

# Outward Capital Flow and Unemployment

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## Abstract

We set an empirical model to study the correlation between capital outflow and unemployment in the G-7 countries. The result shows that the outward direct investment is beneficial to employment at home. However, the effect of portfolio investment abroad on domestic labor market is ambiguous and insignificant except in the U.S.

**Keywords :** Capital outflow, Unemployment

*JEL classification: G15; J51; J64*

## 1. Introduction

Capital globalization is regarded as an inevitable trend in the world. However, the effect of moving capital abroad on the domestic labor market is ambiguous. In this paper, we will set an empirical model to study this issue.

There are two main types of foreign investments: direct investments and portfolio investments. The outward direct investments, in theory, leads to the loss of domestic jobs and hence the depression of employment in the investing country. The

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empirical studies of Frank and Freeman (1978), Glickman and Woodward (1989) both find that foreign direct investment (FDI) actually displaced workers in the U.S.

However, some feel that FDI stabilizes employment at home and enables the investing firms to keep world market share. For example, within U.S. multinationals, Lipsey (1994) finds that those with higher shares of production overseas have higher employment at home relative to home production. This is because foreign production requires more employees in headquarters activities such as R & D and supervision. Within Swedish multinationals, Blomstorm et al (1997) find that FDI will preserve unskilled jobs at home when more skill-intensive activities are allocated to the foreign country. In addition to the two opposing arguments mentioned above, Chen and Ku (2000) find FDI to be inconsequential to employment at home. It is an empirical study of Taiwan's manufacturers.

On the other hand, the effect of outward portfolio investment on domestic employment is debatable, too. Basu et al (2001) find that optimal labor supply increases in response to an increase in the rate of return risk when the elasticity of intertemporal substitution is less than unity. Furthermore, Baxter and Jermann (1997) argue that with the returns of domestic human capital highly correlated to the returns of domestic marketable assets, it requires a reduction in the holding of domestic marketable assets for hedging purpose. The same conclusions are shown in Michaelides (2001) and Jermann (2002). More recently, Harms and Hefeker (2003) have analyzed how the distribution of random capital incomes affects employment on an imperfectly competitive labor market. They demonstrate that international portfolio diversification may have a positive effect on domestic employment. The reason is that with the returns of foreign investments negatively correlated with domestic labor demand shocks, the wage set by a monopoly union may be lower and hence reducing unemployment.

Since the effect of outward capital flow on domestic employment is indeterminate, we intend to construe this issue broadly. In this paper, these two types of foreign investments are characterized by proxy variables using macroeconomic data. With the new evidence produced by the empirical result of these instruments, we expect to obtain more information on the correlation between capital outflow and unemployment.

The empirical results of this paper show that the outward direct investment will stimulate the domestic employment. However, in the U.S., the degree of portfolio investment abroad and unemployment rate is positively correlated. This clear relation can't be found in the other six countries. Therefore, it is necessary to find other factors to explain this relationship between outward portfolio investment and domestic employment.

The paper is set out as follows. Section 2 illustrates the data and the empirical model followed in the analysis. Section 3 describes the empirical results. Section 4 is the conclusions.

## **2. The data and the empirical model**

The data utilized in this study has been obtained from the International Monetary Fund, '*International Financial Statistics*'. The empirical study comprises the most capital outflow countries in the world: the G-7 countries. And we use the annual data from 1981 to 2002 . The G-7 countries include the United States (USA), Japan (JAN), United Kingdom (UK), France (FRA), Germany (GER), Canada (CAN) and Italy (ITA). The code names used in this paper are given in parentheses.

The econometric model takes the following form:

$$UN_{i,t} = \alpha_i + \beta_i \cdot FDI_{i,t-1} + \gamma_i \cdot PORT_{i,t-1} + \phi_i \cdot TREND_t + \varepsilon_{i,t},$$

where the underscored  $i$  represents country  $i$  and  $t$  time. UN is the unemployment rate and TREND is a time trend variable. The degree of the outward direct investment, denoted by FDI, is measured as the rate of direct investment abroad to GDP. PORT denoting the degree of outward portfolio investment is measured as the rate of portfolio investment assets to GDP. Direct investment abroad and portfolio investment assets which are measured in terms of U.S. dollar are both items in the financial account of the balance of payment (BOP). Gross domestic product (GDP) measured in terms of local currency is multiplied by the exchange rate to be consistent with the measurement of the numerator.

Since the impact of capital outflow on labor market takes time, the dependent variables as proxies of capital outflow in the regression are lagged one year. All the variables in the model are transformed to logarithmic forms. The statistics of the variables in the original form are shown in the table 1.

