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A Comparative Flow-of-Funds Study of the OECD Countries
Saving-Investment Balance Revisited

Kazusuke Tsujimura   Masako Tsujimura

For additional information please contact:

Author Names : Kazusuke Tsujimura, Masako Tsujimura
Author Address : Keio Economic Observatory, Keio University
                           2-15-45 Mita, Minato-ku, Tokyo, 108-8345, JAPAN
Author E-Mail : mizosita@sanken.keio.ac.jp
Author FAX : +81-3-5427-1640
Author Telephone : +81-3-5427-1597

1. Introduction

The long-awaited *OECD Financial Statistics* has made a secret return at last under the guise of *National Accounts of OECD Countries: Volume III*. This publication is more than valuable because it contains financial balance sheets as well as financial transaction tables of the principal institutional sectors of the leading countries of the world. The present study is an attempt to exploit the data to compare the 21 OECD countries from the viewpoint of saving-investment balance. Since this topic was traditionally taken up in macro-economic perspective, the centre of the discussion, in the early stage, always stayed on the current account deficit. For example, Ricardo (1821) asserted that only the real factors such as productivity, terms of trade, and government trade could affect the current account balance. It was Wicksell (1898) who pointed out that the division of decision-making between households and firms no longer guarantee the equilibrium of savings and investments. Keynes (1936) argued that the government had no choice, but to bridge the gap between savings and investments if it prefers to maintain full employment. In addition to that, he mentioned the possibility that the budget deficit might bring current account deficit through increased total demand. Fleming (1962) and Mundell (1968) tried to combine this idea with Hicks' (1937) IS-LM interpretation of Keynes, producing well-known Mundell-Fleming model; the bond issuing to cover the budget deficit raises interest rates; as a consequence, it will create a currency appreciation accompanied by current account deficit.

Empirical studies in this field could be divided into two fields. The first category of papers tries to find out if the twin deficits in budget and current account really prevail. Miller and Russek (1989), Enders and Lee (1990), and Kim (1995) found no significant relations between the two; while Darrat (1988), Abell (1990), Zietz and Pemberton (1990), Bachman (1992), Rosensweig and Tallman (1993), Bahmani-Oskee (1992, 1995) as well as Vamvoukas (1999) support the existence of the twin deficits. Leachman and Francis (2002) suggest that while fiscal deficits may have contributed to persistent current account deficits in post Bretton Woods U.S., the twin deficit relationship is time specific and generally rather weak. The second category of study is motivated to test the relations of investments to the savings. Feldstein and Horioka (1980) regressed ratio of investment on ratio of saving, using cross-section data of OECD countries, showed the coefficient was close to unity; Murphy (1984), Obstfeld (1986), Wong (1990), and Baxter and Crucini (1993) reviewed the evidence. On the contrary, Sinn (1992) found that the regression coefficients were lower and vary considerably from year to year.

As Wicksell suggests, the problems concerning saving-investment imbalance are

stemming from the division in decision making among institutional sectors. In that sense, pure macro economic data is insufficient for this field of study. Dawson (1964a) presented a saving-investment process scheme designed for analysis of the U.S. financial system, and defined the scheme statistically in terms of flow-of-funds data; Dawson (1964b) examined the saving-investment process in the U.S. for the 1952-62 period based on the scheme. Ruggles and Ruggles (1992) found that, in the U.S., the household sector has not been a net provider of saving for enterprise gross capital formation; the gross saving of households has been just sufficient to cover their own capital formation; among the enterprise sectors, the gross saving of the manufacturing sector has been equal to its gross capital formation. Another finding of the paper is that net lending/borrowing of the households not only fluctuates in magnitude but also changes its sign from a year to another.

2. Construction of the Data

The fundamental data used in this study was prepared from Volume III of the *National Accounts of OECD Countries*. Volume IIIb (the latter half) of this publication contains information on the financial stocks held by institutional sectors, at the end of the year, in the form of financial balance sheets. The historical tables give a view of the evolution in the holding of stocks of financial instruments by the different institutional sectors. Although the availability of the data depends on the reporting of particular countries, the data of 21 OECD countries are available between 1998 and 2003. The countries include nine euro members (Austria, Belgium, Finland, France, Germany, Italy, Netherlands, Portugal, Spain), seven non-euro European countries (Czech Republic, Denmark, Hungary, Norway, Poland, Sweden, U.K.) and five non-European countries (Australia, Canada, Japan, Korea, U.S.).

The institutional units, which correspond to economic entities capable of engaging in transactions with other units, are grouped together into five categories, called institutional sectors: non-financial corporations, financial corporations, general government, and households (inclusive of non-profit institutions serving households). A sixth sector, the rest of the world sector, reflects transactions between resident institutional units and non-resident units. Financial assets and liabilities are classified under seven major categories of instruments: monetary gold and special drawing rights (SDRs), currency and deposits, securities other than shares, loans, shares and other equity, insurance technical reserves, and other accounts receivable/payable. The financial balance sheet account also presents a balancing item which corresponds to the

financial net worth (financial assets less liabilities).

In addition to the financial balance sheets, Volume IIIa (the first half) of the publication contains information on the financial transactions between institutional sectors, by type of instruments. As the title of the publication suggests, the financial statistics presented here is a part of a system of national accounts. Specifically, this statistics directly relate to the 1993 edition of the System of National Accounts (SNA 1993). Table 1 depicts the relationships between main SNA aggregates and the total economy. For example, the financial balance sheets mentioned above correspond to the "balance sheets" in the table; the financial balance sheets exclude non-financial assets and are classified by institutional sectors. The financial transaction tables, frequently referred as flow-of-funds accounts, correspond to the "financial account" of the "accumulation accounts" in Table 1. In SNA 1993, the accumulation account is a joint between the current accounts and the balance sheets. The gross saving, the primary source of the capital accounts, is obtained as the difference between the gross national disposable income (GNI plus net current transfers from abroad) and the final consumption expenditure. The gross saving less the consumption of fixed capital is the net saving. Among the accumulation accounts, the capital account records the non-financial transactions. A portion of the saving is used for capital formation and for acquisition of non-produced non-financial assets; and the remainder consists net lending (if positive) or net borrowing (if negative). This is the source of the financial accounts, another component of accumulation accounts.

Financial account records the acquisition and disposal of financial assets and liabilities, and shows how net lending or net borrowing, carried over from the capital account, is reflected in transactions in these financial items. The financial account is the last account in the sequence of accounts recording transactions. The financial transaction tables inherit all the properties from the traditional flow-of-funds accounts including the one compiled by U.S. Board of Governors of the Federal Reserve System since 1950s. The tabulation format of the financial transaction tables is almost identical to that of the financial balance sheets. Each cell of the financial transaction tables corresponds to the same cell of the financial balance sheets; it is supposed to record the increase or decrease of the statistic appears in the financial balance sheets. The problem is that SNA (1993 as well as 1968) stipulate that all the items in the balance sheets should be valued at market price. As a result, the differences in the figures between opening and closing balance sheets include not only the transactions, but also revaluation arose from the changes in the market value plus other changes in volume in assets and liabilities (OCVA).

3. The Observation

One of the advantages of the financial transaction tables is that they provide figures on net lending/borrowing of the institutional sectors rather than their aggregate. These indicators give us the crucial information on the saving-investment balance of a country. However, sometimes the statistics on the net lending/borrowing is misleading, because they fluctuate from one year to another. Although financial net worth includes valuation changes as well as OCVA, it could be interpreted as an accumulation of net lending/borrowing of the past. Since financial net worth is a lot more stable than the net lending/borrowing, it could be more reliable indicator of saving-investment balance of a country. In the economy, the households are the primary source of savings so that the financial net worth of the sector in total is positive. On the other hand, non-financial corporations are the primary investors so that the financial net worth of the sector in total is negative. The financial net worth of the other prominent institutional sectors including the general government and the rest of the world could be either positive or negative depending on the current situation of the economy; specifically, the financial net worth of the financial corporations is almost zero, because they merely are financial intermediaries.

3.1 Net Lending/Borrowing of the institutional sectors

In Figure 1, the net lending/borrowing of the institutional sectors are depicted for each country. The data is normalized by the previous year's financial net worth of the household so that the ratio is free from currency unit or exchange rate[1]. The data for both 1998 and 2003 are presented here for comparison. As Ruggles and Ruggles (1992) notes, the patterns of net lending/borrowing are not only different in one country from another, they are different from year to year. In most cases, the households have net lending; however, net borrowing is observed in Australia, Canada (2003 only), Denmark, Finland (2003 only), Hungary (2003 only), the U.K. and in the U.S. (2003 only). The non-financial corporations have net borrowing (i.e. net capital formation) in most cases; the exceptions are Canada (2003 only), Denmark (2003 only), Finland, France (1998 only), Japan, the Netherlands (2003 only), Norway (2003 only), Sweden, the U.K. (2003 only) and the U.S. (2003 only); in these countries, the net capital formation is negative.

The correlations between the net lending/borrowing of the households and the non-financial corporations are presented in Figure 2; except for Norway, where the

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[1] Although in most countries, total lending equals to total borrowing, there are discrepancies in some cases because of valuation problem; in such cases, we adjusted the figure to market prices to eliminate the gap; the adjustment is made to each financial instrument rather than to the aggregate.

government saves more than the households, some negative correlation is observed. Unfortunately, the observation period is too short to prove the causality. One explanation is that they save less and invest less, in an economy with higher proportion of aged population; however, for example in Canada which belongs to the second quadrant, the proportion is not necessarily high. Another explanation is the nature of the statistics and the estimation procedure; since the households do not make financial balance sheet of their own, it could be estimated so as to the summation of the net lending/borrowing is zero. We do not have any evidence to support the idea either.

To test the stability of the net lending/borrowing of the institutional sectors, the correlations of the net lending/borrowing of the non-financial corporation between 1998 and 2003 are illustrated in Figure 3. Most of the observation markers are placed above the 45 degree line, showing the reduction in the net borrowing (net capital formation). Only if we exclude some of the countries like Norway, Denmark, Hungary and Poland, we find vague positive correlations between the data of the two years; but still many of the countries stray from the 45 degree line suggesting the instability of the statistics.

