (EPL) tends to decrease income inequality. They also suggest that active labor market policies (ALMP) and generous unemployment benefits tend to improve income distribution. It is notable that ALMP is found to have a stronger effect in reducing income inequality than EPL.

Table 2. The Impact of Labor Market Institutions on Employment Performance: Regression Results

	Unemployment Rates		Long-term Unemployment Rates		Employment Rates	
	Random Effects	Fixed Effects	Random Effects	Fixed Effects	Random Effects	Fixed Effects
FLEX	-2.245 **	-4.039 **	-9.358 ***	-8.786	5.607 ***	6.168 ***
ALMP	4.403	3.308	27.172	25.572	-2.793	1.391
FLEX*ALMP	-1.737 *	-2.753 **	-7.635 ***	-7.962 **	4.135 ***	4.834 ***
CBC	-0.007	-0.075	0.202	0.046	0.077	0.177 **
UD	-0.007	0.134	-0.351 **	-0.359	0.059	-0.088
UBR	0.049	0.176	0.194	0.566 *	-0.013	-0.090
UBD	0.498	-6.892	-2.856	-28.133 *	-6.308	-0.200
TW	-0.045	-0.021	-0.238	-0.354	-0.085	-0.062
INFL	-0.372 *	-0.600 ***	-0.601	-0.767	0.798 ***	1.006 ***
CBC*ALMP	-0.031	0.014	-0.241	-0.179	-0.055	-0.115
UBR*ALMP	-0.114	-0.113	-0.320	-0.268	0.107	0.034
TW*ALMP	0.145	0.163	0.644 *	0.666 *	-0.145	-0.143
CONST.	4.607	-0.424	15.374	30.581	73.245 ***	71.621 ***

[4] This might largely be due to the fact that flexibility model, in which ALMP is very low, shows high employment performance. This also suggests that ALMP alone does not improve employment performance.

[5] As mentioned above, FLEX represents the extent of flexibility, while ALMP represents the extent of security. Thus, interaction term FLEX*ALMP indicates the extent of flexicurity.

Note: ***, **, * means statistically significant at 1%, 5% and 10% levels, respectively. FLEX(flexibility index)=-EPL index, ALMP: means of 5-year ALMP(% of GDP). The OECD EPL index of the year 1990 was used for EPL index of the year 1995 in the regression equation. EPL index of the year 1998 was used for EPL index of 2000. EPL index of the year 2003 was used for EPL index of the year 2005.
Sources: OECD Statistics Database, OECD Labor Market Statistics Database, CEP-OECD dataset, Benefits and Wages 2007 OECD Indicators, OECD Employment Outlook 2004

Table 3. The Impact of Labor Market Institutions on Income Inequalities: Regression Results

	Gini Coefficient		Poverty Rate	
	Random Effects	Fixed Effects	Random Effects	Fixed Effects
FLEX	0.013 *	0.012	0.792	0.939
ALMP	-0.062 ***	-0.031	-3.853 **	-2.904
FLEX*ALMP	0.009	0.004	0.674	0.620
UBR	0.000	0.001 *	-0.025	0.019
UBD	-0.012	-0.069 *	-2.664	-5.620 **

Note: ***, **, * means statistically significant at 1%, 5% and 10% levels, respectively poverty rate=50% of median income
Sources: OECD Labor Market Statistics Database

5. CONCLUSIONS

In this paper I clarified that the reason why flexicurity model shows superior economic performance isthat it combined low EPL with high ALMP. Low EPL as well as 'low EPL with high ALMP' can decrease unemployment rates and to increase employment rates. Moreover, ALMP is found to decrease income inequality. Unemployment replacement rates had no significant effect on unemployment and employment. Duration of unemployment benefits is found to increase long-term unemployment rates on the one hand. On the other hand it is found to decrease income inequality.

Moreover, our analysis implies that among the "Golden Triangle" of the Danish flexicurity model, flexible labor market and active labor market policies, rather than generous welfare systems, are more important factors in regards to high economic performance. This finding suggests that if one country adopts a policy mix which combines low or moderate EPL with high ALMP, it can achieve significant economic performance such as higher employment rates, lower unemployment rates, and lower income inequalities. This suggestion makes sense, given the fact that flexibility model implemented in Denmark has better economic performance than either flexibility model in the U.K. or rigidity model in Germany.

This paper suggested that flexicurity model could be a third way for sustainable growth with innovation and social cohesion in the era of globalization and knowledge-

based economy. Core labor market institutions for flexicurity model were identified. The analysis of this paper implies that if a workable flexibility-security nexus is created in any country, flexicurity model originated from Denmark is transferable to other countries.

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