Table 1: The statistics of the data

	<b>USA</b>	<b>JAP</b>	<b>UK</b>	<b>FRA</b>	<b>GER</b>	<b>CAN</b>	<b>ITA</b>
UN	6.2364 (1.5392)	3.1136 (1.0129)	7.7727 (2.8295)	10.1364 (1.3882)	8.9727 (1.3850)	7.8773 (1.4078)	10.7864 (1.1167)
PORT	0.7596 (0.6556)	2.2478 (1.1185)	4.7298 (3.09630)	2.2482 (2.8002)	2.7023 (2.8717)	7.7091 (6.2878)	17.0951 (19.4524)
FDI	0.9144 (0.5763)	0.6737 (0.3618)	4.3521 (4.2858)	2.5470 (3.1593)	1.5671 (1.2578)	11.0490 (6.9807)	23.9274 (23.3666)

Note: In each blank, the first number is the mean of the variable, given in percent. And the standard error is shown in parentheses.

The regression is estimated as a system of separate equations for the individual countries using generalized least squares (GLS). The standard errors are computed from heteroscedastic-consistent matrix developed by White (1980).

### **3. Empirical result**

Table 2 represents the results of the regression model. As can be observed from Table 2, the unemployment rate in the U.S. and the U.K. have negative trend. In Japan and France, the existence of unemployment seems to pose a severer threat than before.

From Table 2, the FDI is negatively correlated with the unemployment rate in all the G-7 countries. In other words, the outward direct investment is beneficial to employment at home. The result is more similar to the conclusions of Lispey (1994) and Blomstorm et al (1997). Therefore, in these developed countries, foreign direct investment requires more employees in headquarters activities and hence stimulating employment.

However, the impact of portfolio investment abroad on domestic labor market is ambiguous and insignificant except in the U.S. For the U.S., the greater the outward portfolio investment, the higher the unemployment rate. The definite relation can't be found in the other countries. Therefore, from the proposition of Harms and Hefeker (2003), the returns of portfolio investment abroad are positively correlated with U.S. labor demand shocks. Nevertheless, we conclude that for the other six countries, the returns of outward portfolio investment are unrelated to domestic employment or there may have been some other factors to link these two variables. In other words, the connection couldn't be explained simply by international diversification for hedging purpose.

Table 2: The relation between capital outflow and unemployment

	USA	JAP	UK	FRA	GER	CAN	ITA
Constant	258.2110 (141.5140) **	-647.6230 (91.5746)*	717.1380 (141.4170)*	-314.0180 (74.9073)*	-377.1210 (98.9621)*	76.3643 (171.0150)	-121.6390 (113.5730)
FDI(-1)	-0.2027 (0.0753)*	-0.1847 (0.0473)*	-0.2001 (0.0671)*	-0.1582 (0.0243)*	-0.0576 (0.0543)	-0.1476 (0.0750)*	-0.0699 (0.0350)*
PORT(-1)	0.0575 (0.0335) **	0.0213 (0.0417)	0.0238 (0.0599)	0.0317 (0.0220)	-0.0449 (0.0318)	-0.0019 (0.0383)	-0.0131 (0.0214)
TREND	-33.7568 (18.6244) **	85.3773 (12.0534)*	-94.1121 (18.6270)*	41.6507 (9.8608)*	49.9351 (13.0281)*	-9.7378 (22.5347)	16.3572 (14.9644)
$R^2$	0.7130	0.7312	0.8176	0.6203	0.3913	0.4777	0.1000

1. Standard errors are given in parentheses.
2. \* indicates significance at 5 \% statistical level.
3. \*\* indicates significance at 10 \% statistical level.

## 4. Conclusions

The empirical evidence of the G-7 countries data found in this paper confirms that the outward direct investment will stimulate the domestic employment. However, in the U.S., the degree of portfolio investment abroad and unemployment rate is positively correlated. This clear relation can't be shown in the other six countries. Therefore, it is necessary to find other factors, not only the international diversification for hedging purpose, to explain this relationship between outward portfolio investment and domestic employment.

In this paper, we discuss the impact of the outward capital flow on domestic labor market. The empirical study focuses on the developed countries. However, the phenomenon of capital outflow has been found in some developing countries . It is interesting to study whether the effects are different in developed countries and developing countries.

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# 資本外移與失業

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## 摘要

本文主要探討資本外移對 G-7 之國內勞動市場的影響。我們利用時間數列跨國聯立模型進行實證研究，結果顯示 G-7 國家直接對外投資越多對國內就業有正面幫助，而除了美國金融對外投資與失業率有正向關係外，其餘六國金融對外投資與就業之間的關聯性並不明確。因此，以 Harms and Hefeker (2003) 的論點由避險的角度來解釋國際金融投資的必要性仍有不足之處，我們必須尋求其他因素來解釋此一關係。

**關鍵字：**資本外移，失業

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