3.2 The Financial Net Worth of the Institutional Sectors

The financial net worth of each institutional sector[2] normalized by that of household is depicted in Figure 4. The pattern of the distribution of the financial net worth looks more stable than that of net lending/borrowing displayed in Figure 1. Actually, reverse of the sign between 1998 and 2003 is observed in only four cases: Poland and Sweden in the general government, and Korea and the Netherlands in the rest of the world. The correlations of the financial net worth of the non-financial corporations between 1998 and 2003 are illustrated in Figure 5; almost all scatters are not far from the 45 degree line proving the stability of this statistics. In Figure 4, it is confirmed that the financial net worth of the household is positive[3] while that of the non-financial corporation is negative in all countries for both years. The sign of the general government and the rest of the world are either positive or negative depending on the country. As for 2003, the proportion of the financial net worth of the non-financial corporations to that of the households is higher (in absolute value) in Norway, Finland, Poland and Hungary; and lower in Belgium, Italy, Japan and Germany. The absolute figure is over unity in 10 countries, implying that the net asset of the household sector is short to finance the net

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[2] Monetary gold and SDRs issued by the IMF are excluded from the data because there are no corresponding financial liabilities. Although in most countries, the sum of financial net worth becomes zero; whenever there are discrepancies, we adjusted the figure to market prices to eliminate the gap.

[3] Financial net worth of the household is positive, without exception, even before the normalization.

liability of the non-financial corporations. (See Figure 6.) The financial net worth of the general government is positive in 5 countries including Norway, Finland and Korea, demonstrating that they do not have public debt at all. (See Figure 7.) Other countries have some public debt; the proportion to the financial net worth of the household is relatively higher in Hungary, Italy, Austria, Belgium, and Germany. The sign of the financial net worth of the rest of the world is positive in 15 out of 21 countries. (See Figure 8.) In other words, these countries have net external debt; the proportion to the financial net worth of the households is over unity in Hungary and Poland. In contrast to this, Norway, Belgium, Japan, the Netherlands, Korea and France have net external asset.

As mentioned above, there are three criteria to classify the pattern of the financial net worth of the institutional sectors; [a] if the ratio of the financial net worth of the non-financial corporations to that of the household (I) is above one (in absolute value); [b] if the financial net worth of the general government (G) is positive; [c] if the financial net worth of the rest of the world (R) is positive. According to these three criteria, we can sort the patterns into six possible categories. As for 2003, the countries are grouped into five categories, leaving one remaining category vacant.

[Category I]

$$C_{\mathrm{I}} = \left\{ \left(I < -1 \right) and \left(G < 0 \right) and \left(R \geq 0 \right) \right\};$$

Australia, Hungry, Poland, Portugal, Spain;
In these countries, not only the non-financial corporations but also the general government is active in capital formation. They have no choice but finance the shortage of supply of the funds in terms of external debt. If the economic growth rate is high enough to justify the large investment, they will be able to pay off the debt in near future. Otherwise, the government should refrain from further investment in the infrastructure.

[Category II]

$$C_{\mathrm{II}} = \left\{ \left(I < -1 \right) and \left(G \geq 0 \right) and \left(R < 0 \right) \right\};$$

Korea, Norway;
Everything is going well in these countries. The non-financial corporations are active in capital formation. Although the net wealth of the households is not enough to cover the active investment, the remainder is financed by the affluent net financial asset of the

general government; thus these countries even manage to maintain net external asset.

[Category III]

$$C_{III} = \left\{ (I < -1) \, and \, (G \geq 0) \, and \, (R \geq 0) \right\};$$

Czech Republic, Finland, Sweden;
The non-financial corporations are very active in capital formation. Although the general government manages to maintain net financial asset, it is not enough to bridge the gap between the net liability of the non-financial corporations and the net financial asset of the households. The countries belonging to this category should offset the shortage in funds by external debt. If the economic growth rate is high enough to justify the large investment, they will be able to pay off the debt in near future. Otherwise, the government should introduce some measures to curtail the investment in the non-financial corporations or promote the savings of the households.

[Category IV]

$$C_{IV} = \left\{ (I \geq -1) \, and \, (G < 0) \, and \, (R < 0) \right\};$$

Belgium, France, Japan, the Netherlands;
The capital formation of the non-financial corporations is so sluggish, that the net liability of the sector is far less than the net asset of the households. Although these countries accumulate external debt by actively investing surplus funds to abroad, the government has no choice but absorb the excess funds in the form of public investment, piling up the public debt. The government should take drastic measures to promote investment in the non-financial corporations.

[Category V]

$$C_{V} = \left\{ (I \geq -1) \, and \, (G < 0) \, and \, (R \geq 0) \right\};$$

Austria, Canada, Denmark, Germany, Italy, the U.K., the U.S.A;
Twin debts accumulated by the twin deficits prevail. Although the capital formation of the non-financial corporations is not active, the gap between the net liability of the non-financial corporations and the net financial asset of the household is not large enough to cover the huge debt of the government. The remainder is financed by the external debt. There is no doubt that the best strategy is to reduce the public debt by curtailing fiscal expenditures. However, if the total demand is not sufficient to maintain

full-employment, there seems no cure to solve the problem.

[Category VI]

$$C_{\text{VI}} = \left\{ (I \geq -1)\,and\,(G \geq 0)\,and\,(R < 0) \right\}$$

No entry for 2003;
This is one of the best possible situations. The capital formation in the non-financial corporation is not so active. The difference between the net liability of the financial corporations and the net financial asset of the households plus general government, are held as external asset as a result of active investments abroad.

The distribution patterns of the financial net worth among the institutional sectors are presented in Table 2 for the period between 1995 and 2004. In 10 out of 21 countries, no changes of pattern were observed during the period. The pattern changed once during the period in 7 countries; in 4 countries the pattern changed twice. However, no country exhibited more than two patterns during the period. Among 204 observations, 48 belong to [Category I], 12 belong to [Category II], 31 belong to [Category III], 44 belong to [Category IV], while remaining 69 belong to [Category V]. No observation was found belonging to [Category VI].

3.3   Net Liability of the Non-financial Corporations and GDP
In Figure 9, the correlation between the financial net worth of the non-financial corporations and that of the general government is plotted. In this figure, 15 out of 21 countries belong to either second or fourth quadrants. In that sense, there is a negative correlation between the two indicators. Poland and Hungary are situated in the midst of the third quadrant, most probably because they are experiencing transition of the economic system. These observations confirm that the government piles up public debt just to offset the shortages in the capital formation of the non-financial corporations. It means that it is no use to try unilaterally to reduce the public debt unless some measures are taken to promote the capital formation of the non-financial corporations.

The second problem to be answered is in what situation, countries suffer from lack of capital formation in the non-financial corporations. Figure 10 exhibits the correlation between per head GDP[4] and the financial net worth of the non-financial corporations. Almost all observations are scattered either in the first or third quadrant implying positive correlation between the two variables. Generally speaking, the countries with

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[4] Adjusted by PPP and normalized by the average.

higher per head GDP are suffering from sluggish capital formation in the non-financial corporations. The exceptions are three Nordic countries and Australia, which are situated in the fourth quadrant.

The next question is if the financial net worth of the non-financial corporation is related to the economic growth rate. The causality could be either way. Does higher rate of capital formation push up the GDP growth rate or the other way around? To get casual observation concerning to this matter, we have prepared two scatter diagram. In Figure 11, we took the indicator of capital formation to the horizontal line and the growth rate of GDP to the vertical line. In this figure, the financial net worth of the non-financial corporation is that of 1998, while the economic growth rate is that of 1998-2003. In Figure 12, we exchanged the axes; we took GDP growth rate of 1998 to the horizontal axis, while taking the financial net worth of the non-financial corporation to the vertical axis. In case of Figure 11, all but five observation markers are situated either in the second quadrant or in the fourth quadrant suggesting negative correlation between the two variables[5]. This will support the hypothesis that higher capital formation contributes to higher economic growth. The reverse is true in Figure 12. Again, we observe negative correlation unless we take special attention to Norway, which is situated far from the origin in the third quadrant. That is to say, the higher economic growth rate produces even more capital formation. These relations between the two factors are readily explained by the traditional acceleration principle advocated by Harrod (1939) and Domar (1946).

4. Concluding Remarks

In this paper, we analyzed the financial transaction tables and the financial balance sheets of 21 OECD countries. These statistics are valuable because they give crucial information on the imbalance in saving-investment relations between the institutional sectors. One distinguishing feature of this study is that we used the financial net worth of the institutional sectors as indicators in addition to the net lending/borrowing. The technical aspect of the paper could be summarized as follows:

(a) Since, financial net worth of the Household is positive without exception, we can avoid complications arising from currency conversion etc., by simply normalizing the financial net worth of other institutional sectors by that.

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[5] We divided the data into two halves at the GDP growth rate of 10%, so that the scatters are evenly partitioned.

(b) The normalization above will allow us to classify the pattern of distribution of the financial net worth among institutional sectors into six categories; it is easy to grasp the situation. Similar classification applied to net lending/borrowing will produce 14 categories; it is beyond easy comprehension. (See Table 3 and 4.)

(c) The categorization above is directly linked to policy implications; the prescriptions are simple and straight.

More practical implications of the paper are as follows:

(d) The public debt piles up as a result of lack of capital formation in the non-financial corporations. The only cure is to promote capital formation in the sector.

(e) The twin debts (public debts and external debts), as a result of the twin deficits, are rather common phenomena in matured countries. However, the two debts are not necessarily destined to be twins. (See Figure)

(f) The lack of capital formation in the non-financial corporation arises as a result of economic development. Most but not all the developed countries are suffering from it; the Nordic countries are exceptions from the rule; we must find out the reasons.

By concluding this paper, we must remember that no country is living alone; any country is a member of the international community. Maybe we do not have to take the problem as a domestic one. External asset of one country finances the external debt of others that will finance the capital formation elsewhere. However, the real problem is that the number of matured countries will steadily increase as the time goes by. We should observe the problem from the global perspective, and find the ultimate solution. The development of the statistics in this direction is more than welcome.

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Table1 Relationships between Main National Accounts Aggregates and the Total Economy

Current Accounts	Production	1	Value Added = Output – Intermediate Consumption
		2	Gross Domestic Product = Value Added + Taxes less Subsidies on products
	Primary distribution of income	3	Gross Domestic Product = Compensation of Employees + Taxes less Subsidies on products + Gross Operating Surplus/Mixed Income
		4	Gross National Income = Gross Domestic Product + Compensation of Employees (net, from abroad) + Property Income (net, from abroad)
	Secondary distribution of income	5	Gross National Disposable Income = Gross National Income + Current Transfers (net, from abroad)
	Use of income	6	Gross Saving = Gross National Disposable Income – Final Consumption Expenditure
		7	Net Saving = Gross Saving – Consumption of Fixed Capital
Accumulation Accounts	Capital	8	Changes in Net Worth due to Saving and Capital Transfers = Net Saving + Capital Transfers (net, from abroad)
		9	Net Capital Formation = Gross Capital Formation – Consumption of Fixed Capital
		10	Net Lending/Borrowing = Changes in Net Worth – Net Capital Formation – Acquisitions less Disposals of non-produced non financial assets
	Financial	11	Net Lending/Borrowing = Net Acquisition of Financial Assets – Net Incurrence of liabilities
	Revaluation	12	Changes in the Market Value of Net Worth (Revaluation)
	OCVA	13	Other Changes in Volume of Assets and Liabilities (OCVA)
Balance Sheets	Opening balance sheet	14	Opening Net Worth = Opening Non-financial Assets + Opening Financial Assets – Opening Liabilities
	Changes in stock positions	15	Changes in Net Worth = Changes in Net Worth due to Saving and Capital Transfers + Revaluation + OCVA
	Closing balance sheet	16	Closing Net Worth = Closing Non-financial Assets + Closing Financial Assets – Closing Liabilities

Table2 Distribution Patterns of Financial Net Worth among Institutional Sectors

Country / Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Australia	I	I	I	I	I	I	I	I	I	I
Austria	V	V	V	V	V	V	V	V	V	V
Belgium	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV
Canada	V	V	V	V	V	V	V	V	V	V
Czech Republic	II	III	III	III	III	III	III	III	III	N.A.
Denmark	I	I	I	I	I	I	I	I	V	V
Finland	III	III	III	III	III	III	III	III	III	III
France	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV
Germany	IV	IV	IV	V	IV	IV	IV	IV	V	V
Hungary	I	I	I	I	I	I	I	I	I	I
Italy	V	V	V	V	IV	IV	IV	V	V	V
Japan	IV	IV	IV	IV	IV	IV	IV	IV	IV	N.A.
Korea	III	III	III	III	III	III	III	II	II	II
Netherlands	IV	IV	IV	V	V	V	V	V	IV	IV
Norway	III	III	II	II	II	II	II	II	II	II
Poland	N.A.	N.A.	N.A.	III	I	I	I	I	I	N.A.
Portugal	V	V	V	V	I	I	I	I	I	I
Spain	V	V	V	V	V	V	V	V	I	I
Sweden	I	I	I	I	I	I	III	I	III	III
UK	V	V	V	V	V	V	V	V	V	V
US	V	V	V	V	V	V	V	V	V	V

Table3 Classification of the Distribution Patterns of Net Lending/Borrowing
among the Institutional Sectors

Category	Non-financial corporations	General government	Households and NPISH	Rest of the world
I	-	-	-	+
II	-	-	+	-
III	-	-	+	+
IV	-	+	-	-
V	-	+	-	+
VI	-	+	+	-
VII	-	+	+	+
VIII	+	-	-	-
IX	+	-	-	+
X	+	-	+	-
XI	+	-	+	+
XII	+	+	-	-
XIII	+	+	-	+
XIV	+	+	+	-

Table4 Distribution Patterns of Net Lending/Borrowing of the Institutional Sectors

Country / Year	1996	1997	1998	1999	2000	2001	2002	2003	2004
Australia	III	III	V	I	VII	VII	I	V	I
Austria	III	VI	III	III	III	VII	II	III	II
Belgium	II	II	II	II	II	VI	II	VI	VI
Canada	X	V	VI	IV	IV	XIV	VIII	XII	XII
Czech Republic	III	III	III	III	III	III	III	III	N.A.
Denmark	VIII	N.A.	I	XII	IV	VI	XIV	VIII	IV
Finland	X	X	XIV	XIV	XII	XII	XII	XII	XII
France	II	II	X	X	X	II	II	II	III
Germany	III	III	III	III	VII	II	II	II	X
Hungary	III	III	III	III	III	III	III	I	III
Italy	II	II	II	II	II	III	III	III	III
Japan	II	II	X	X	X	X	X	X	N.A.
Korea	VII	VII	VI	VI	VI	VI	IV	II	VI
Netherlands	X	X	II	XIV	XII	X	X	X	X
Norway	VI	VI	VI	VI	XIV	VI	XIV	XIV	VI
Poland	N.A.	N.A.	N.A.	XI	XI	XI	XI	XI	N.A.
Portugal	XI	III	III	III	III	III	III	III	III
Spain	II	II	II	III	III	III	III	VII	I
Sweden	X	III	XIV	XIV	XIV	VI	VI	XIV	XIV
UK	XI	X	V	V	V	V	IX	IX	IX
US	XI	III	VII	V	V	IX	IX	IX	IX

Fig.1 Net Lending/Borrowing of the Institutional Sectors
(Proportion to the Previous Year's Financial Net Worth of the Household)

Legend:
- ☐ Non-financial corporations
- ▨ General government
- ▦ Households and NPISH
- ▨ Rest of the world

Categories (top to bottom):
Australia 1998, Australia 2003, Austria 1998, Austria 2003, Belgium 1998, Belgium 2003, Canada 1998, Canada 2003, Czech Republic 1998, Czech Republic 2003, Denmark 1998, Denmark 2003, Finland 1998, Finland 2003, France 1998, France 2003, Germany 1998, Germany 2003, Hungary 1998, Hungary 2003, Italy 1998, Italy 2003, Japan 1998, Japan 2003, Korea 1998, Korea 2003, Netherlands 1998, Netherlands 2003, Norway 1998, Norway 2003, Poland 1998, Poland 2003, Portugal 1998, Portugal 2003, Spain 1998, Spain 2003, Sweden 1998, Sweden 2003, United Kingdom 1998, United Kingdom 2003, United States 1998, United States 2003

X-axis: −0.7 −0.6 −0.5 −0.4 −0.3 −0.2 −0.1 0.0 0.1 0.2 0.3 0.4 0.5 0.6
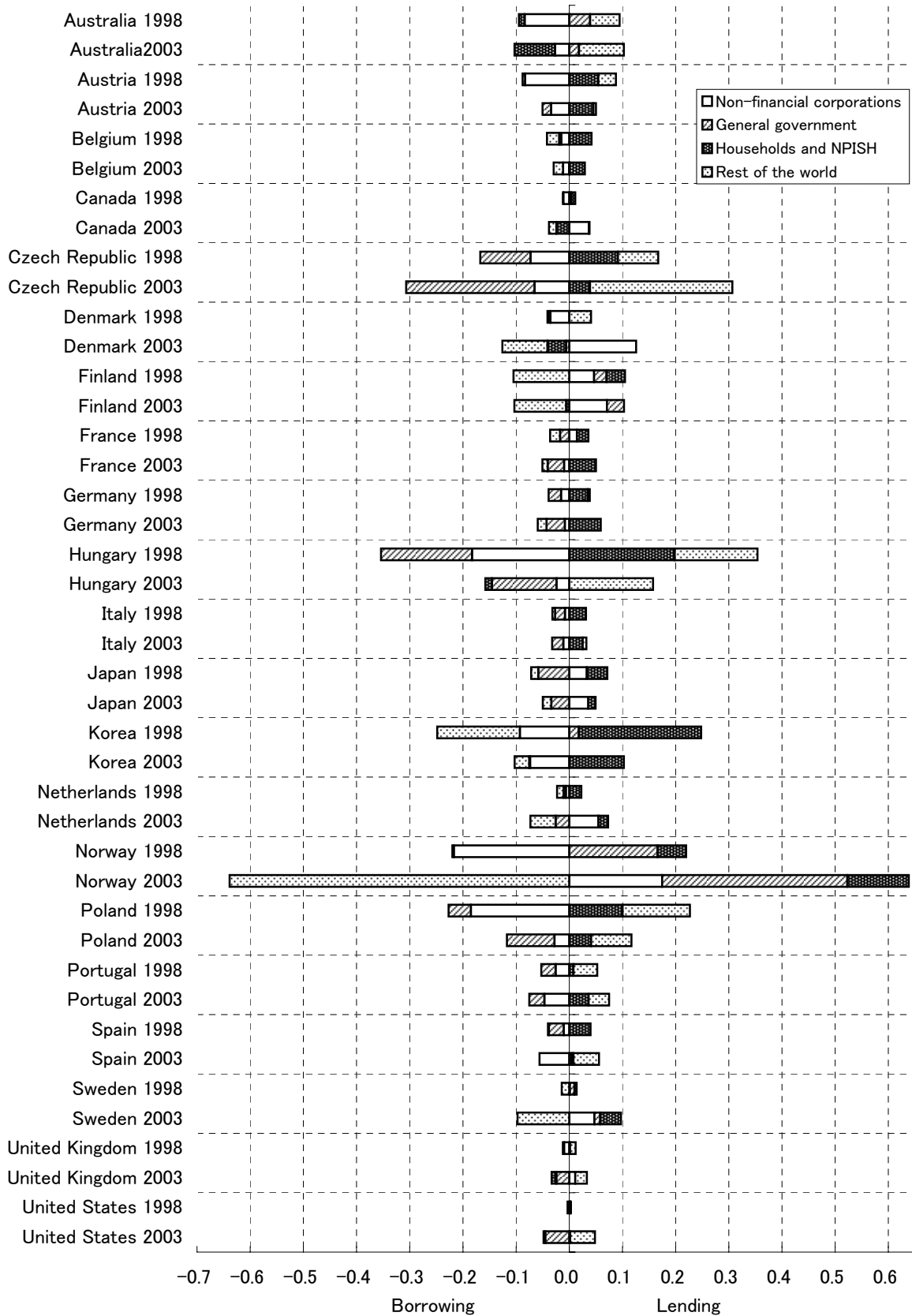
Borrowing — Lending

Fig.2 Net Lending/Borrowing of the Households and Non-financial Corporations (2003)
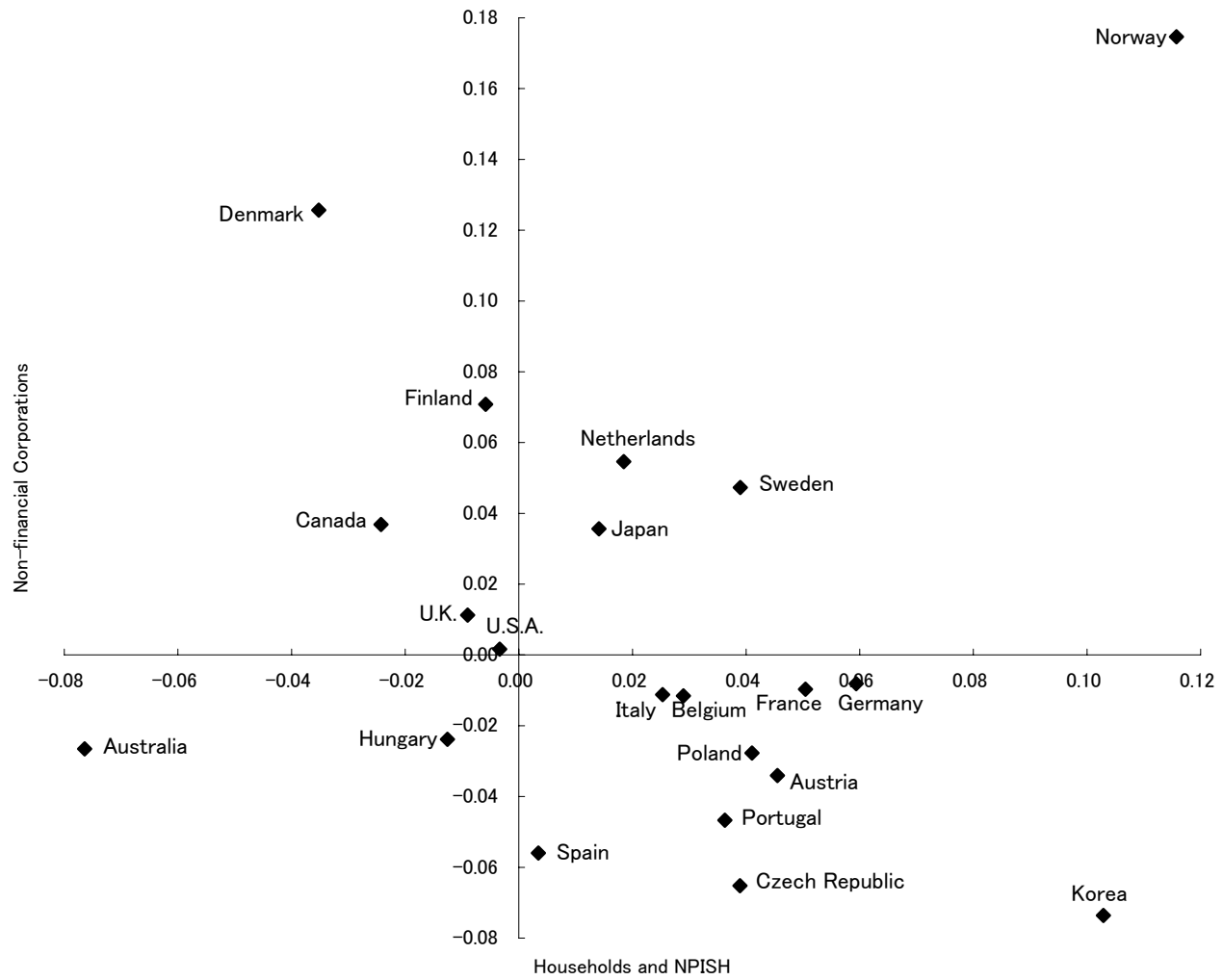
Fig.3 Net Lending/Borrowing of the Non-financial Corporations (2003)
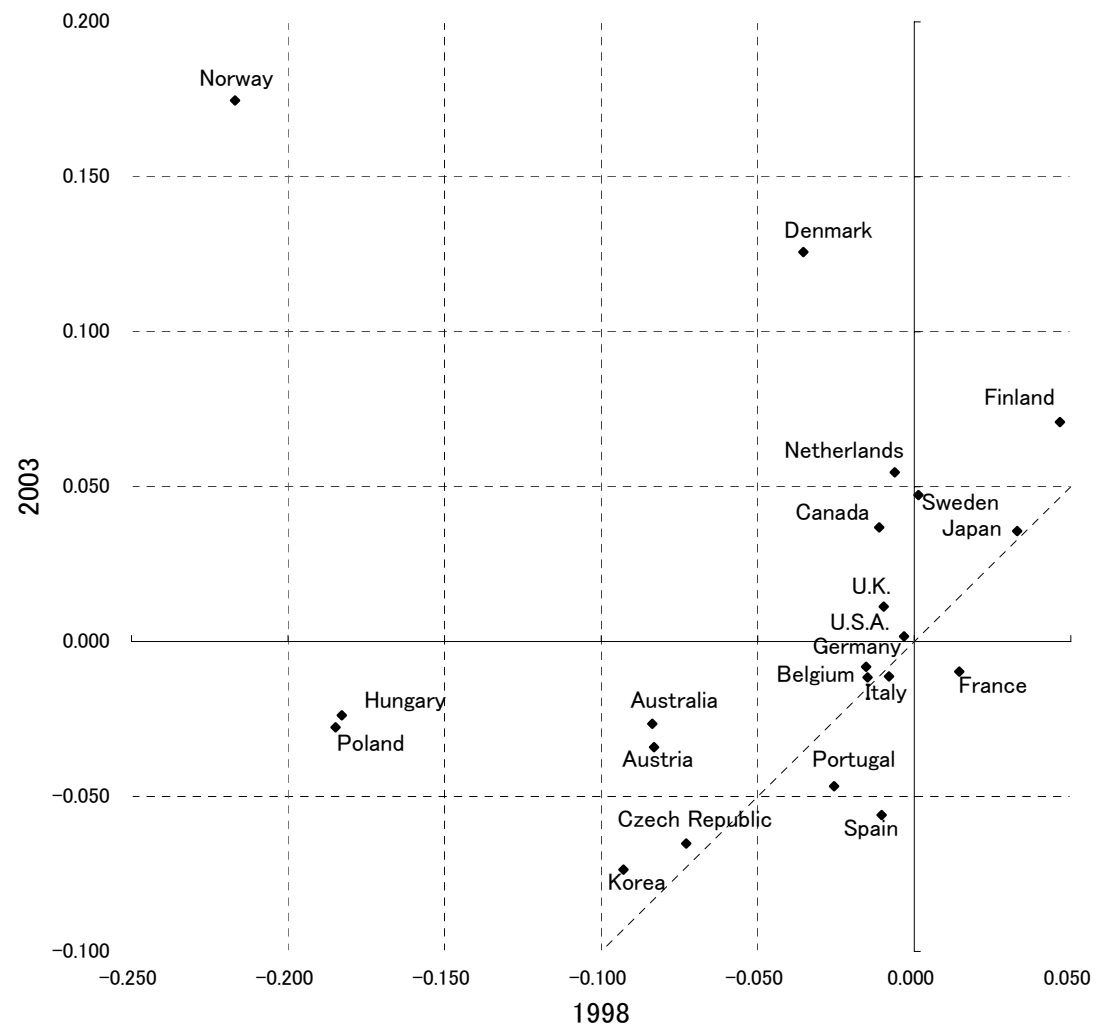## (Proportion to the Previous Year's Net Worth of the Households)

Fig.4 Financial Net Worth by Institutional Sectors
(Normalized by the Household Sector)

☐	Non-financial corporations
▨	General government
▧	Household
▦	Rest of the world

Australia 1998
Australia 2003
Austria 1998
Austria 2003
Belgium 1998
Belgium 2003
Canada 1998
Canada 2003
Czech Republic 1998
Czech Republic 2003
Denmark 1998
Denmark 2003
Finland 1998
Finland 2003
France 1998
France 2003
Germany 1998
Germany 2003
Hungary 1998
Hungary 2003
Italy 1998
Italy 2003
Japan 1998
Japan 2003
Korea 1998
Korea 2003
Netherlands 1998
Netherlands 2003
Norway 1998
Norway 2003
Poland 1998
Poland 2003
Portugal 1998
Portugal 2003
Spain 1998
Spain 2003
Sweden 1998
Sweden 2003
United Kingdom 1998
United Kingdom 2003
United States 1998
United States 2003

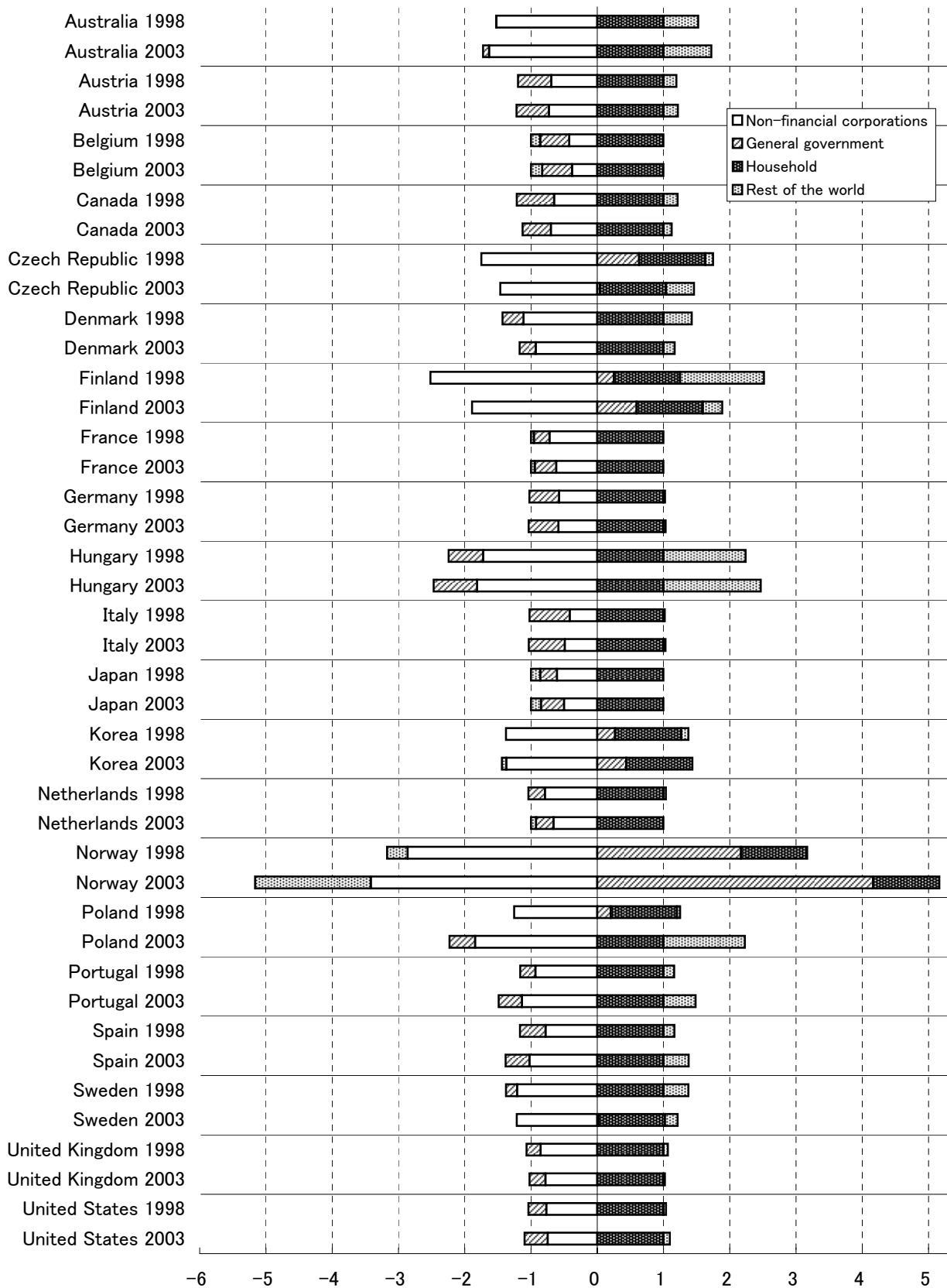-6 -5 -4 -3 -2 -1 0 1 2 3 4 5

Fig.5a Financial Net Worth of the Non-financial Corporations (2003)
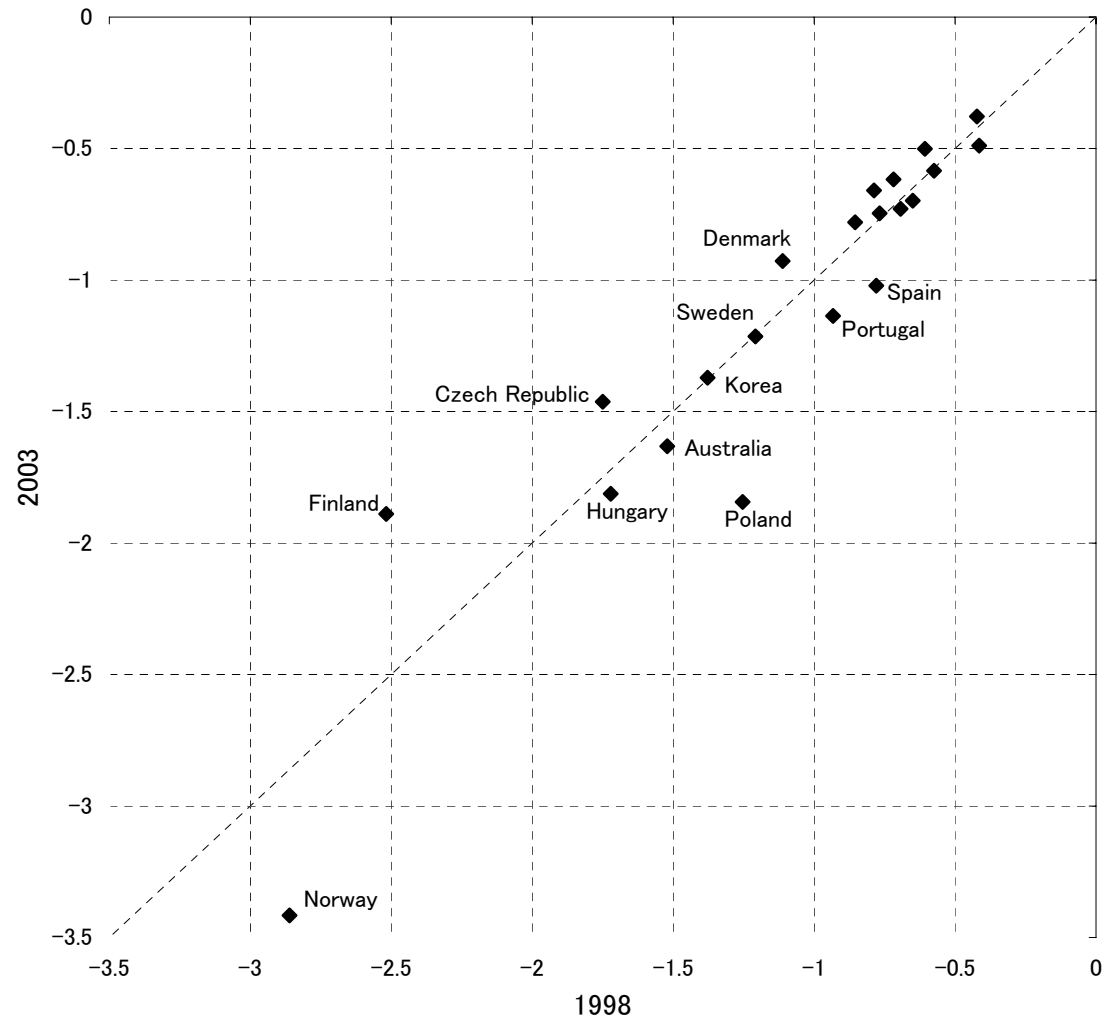(Proportion to the Previous Year's Net Worth of the Households)

Fig.5b Financial Net Worth of the Non-financial Corporations (2003) (magnified)
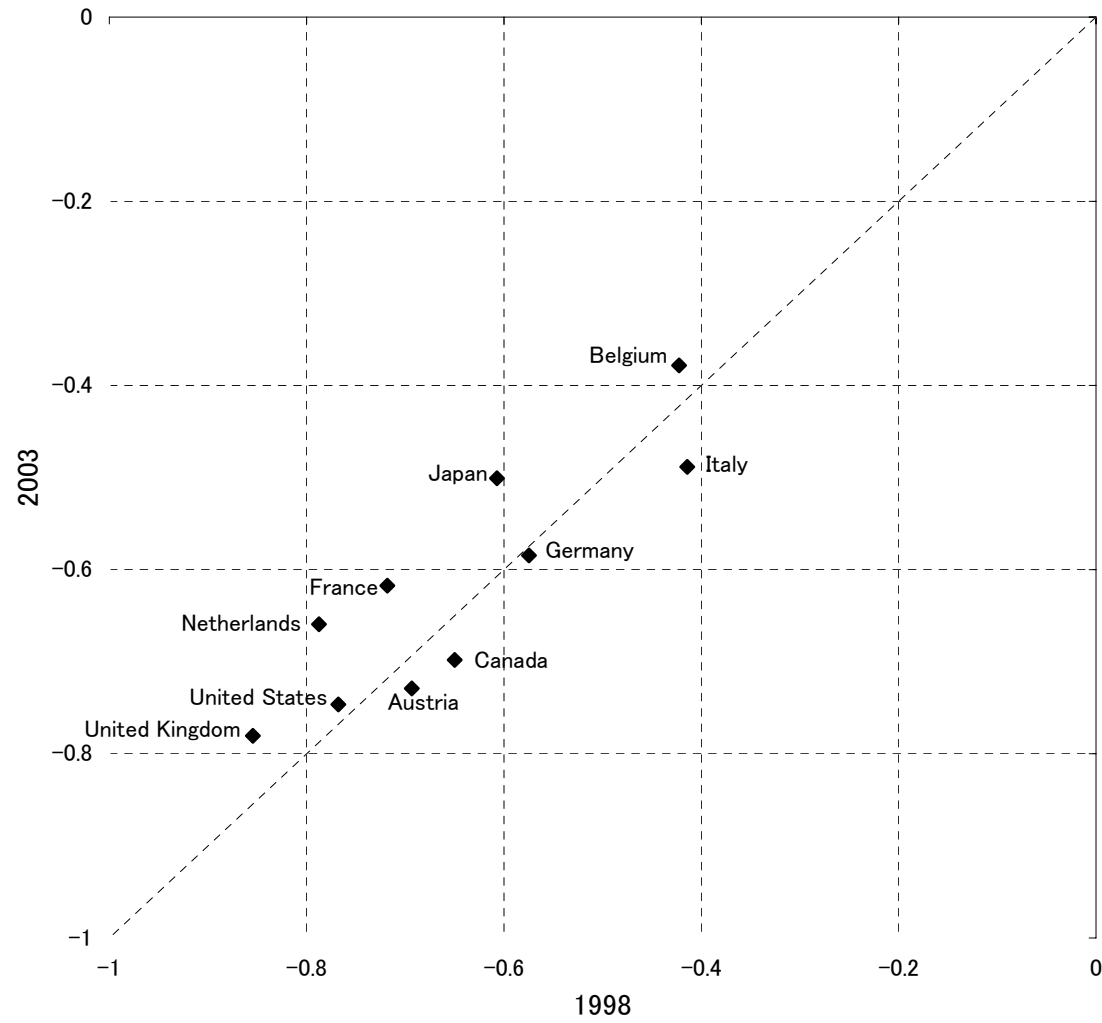(Proportion to the Previous Year's Net Worth of the Households)

Fig.6 Financial Net Worth of the Non-financial corporations (2003)
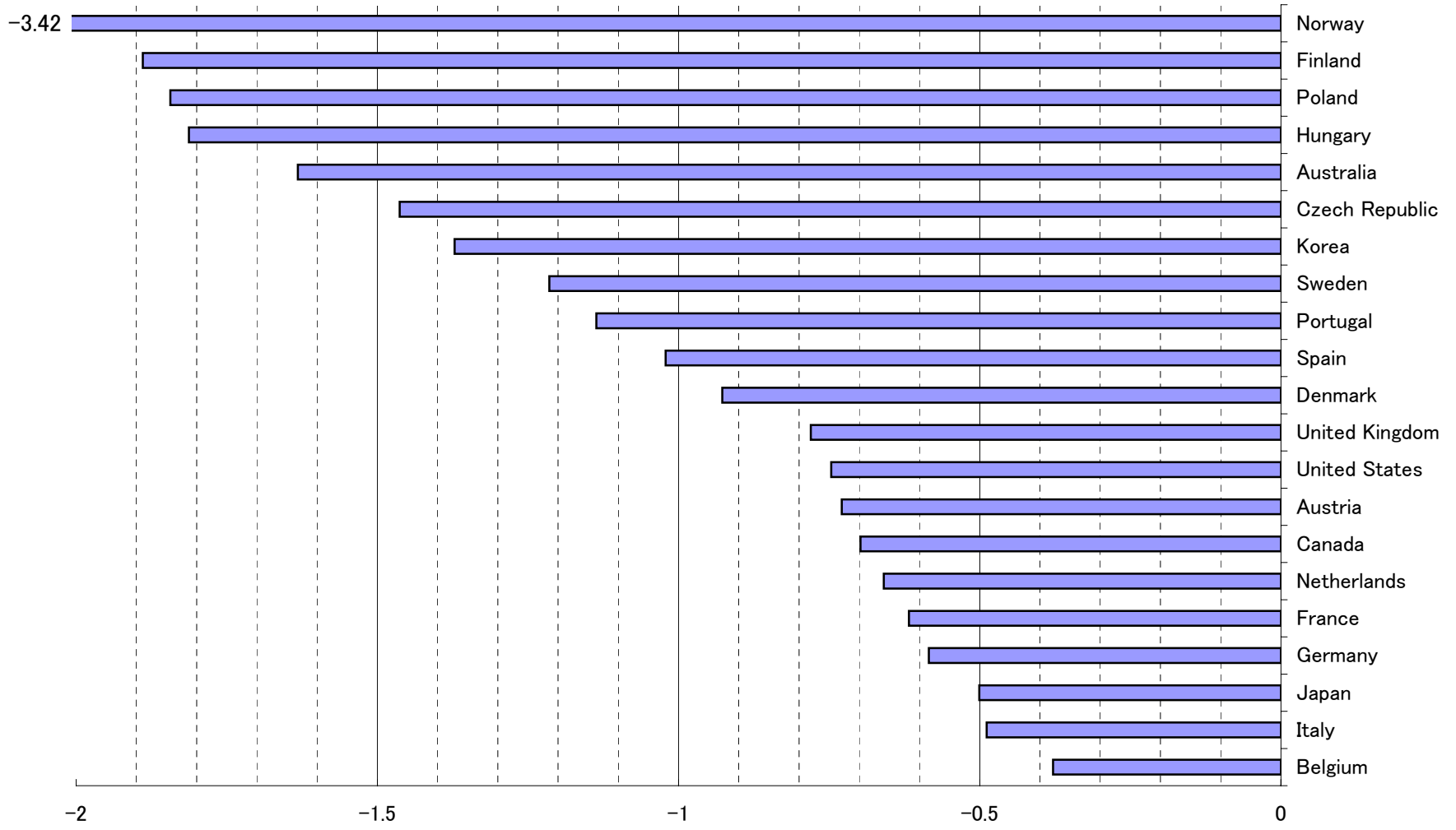(Normalized by Financial Net Worth of the Households)

Fig.7 Financial Net Worth of the General Government (2003)
(Normalized by Financial Net Worth of the Households)

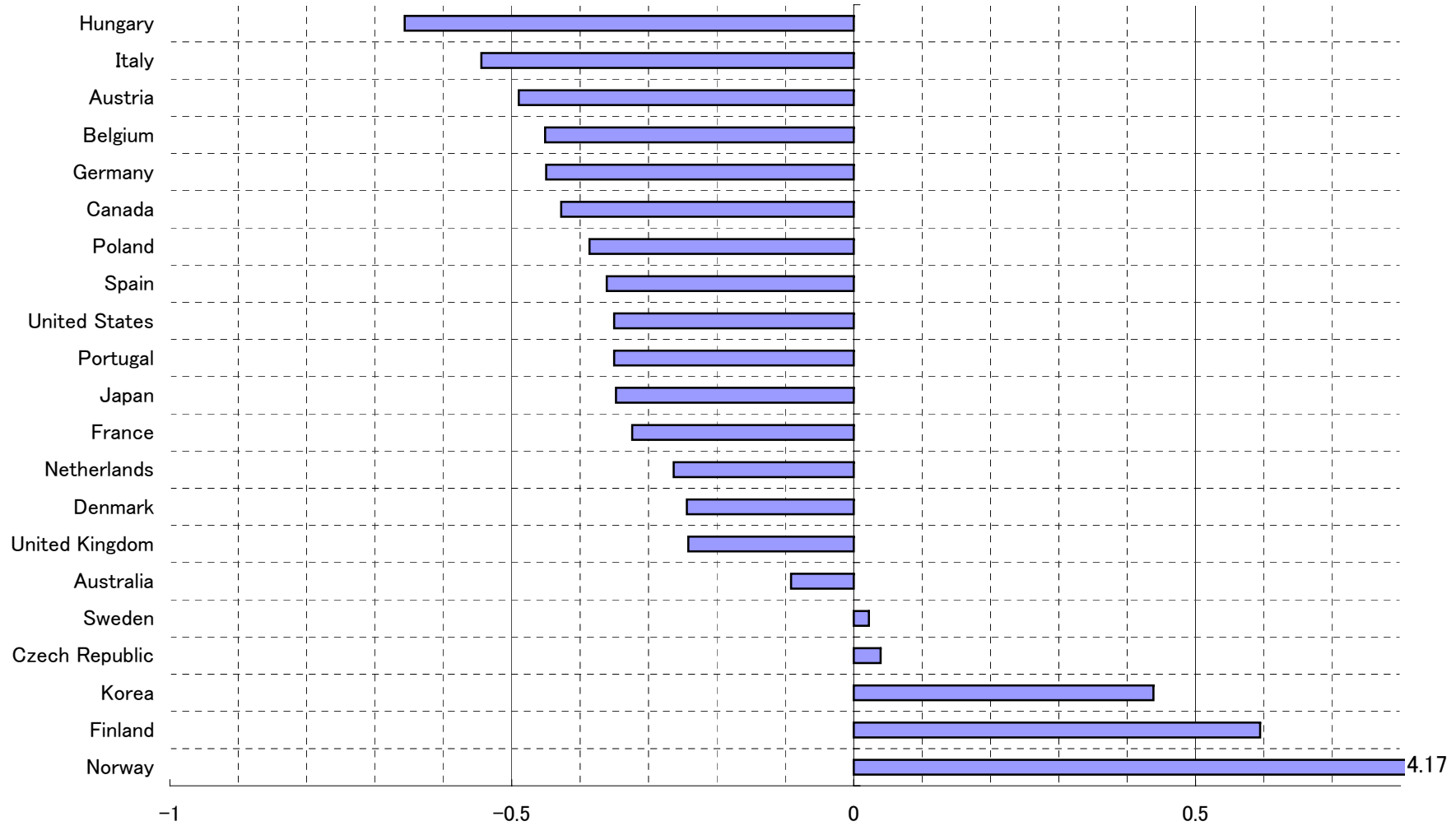| Country	Value
Hungary	
Italy	
Austria	
Belgium	
Germany	
Canada	
Poland	
Spain	
United States	
Portugal	
Japan	
France	
Netherlands	
Denmark	
United Kingdom	
Australia	
Sweden	
Czech Republic	
Korea	
Finland	
Norway	4.17

Axis: -1, -0.5, 0, 0.5

Fig8. Financial Net Worth of the Rest of the World (2003)

(Normalized by Financial Net Worth of the Households)
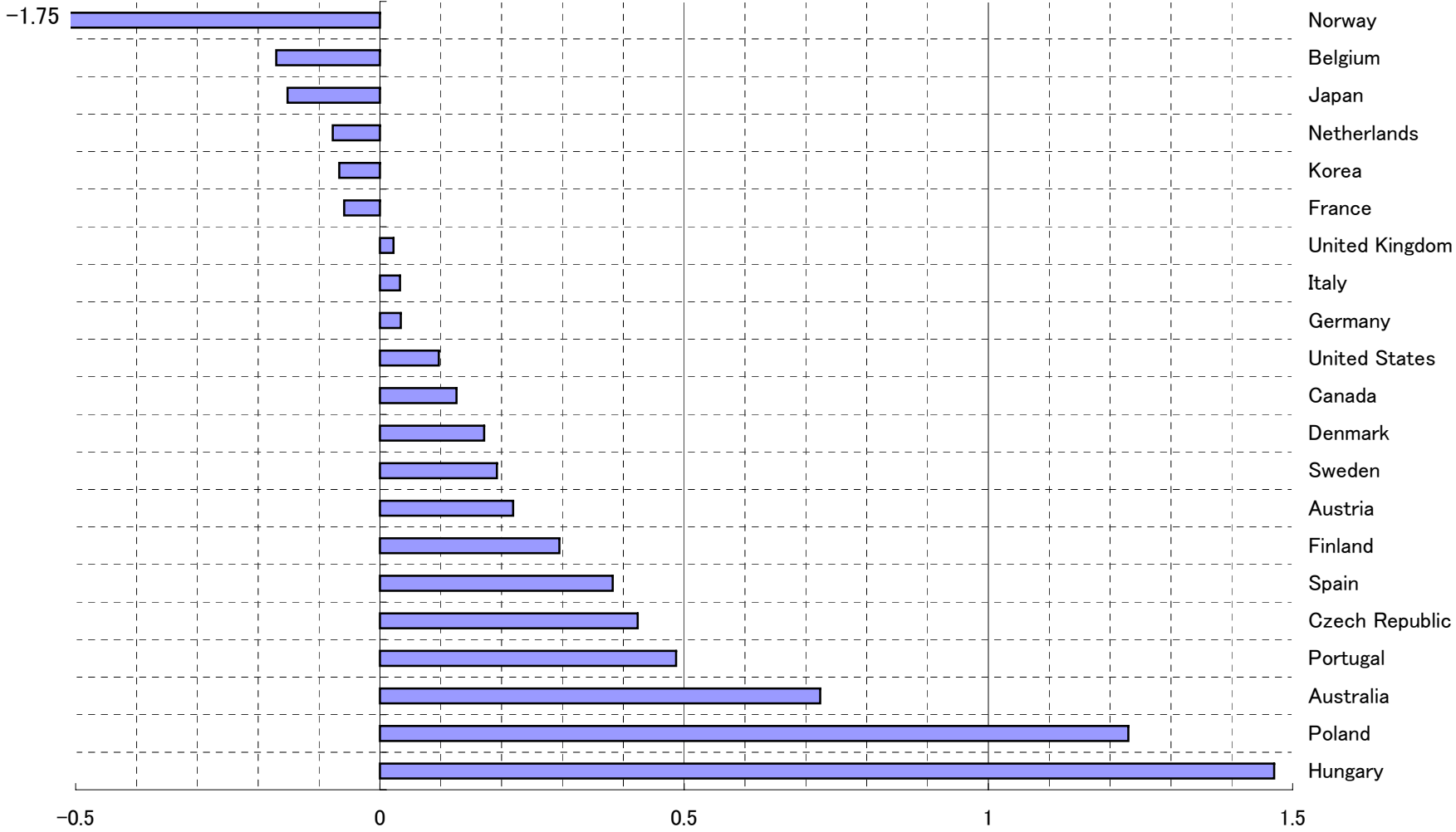
Fig.9 Financial Net Worth of the Non-financial Corporations and the General Government (2003)

- X-axis: Non-financial Corporations (Normalized by the Net Worth of the Households)
- Y-axis: General Government (Normalized by the Net Worth of the Households)

Norway (−3.42, 4.17)
Finland
Korea
Czech Republic
Sweden
Australia
U.K.
Netherlands
Denmark
Portugal
Spain
U.S.A
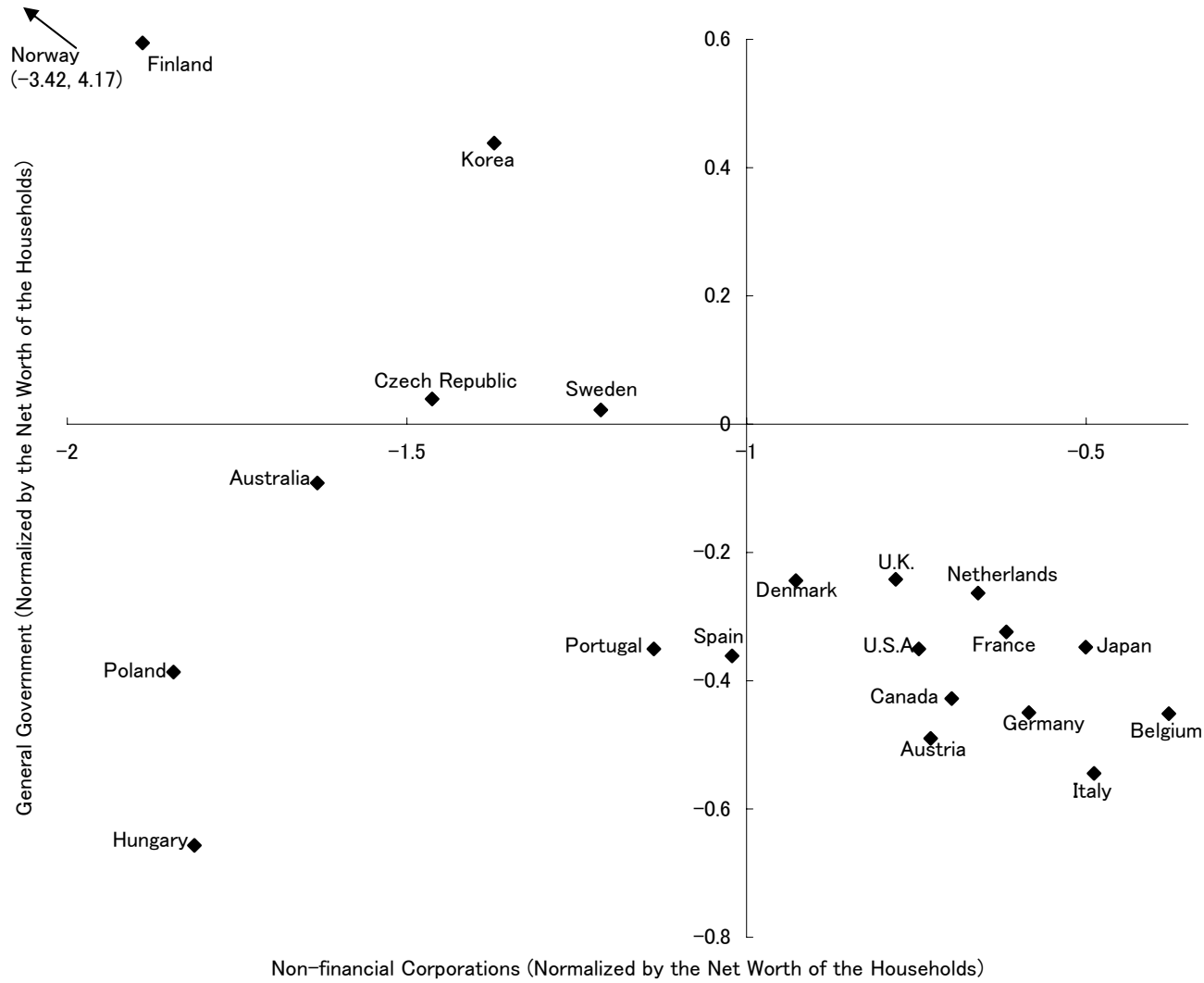France
Japan
Poland
Canada
Germany
Belgium
Austria
Italy
Hungary

Fig.10 Per Head GDP and Financial Net Worth of the Non-financial Corporations (2003)

Financial Networth of the Non-financial Corporations
(Normalized by the Net Worth of the Housholds)

Per Head GDP adjusted by PPP (Normalized by the Average)

Belgium
Italy
Japan
Germany
France
Netherlands
Canada
Austria
U.S.A.
U.K.
Denmark
Spain
Portugal
Sweden
Korea
Czech Republic
Australia
Hungary
Poland
Norway
(1.83, −3.42)
Finland

−0.4
−0.6
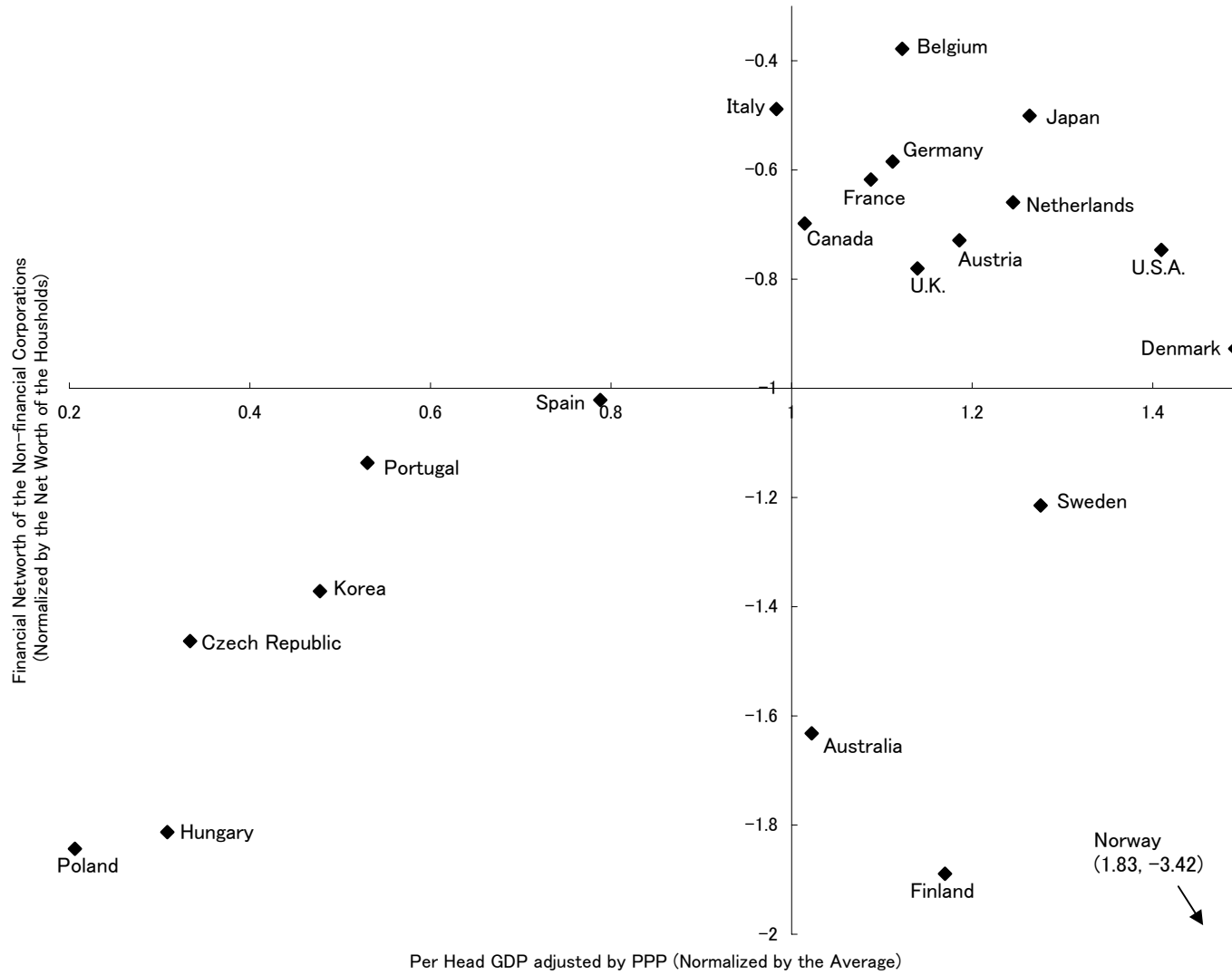−0.8
−1
−1.2
−1.4
−1.6
−1.8
−2

0.2
0.4
0.6
0.8
1
1.2
1.4

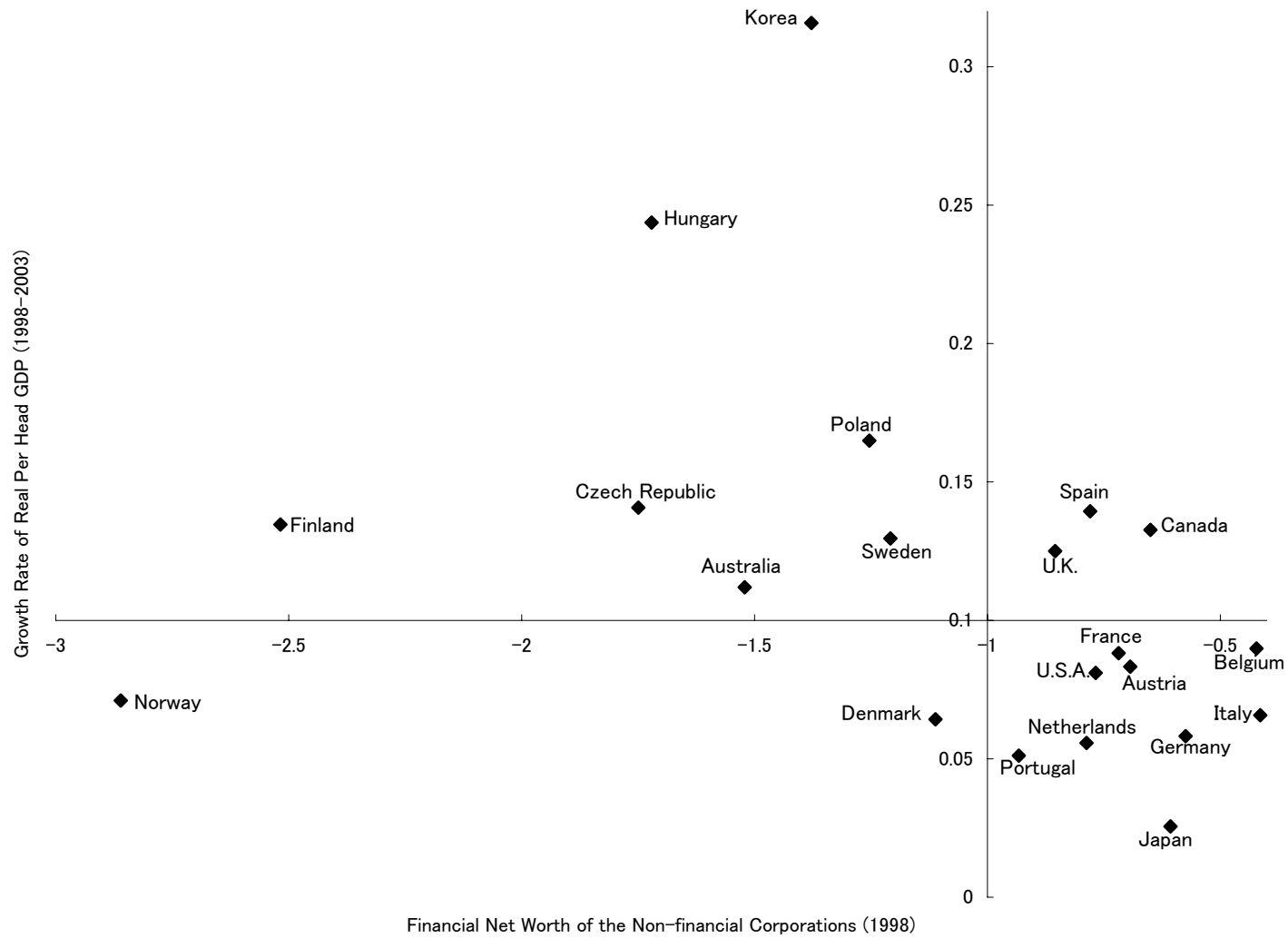Fig.11 Financial Net Worth of the Non-financial Corporation and the Growth Rate of Per Head GDP

Fig.12 Growth Rate of Per Head GDP and Financial Net Worth of the Non-financial Corporation

Financial Net Worth of the Non-financial Corporations (2003)

Belgium

−0.4

Italy

Japan

Germany

−0.6

France

Netherlands

Austria

Canada

U.S.A. −0.8

U.K.

Denmark

−1

0   0.05   0.1   Spain   0.15   0.2   0.25   0.3

Portugal

−1.2   Sweden

Korea

−1.4

Czech Republic

−1.6   Australia

Norway
(0.07, −3.42)   −1.8   Poland   Hungary

Finland
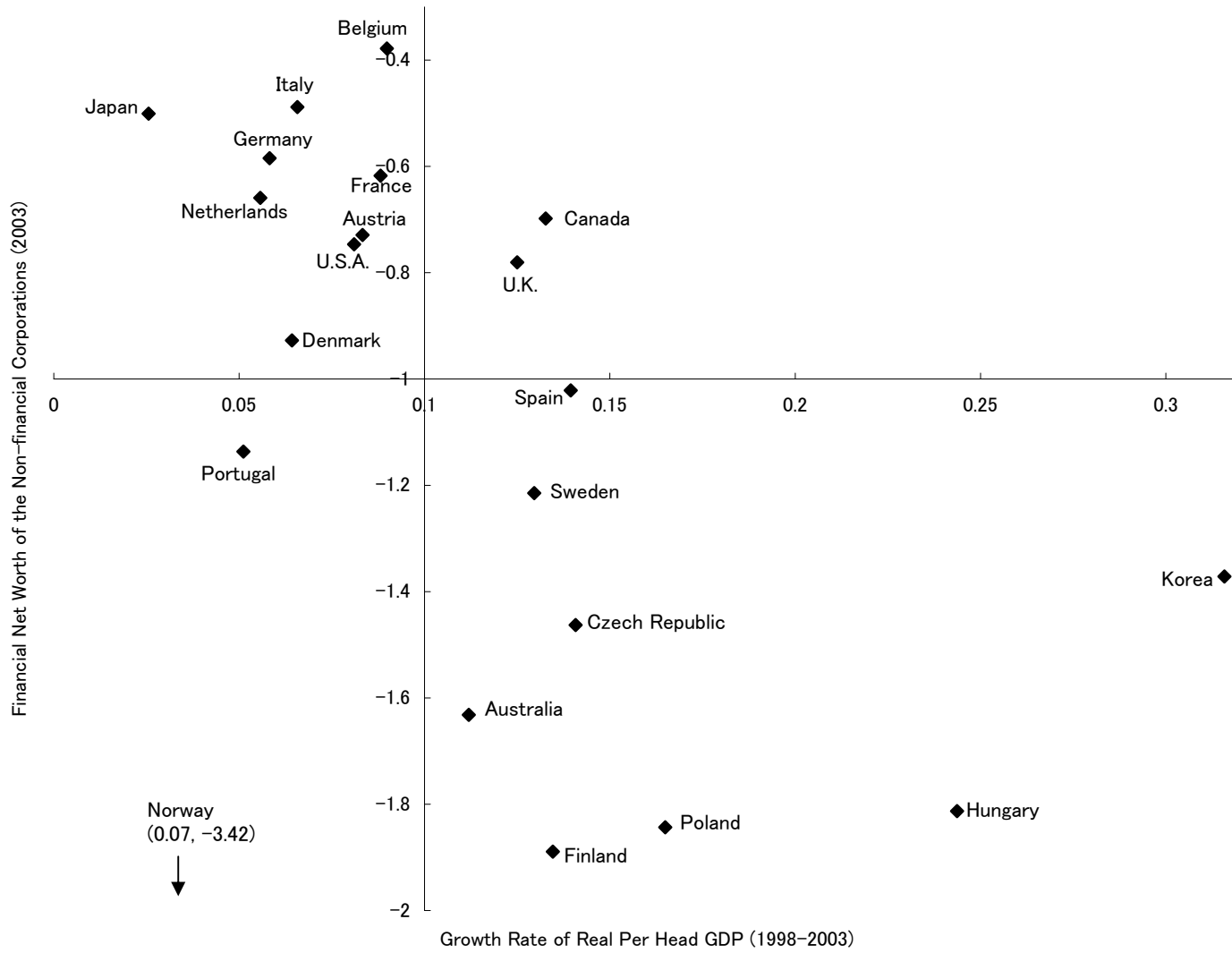
−2

Growth Rate of Real Per Head GDP (1998−2003)

Fig.13 Financial Net Worth of the General Government and the Rest of the World (2003)